

# JOHANNESBURG SUMMIT 2002

MALAWI



COUNTRY PROFILE



UNITED NATIONS

## INTRODUCTION - 2002 COUNTRY PROFILES SERIES

Agenda 21, adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, underscored the important role that States play in the implementation of the Agenda at the national level. It recommended that States consider preparing national reports and communicating the information therein to the Commission on Sustainable Development (CSD) including, activities they undertake to implement Agenda 21, the obstacles and challenges they confront, and other environment and development issues they find relevant.

As a result, in 1993 governments began preparing national reports for submission to the CSD. After two years of following this practice, the CSD decided that a summarized version of national reports submitted thus far would be useful. Subsequently, the CSD Secretariat published the first Country Profiles series in 1997 on the occasion of the five-year review of the Earth Summit (Rio + 5). The series summarized, on a country-by-country basis, all the national reports submitted between 1994 and 1996. Each Profile covered the status of all Agenda 21 chapters.

The purpose of Country Profiles is to:

- Help countries monitor their own progress;
- Share experiences and information with others; and,
- Serve as institutional memory to track and record national actions undertaken to implement Agenda 21.

A second series of Country Profiles is being published on the occasion of the World Summit on Sustainable Development being held in Johannesburg from August 26 to September 4, 2002. Each profile covers all 40 chapters of Agenda 21, as well as those issues that have been separately addressed by the CSD since 1997, including trade, energy, transport, sustainable tourism and industry.

The 2002 Country Profiles series provides the most comprehensive overview to date of the status of implementation of Agenda 21 at the national level. Each Country Profile is based on information updated from that contained in the national reports submitted annually by governments.

Preparing national reports is often a challenging exercise. It can also be a productive and rewarding one in terms of taking stock of what has been achieved and by increasing communication, coordination and cooperation among a range of national agencies, institutions and groups. Hopefully, the information contained in this series of Country Profiles will serve as a useful tool for learning from the experience and knowledge gained by each country in its pursuit of sustainable development.

## **NOTE TO READERS**

The 2002 Country Profiles Series provides information on the implementation of Agenda 21 on a country-by-country and chapter-by-chapter basis (with the exception of chapters 1 and 23, which are preambles). Since Rio 1992, the Commission on Sustainable Development has specifically addressed other topics not included as separate chapters in Agenda 21. These issues of trade, industry, energy, transport and sustainable tourism are, therefore, treated as distinct sections in the Country Profiles. In instances where several Agenda 21 chapters are closely related, for example, chapters 20 to 22 which cover environmentally sound management of hazardous, solid and radioactive wastes, and chapters 24 to 32 which refer to strengthening of major groups, the information appears under a single heading in the Country Profile Series. Lastly, chapters 16 and 34, which deal with environmentally sound management of biotechnology, and transfer of environmentally sound technology, cooperation, capacity-building respectively, are presented together under one heading in those Country Profiles where information is relatively scarce.

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## LIST OF COMMONLY USED ACRONYMS

ACS	Association of Caribbean States
AMCEN	Africa Ministerial Conference on the Environment
AMU	Arab Maghreb Union
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CARICOM	The Caribbean Community and Common Market
CBD	Convention on Biological Diversity
CIS	Commonwealth of Independent States
CGIAR	Consultative Group on International Agricultural Research
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMESA	Common Market for Eastern and Southern Africa
CSD	Commission on Sustainable Development of the United Nations
DESA	Department for Economic and Social Affairs
ECA	Economic Commission for Africa
ECCAS	Economic Community for Central African States
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIDA	Foundation for International Development Assistance
GATT	General Agreement on Tariffs and Trade
GAW	Global Atmosphere Watch (WMO)
GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System (UNEP)
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GLOBE	Global Legislators Organisation for a Balanced Environment
GOS	Global Observing System (WMO/WWW)
GRID	Global Resource Information Database
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAEA	International Atomic Energy Agency
ICSC	International Civil Service Commission
ICSU	International Council of Scientific Unions
ICT	Information and Communication Technology
ICTSD	International Centre for Trade and Sustainable Development

IEEA	Integrated Environmental and Economic Accounting
IFAD	International Fund for Agricultural Development
IFCS	Intergovernmental Forum on Chemical Safety
IGADD	Intergovernmental Authority on Drought and Development
ILO	International Labour Organisation
IMF	International Monetary Fund
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IPM	Integrated Pest Management
IRPTC	International Register of Potentially Toxic Chemicals
ISDR	International Strategy for Disaster Reduction
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature and Natural Resources
LA21	Local Agenda 21
LDCs	Least Developed Countries
MARPOL	International Convention for the Prevention of Pollution from Ships
MEAs	Multilateral Environmental Agreements
NEAP	National Environmental Action Plan
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organizations
NSDS	National Sustainable Development Strategies
OAS	Organization of American States
OAU	Organization for African Unity
ODA	Official Development Assistance/Overseas Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
PRSP	Poverty Reduction Strategy Papers
SACEP	South Asian Cooperative Environment Programme
SADC	Southern African Development Community
SARD	Sustainable Agriculture and Rural Development
SIDS	Small Island Developing States
SPREP	South Pacific Regional Environment Programme
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNCED	United Nations Conference on Environment and Development
UNCCD	United Nations Convention to Combat Desertification
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Coordinator
UNEP	United Nations Environment Programme

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNU	United Nations University
WFC	World Food Council
WHO	World Health Organization
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
WWF	World Wildlife Fund
WWW	World Weather Watch (WMO)

## **CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES**

**Decision-Making:** The responsible Ministry is the Ministry of Foreign Affairs and International Co-operation, working in liaison with other relevant government ministries and departments such as the Ministries of Finance, Commerce and Industry; and National Economic Council (NEC).

**Programmes and Projects:** No information available.

**Status:** Since 1994, the government of Malawi has implemented a number of policy reforms. The main objective of the reforms have been and continues to be the following: to achieve economic growth; to reduce dependence on external balance of payment support; to reduce inflation; to improve social services and economic infrastructure; to alleviate, reduce and ultimately eradicate poverty; and to manage the ecosystem and use natural resources sustainably. These reforms are being implemented along side with equally significant political and social reforms. The following measures have been instituted: introduction of a multi-party democracy; liberalization of most economic sectors; privatisation of parastatals engaged in commercial production and marketing; reform of the financial sector; liberalization of the foreign exchange regime.

Current efforts focus on reforms of the public sector with the objective of increasing government revenue through tax reforms and improved management of revenue collection, and reduction of the size of the civil service.

Decentralization of Government activities is being implemented with the aim of transferring authority and functions to lower levels of administration (districts), which are closer to the people and therefore will be more effective and efficient in the management of sustainable development activities.

**Capacity-building, Education, Training and Awareness-Raising:** Capacities of the government organizations, NGOs and the local communities have to be developed and enhanced. This is done through both short and long term training programmes.

**Information:** No information available.

**Research and Technologies:** No information available.

**Financing:** Financing for international cooperation is provided by the Malawi Government and various development partners such as UNDP, USAID, DANIDA, GTZ, World Bank.

**Cooperation:** No information available.

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## **CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES - TRADE**

**Decision-Making:** The responsible Ministries are the Ministries of Finance, Commerce and Industry the Ministry of Foreign Affairs and International Co-operation, in liaison with other relevant government ministries and departments such as National Economic Council (NEC).

**Programmes and Projects:** No information available.

**Status:** Since 1994, the government of Malawi has implemented a number of policy reforms. The main objective of the reforms have been and continues to be the following: to achieve economic growth; to reduce dependence on external balance of payment support; to reduce inflation; to improve social services and economic infrastructure; to alleviate, reduce and ultimately eradicate poverty; and to manage the ecosystem and use natural resources sustainably. These reforms are being implemented along side with equally significant political and social reforms. The following measures have been instituted: introduction of a multi-party democracy; liberalization of most economic sectors; privatisation of parastatals engaged in commercial production and marketing; reform of the financial sector; liberalization of the foreign exchange regime.

The major export cash crops are tobacco and tea. The foreign trade sector has recently shown some improvements. The trade account deficit has improved. This has been possible due to the implementation of macroeconomic and budgetary measures, including the following: reduction in tax remissions, in particular the Investment Promotion Centre (IPC) exemptions have been modified and limited to capital goods only; establishment of the Malawi Revenue Authority (MRA), which is now responsible for revenue collection and tax administration; and establishment of the "Inputs Revolving Fund" to encourage agricultural production.

The budgetary measures are also aimed at realizing the following broad policy objectives: achievement of a real GDP growth of 5 percent; generation of recurrent budget savings; reduction of the rate of inflation to below 10 percent; and reduction of Government indebtedness to the banking system. The Gross Domestic Product (GDP) registered a growth rate of 3.9 percent in 1995, compared to 3.0 percent in 1994. Agriculture continues to contribute the largest share of about 55 percent, with a growth rate of about 7 percent, compared to 2 percent in 1994. Malawi is conscious of the possible widening of the income gap.

As part of government policy intervention in reducing poverty, restructuring of the economy should adversely address the issue of promoting mining and tourism. An improvement in these sectors would reduce the country's over dependency upon a single crop (tobacco) and agriculture in general. Crop diversification needs to be promoted and geared for the export market, such as flowers, paprika and processed foods. The promotion of small-scale industrial nurseries should be intensified in order to take off the excess labour force engaged in agriculture. Urbanization should be encouraged in order to promote and sustain small-scale industrial concerns.

**Capacity-building, Education, Training and Awareness-Raising:** Capacities of the government organizations, NGOs and the local communities have to be developed and enhanced. This is done through both short and long term training programmes.

**Information:** No information available.

**Research and Technologies:** No information available.

**Financing:** No information available.

**Cooperation:** Within SADC and COMESA, Malawi participants in all trade matters through the two regional institutions working groups and project teams.

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## CHAPTER 3: COMBATING POVERTY

**Decision-Making:** Ministries, departments, NGOs and the private sector are all part of the process to eradicate poverty in Malawi. Decision-making structures for poverty alleviation and environmental improvement include the highest political commitments at both ministerial and local government levels. The key component of the national strategy is the promotion of medium and small enterprises developed by the Ministry of Commerce and Industry, which includes comprehensive strategies on development of infrastructure, entrepreneurship and skills development, technology support, credit and technical advisory services, market skills development, credit and resources. All measures are to be linked with appropriate institutional development programmes to support medium and small enterprises, and informal sector enterprises. The overall strategy of the government is to increase both economic growth and investments in priority areas, such as agriculture, industries and rural infrastructure in particular, education, health, human resources, especially for women and youth development, as well as free primary education for girls, large scale training and credit provisions for employing women and unemployed youth. Government and NGOs are collaborating to combat poverty. Major groups receiving assistance in this sector are local communities and the unemployed, marginal farmers, the rural and urban poor, unemployed youth and other vulnerable groups. Government has drafted the Poverty Reduction Strategy Paper (PRSP) as part of a continued effort to address poverty.

The fundamental role education plays in enhancing socio-economic development has been documented extensively worldwide. The Government of Malawi has put education as the centerpiece of its poverty alleviation strategy with 29% of its budget allocated to education in 1998/99 financial year. The introduction of free primary education in 1994, adult literacy classes and the creation of Girl's Attainment in Basic Literacy in Education (GABLE) have encouraged greater school attendance and improved literacy, especially promoting female education, which is a major component of overall human development. However, the increased numbers of pupils has resulted in straining the education delivery system, thereby reducing the quality of education. There is a serious shortage of human and physical resources at primary schools. For instance, only 15% of primary school teachers are trained.

**Programmes and Projects:** There are some projects at work: A Poverty Alleviation Fund, established in the Office of the President and Cabinet (OPC) provides the poor with access to some financial resources to address unemployment and save the environment in the final analysis. The Malawi Social Action Fund (MASAF), a World Bank supported project, aims at providing financial support to local communities for projects that address social and economic strategies for reduction of poverty and unemployment. Besides, various programmes of different ministries, departments and NGOs help to increase employment opportunities for income generation. Such institutions as Development of Malawian Traders Enterprises (DEMAT), Women's World Banking, FINCA, National Association of Business Women (NABW) have made financial resources available to the people.

**Status:** Poverty in Malawi, though already exceptionally high, is still increasing, and is part of the nexus of high population growth and environmental degradation, leading to low levels of living standards. Poverty afflicts millions of people, especially women and rural dwellers. Large-scale unemployment exists in the formal sector of the economy.

**Capacity Building, Education, Training and Awareness-Raising:** Capacities of the government organizations, NGOs and the local communities have to be developed and enhanced. Public awareness through formal and informal means will be useful in this respect. Programmes on capacity building for nutrition workers, extension workers, women and youth are in place.

**Information:** Government has put in place a Poverty Monitoring System and from time to time produces relevant information regarding the poverty situation in the country. Special surveys are also conducted to assess the level of poverty in Malawi.

**Financing:** The government finances poverty alleviation programmes mostly through its development budget, and some from revenue. The NGOs, the private sectors, and other interested groups have their own resources for addressing poverty alleviation.

**Cooperation:** Malawi participates in all regional and international fora dealing with poverty alleviation with the hope that from this participation, programmes and infrastructure can be developed to provide job opportunities and other economic benefits to the country and its neighbours

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## CHAPTER 4: CHANGING CONSUMPTION PATTERNS

**Decision-Making:** The Ministry of Natural Resources and Environmental Affairs; the Ministry of Commerce and Industry, the Ministry of Gender, Youth and Community Services, the Malawi Bureau of Standards (MBS) and the Consumer Association of Malawi (CAMA) need to constantly meet to develop a national strategy and the associated legislation. The Malawi Industrial Research and Technology Development Centre (MIRTDC) has to be a full partner. No policy has been drafted yet, although a number of sub-committees are in place in various sectors of the government and in NGO sectors to address the issue of consumption patterns in the country. Major target groups are industries and households. Contributors to this initiative include the Government, parastatals, NGOs, Donor agencies and the local communities.

**Programmes and Projects:** No information available.

**Status:** Although consumers in Malawi seem not to be aware of their environment or ways in which sustainability could be achieved, it is the nexus poverty, high population growth, environmental degradation and the concomitant lack of alternatives that prevent attention being given to sustainable consumption patterns. However, efforts have been made and are being put in place to monitor consumption of energy, food security, the use of appropriate technologies for energy consumption and production, and to modernize traditional industries. CAMA, which is a non-governmental organization, has been established to monitor consumption patterns in the country with support of the government.

**Capacity-Building, Education, Training and Awareness-Raising:** Capacity-building takes place through pilot projects in the use of cleaner alternative technologies in production, formal and non-formal training and study tours around the region. Public awareness campaigns have been carried out with the MBS and CAMA to inform the public about what needs to be done in this area. Again programmes aired on the radio and on the Malawi television and articles in the press have been the source of information on public awareness campaign regarding the production and consumption patterns in Malawi. Public awareness campaigns are to be beefed up together with some suggestions for alternatives.

**Information:** Government Ministries and relevant institutions, including the Ministry of Agriculture and Irrigation, the Ministry of Water Development, NEC, the Ministry of Natural Resources and Environmental Affairs; MIRTDC, and ESCOM, prepare reports.

**Research and Technologies:** Appropriate technologies including cleaner production technology, through awareness-raising and capacity building, will serve to reduce the consumption of environmentally sensitive materials, and reduce emission and waste.

**Financing:** Funding sources include: the Malawi Government, USAID, DFID, DANIDA, UNDP, GEF, UNESCO, NGOs, World Bank and European Union.

**Cooperation:** Major trading partners with Malawi include: South Africa, United Kingdom, United States of America, Germany, Zimbabwe, Netherlands and Switzerland.. She is also a member of SADC Trade Protocol and a member state of COMESA.

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## CHAPTER 4: CHANGING CONSUMPTION PATTERNS - ENERGY

**Decision-Making:** No information available.

**Programmes and Projects:** The Rural Electrification Programme and Solar Energy Project encourage people not to use fuel wood energy. The Biomass Energy Conservation programme aims at promoting efficiency in fuel wood consumption. The Agricultural Research and Extension Trust (ARET) promotes the use of coal for curing tobacco instead of using fuel wood. The National Sustainable and Renewable Energy Programme promotes the use of renewable energy technologies in Malawi. Multi-fuel oven which uses sawdust, biogas stoves and energy stoves called '*Mai bawo*' are all energy serving strategies used in Malawi to reduce energy consumption patterns.

**Status:** Malawi is relatively well endowed with a wide range of energy resources. These include biomass, coal, and perennial rivers for power generation and adequate sunshine for photovoltaic and other solar applications. Malawi's energy need is largely dependent on fuel wood, which accounts for 93% of the country's energy needs. Petroleum products account for 3.5% while hydro-electricity contributes 2.3% of the energy consumed. The remaining 1.2% comes from coal, ethanol and other forms of energy such as solar. The cost of conventional energy sources such as petroleum, electricity and coal are unaffordable by the majority of the population. This pushes them into permanent dependency on fuel wood in the absence of other alternatives. To overcome the energy scarcity problem, there is need to identify strategies which would develop the renewable energy sector in order to move away from dependency on traditional wood fuels to other energy sources, such as mini and micro hydro electricity, biogas, solar and wind energy production.

Efforts that have been undertaken and are underway in the sustainable and renewable energy sector include biomass briquetting, biomass powered electricity generation, afforestation programmes, biogas production and utilization, ethanol utilization, wind and solar energy. Constraints in the development of sustainable and renewable energy sources relate to institutional, economic and socio-cultural issues. In order to promote the development and utilization of sustainable and renewable energy sources in Malawi, new approaches and strategies have taken into account issues of financing, training, management, development and creation of an enabling policy.

**Capacity-Building, Education, Training and Awareness-Raising:** No information available.

**Information:** No information available.

**Research and Technologies:** Appropriate technologies including cleaner production technology, through awareness-raising and capacity building, will serve to reduce the use of non-renewable resources.

**Financing:** No information available.

**Cooperation:** No information available.

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## **CHAPTER 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT**

**Decision-Making:** No information available.

**Programmes and Projects:** No information available.

**Status:** No information available.

**Capacity-Building, Education, Training and Awareness-Raising:** No information available.

**Information:** No information available.

**Research and Technologies:** No information available.

**Financing:** No information available.

**Cooperation:** Malawi is a member of SADC Protocol on Transport, Communication and Meteorology.

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## CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

**Decision-Making:** The Government established the Population and Human Resources Development Unit (PHRDU) in the then Department of Economic Planning and Development (now NEC) to co-ordinate population activities in the country. PHRDU is responsible for integrating population variables in sector policies and programmes. In 1994, the Unit was transferred to the Ministry of Health and Population and in 2000 the Unit was renamed the Department of Population Services (DPS). The main function of the department is to co-ordinate the implementation of population policy. Since 1990, the sectoral ministries have been mandated, encouraged and supported to integrate demographic variables in their sectoral policies, development plans and programmes as an important factor in the country's socio-economic development process. Other institutions involved in this sector include Ministries of Education, Science and Technology; Agriculture and Irrigation; Information; Gender, Youth and Community Services; National Statistical Office (NSO), parastatals including the University of Malawi and a number of NGOs such as Banja La Mtsongolo (BLM); Population Services International (PSI), Family Planning Association of Malawi (FPAM), just to mention a few.

**Programmes and Projects:** There are a number of projects being supported by various development partners including UNFPA, USAID, DfID, World Bank and others. The programmes are being implemented by various government ministries and departments, parastatals, private organizations and NGOs, the Ministry of Health and Population; the Ministry of Gender, Youth and Community Services; the Ministry of Education, Science and Technology; the Ministry of Agriculture and Irrigation; National Statistical Office (NSO), Banja La Mtsongolo (BLM), ADRA, Umoyo Network and Family Planning Association of Malawi (FPAM). The World Bank also supports a Population and Family Planning Project whose overall objective is to test the feasibility of a comprehensive and district-wide community-based distribution approach through both public and private sectors to increase modern contraceptive coverage rates.

**Status:** The population growth and fertility levels are too high in the Government's view, and interventions are made to lower the rates to be compatible with the attainment of social and economic goal. Malawi adopted an explicit and comprehensive National Population Policy (NPP) in March 1994 and is currently being reviewed. It is an integrated part of the country's social and economic development plan, the Development Policy and Plan of Action for Women under the NPP. A coordinated action plan for the implementation of the policy was formulated and finalised in 1996. An appropriate infrastructure for the implementation of the population programme is in place, made up of the Department of Population Services, the Demographic Training Unit in the University of Malawi and a number of line Ministries, department agencies and NGOs. However, these efforts have suffered from limited institutional capacity at various levels.

**Capacity-Building, Education, Training and Awareness-Raising:** The country has mounted mass awareness campaigns on population, development and poverty amongst parliamentarians and cabinet ministers, Principal Secretaries and Chief Executives, and Traditional Leaders. In addition, capacity building efforts include staff training in academic degrees and on the job training through short courses, seminars and workshops.

**Information:** Information on population is available through various census and survey reports. To date Malawi has conducted four censuses (1966, 1977, 1987, 1998 censuses) and six major demographic surveys (1970-72 Malawi Population Change Survey, 1982 Malawi Demographic Survey, 1984 Family Formation Survey, 1992 Malawi Demographic and Health Survey, 1996 Malawi Knowledge, Attitudes and Practices in Health Survey and 2000 Malawi Demographic and Health Survey). Several organizations including the Centre for Social Research and Demographic Unit and the College of Medicine within the University of Malawi and Government Ministries and Departments such as the Ministry of Health and Population and NGOs have also conducted a number of demographic studies but these tend to be limited in both coverage and scope.

**Research and Technologies:** The Population Research Committee was established to coordinate and prioritize research on population. A prioritized research agenda was developed in 1997 and a number of research activities have been included especially in the area of family planning and reproductive health.

**Financing:** There is an increased provision of family planning services through an increased budget for population activities.

**Cooperation:** Malawi actively participates in all regional and global initiatives. In this regard Malawi is a member of the Southern Africa Population and Development (SAFPAD) Committee.

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## CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH

**Decision-making:** Institutions involved in the health sector include the Ministry of Health and Population, Christian Hospital Association of Malawi (CHAM) Units, NGOs, and community support groups. Aiming to raise the level of health of all Malawians through the prevention and control of common illnesses is a national priority and efforts include the following: a national health policy which emphasize the strengthening of preventive and promotional materials and reproductive health services, and the management of common illnesses through the strengthening of special disease control programmes which have been in place since 1995, a Safe Motherhood Initiative (SMI) launched in October 1996 to provide safe water and sound sanitation practices to unserved communities in Malawi and decentralization of services to strengthen the quality and quantity of health care at the peripheral level through the Primary Health Care (PHC) approach. The Bakili Muluzi Health initiative was launched in 1999. This initiative focuses on ensuring the availability of basic essential drugs as part of the EHP to the rural population within walking distance of their homes. Introduction of Essential Health Care Package (EHP) aims at among others the treatment and prevention of malaria, HIV/AIDS, diarrhoeal diseases, acute respiratory infections, TB and provision of reproductive health services.

**Programmes and Projects:** Improving the health status of the people of Malawi is one of the priority areas of the Government. As such there are a number of projects and programmes that the Government and NGOs are involved in. Some of these programmes include the SMI initiative, Malaria Control Programme and Bakili Muluzi Health initiative.

**Capacity-building, Education, Training and Awareness-Raising:** There is offshore training of programme managers and other staff, workshops and seminars, and in-country courses for specialists. Long term courses, some times leading to advanced degrees are also pursued.

**Information:** The Ministry of Health and Information has introduced a Health Information System and its latest information is published on annual basis as Health Statistics.

**Research and Technologies:** A number of organizations are involved in health related research and these include the University of Malawi through its various research departments, NGOs and the Ministry of Health and Population. The National AIDS Commission, for instance, is involved in a number of research activities in the area of HIV/AIDS. We also have Malaria and TB Projects that are currently underway as a joint venture involving the University and the Government.

**Financing:** Efforts to effectively balance the financial allocation between curative and preventive health care are also under serious discussion. Funds are provided by the Ministry of Health and Population, UNFPA, WHO, World Bank, UNICEF, European Union, FFW, JICA, GTZ, USAID, DfID, International Association for Community health, regional health organizations and other NGOs.

**Cooperation:** Malawi is a member of SADC, COMESA and AU.

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## CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

**Decision-making:** Malawi created the Ministry of Housing, which is in charge of policy and coordination of housing issues. The Ministry of Lands and Valuation is in charge of land policy and land allocation. The Ministry of Physical Planning and Surveys is in charge of enforcing planning standards. Local authorities are in charge of the provision of human settlements and related issues. In 1996, Malawi compiled the “Urban and Housing Indicators for Malawi Cities”. In the same year, Malawi developed the National Plan for Action for the Period 1996 – 2000. The programmes in this plan bear directly on poverty alleviation as they seek to give security of land tenure to the poor, to promote income generating activities, to broaden access to affordable housing finances and to support the delivery of integrated infrastructure services. The Ministry of Housing is formulating a national Housing Policy. The Government wants to move away from being a provider of shelter and related services, but continue to provide an enabling environment. The Government is currently encouraging home ownership. Major Groups involved include: The Ministry of Housing, the Ministry of Lands and Valuation, the Ministry of Physical Planning, the Ministry of Research and Environmental Affairs, building sections (work and supply), the Malawi Housing Cooperation, Habitat for Humanities, Christian Services Committee, New Building Society, Maone park, Malawi Development Cooperation, individuals and donor community.

In view of the country’s long-term development vision and commitment to sustainable development policies, the primary goal of the government is the ensure security and equitable access to land in order to facilitate ecologically balanced use of land resources. The Government has therefore developed a new land policy, which among other things guarantees secure tenure and equitable access to land without discrimination to all citizens of Malawi. The new policy has attempted to address issues that will promote efficient land use, promote a viable land market and set ceilings on land ownership to prevent extreme land concentration in a few hands or organizations. With the coming into force of the new land policy, a new basic land law will be put in place which will culminate into the classification of land into two categories: government land and private land.

Government land will comprise land privately owned by the government and put a specified national use, such as that for government or traditional authorities, but used by the general public.

Private land will include freehold and customary land allocated exclusively to families or individuals and leasehold. Private land will be subject to common residual rights of the state, such as compulsory acquisition.

Under the proposed new land law, customary tenure will be codified and granted full statutory recognition as fee simple customary estate, registerable and available for disposition under market conditions. One other fundamental change in the new land administration machinery will be the demarcation of customary land and the setting up of district/village land based registries throughout the country.

**Programmes and Projects:** The Programme on Rural Housing aims at improving the quality of rural housing and improving the performance of the rural housing programme. The Programme on Construction Industry builds the capacity of small contractors and expanding the supply and use of alternative local building materials. Community Participation Programme ensures the sustainability of housing programmes and promoting leadership capacities within communities.

Since 1964, Malawi’s housing policy has been geared towards direct provision of permanent houses, especially through the Malawi Housing Corporation (MHC). MHC was created in 1963 as a government parastatal with the mandate to develop, construct and manage housing estates throughout the country. In an attempt to narrow the widening gap between supply and demand, it was decided to concentrate on the development of Traditional Housing Authorities (THAs) in parallel with the construction of conventional housing units in most urban and district centres. This strategy has been severely constrained due to inadequate financial resources, an inefficient

land market, high planning and construction standards, as well as low levels of institutional capacity to monitor and implement decisions. The main cause of the inadequate and unsafe housing conditions, as well as increases in THAs, is the grinding poverty prevalent in the country. As part of a scheme to streamline the problems associated with poor housing standards in rural areas, the government through its recently developed housing policy, recognizes the need to improve on existing dwelling units rather than rapidly expand on new stock. A rural housing programme has been designed whose main theme is to motivate, encourage and assist rural families in improving their housing conditions and quality of life.

**Status:** No information available.

**Capacity-building, Education, Training and Awareness-Raising:** Staff in this sector are availed the opportunity of the on-the job training, short course and long term training whereas local communities are sensitised on the need of quality housing and low cost housing scheme.

**Information:** No information available.

**Research and Technologies:** The Centre for Social Research and HABITAT is involved in conducting research in various aspect of housing in Malawi. Also the Polytechnic has done some studies in the area of low cost housing.

**Financing:** Urban land market: creation of dynamic, efficient and equitable urban land markets and improving access to land by low-income households and vulnerable groups. Housing Finance: improving competition in the conventional housing finance market and improving access to housing finance for low and medium income groups.

**Finance:** Creating a viable financial base for the local authorities; improving cost recovery for new infrastructure and encouraging participation in infrastructure provision by private development. There is still lack of competition on the mortgage market. Hence, access to housing finance by low and medium income groups is almost non-existent. Finance for infrastructure is almost unavailable.

**Cooperation:** Malawi is a member of Shelter-Afrique and the African Housing Fund Malawi also benefits from the World Bank and other UN bodies like UNDP, UNCDF, and UNICEF. There is bilateral cooperation with countries such as Japan, USA, UK, and Germany among others.

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## CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

**Decision-Making:** The National Council for the Environment (NCE) was established by the Environmental Management Act to recommend to the Cabinet, through the Minister responsible for Research and Environmental Affairs, measures necessary for the integration of environmental considerations into all aspects of economic planning and development. The Act seeks to promote and coordinate the implementation of sustainable development in accordance with Agenda 21 by harmonizing activities, plans and policies with the protection and management of the environment and the conservation and sustainable utilization of natural resources. Malawi used to stipulate the direction of its development and priority areas through the ten-year statement of Development Policy. The last one covered the period 1987-1996 and this has since been replaced by the VISION 2020 document published in 1998.

**Programmes and Projects:** The ten-year plan is translated into medium-term policies and plans, which are further disaggregated into the Public Sector Investment Programme (PSIP) and a poverty framework paper at the macro level and then into development to ensure that sectoral policies, programmes and projects complement each other and minimize policy conflict. Currently, sustainable development principles are used in the development of projects for the PSIP. Specifically, programmes and projects are evaluated both for their impact on poverty alleviation and their environmental impacts. The national strategy focuses on influencing the interaction between population and natural resources. This is reflected in the distribution of investment in economic, social and infrastructure activities, the achievement of rapid and sustainable economic growth and development, and reduction in the instability of welfare for both the individual and the whole nation. In order to achieve these three objectives, emphasis is given to increasing environment. However, this will only be able to increase income and employment for a small proportion of the population; hence some of the balance will have to be taken by provision of economic, social and administrative services in the public sector. Thus public sector investment through PSIP will also play a key role in the achievement of development.

**Status:** Although there are a number of controls on private sector investment, foreign trade business location, retail pricing and employee wages and working conditions, the current trend in the democratic Malawi is to liberalise trade and investment to curb poverty and unemployment. The overall objective is to continue to stimulate balanced economic activities, protect consumers and employees and most of all promote sustainable development.

**Capacity Building, Education, Training and Awareness-Raising:** Building capacity for economic planning and development is crucial and need to be undertaken on a continuous process. This includes development of a sound database with a good monitoring system.

**Information:** The poverty alleviation programme has launched a poverty monitoring system, which is hoped to provide the necessary database and signals where policy is lagging behind.

**Research and Technologies:** The Ministry of Natural Resources and Environmental Affairs, the Natural Resources and Environment Centre (NAREC), and the Agricultural Policy Unit are involved in various research activities in the area of natural resource management and Development in the country.

**Financing:** Financial resources are very critical if both sustainable poverty alleviation and environmental concerns are to be integrated into the overall development goals and objectives. Currently, these resources are inadequate. The management of the country's economy through the integration of environment and development in decision-making is undertaken by the Government through its own budget and development funds utilizing a number of statutory controls and quasi-public institutions such as the Reserve Bank of Malawi. Malawi Government and various development partners including UNDP, DANIDA, USAID, World Bank, African Development Bank.

**Cooperation:** Malawi actively participates in all regional and global forums for discussing various aspects of social and economic development. At regional level Malawi is a member of SADC, COMESA and AU.

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## CHAPTER 9: PROTECTION OF THE ATMOSPHERE

**Decision-Making:** The Department of Environmental Affairs under the Ministry of Natural resources and Environmental Affairs, is the co-ordinating agency while the Meteorological Department under the Ministry of Transport and Public Works is the Secretariat. During 2001, the National Climate Change Committee was also set up. The three organs, through a multi-sectoral approach, are responsible for implementation, monitoring and evaluation, with the assistance of Project Steering Committees in the case of the Climate Change Enabling Activities project and the Environmental Management Project. In addition, there is a National Ozone Unit in the Department of Environmental Affairs or implementing projects relating to controlled substances. Major groups involved include farmers, communities, industry, motorists and city councils.

**Programmes and Projects:** As a component of the Environmental Management Programme, the Long Lead Climate Forecasting Project was developed as an adaptive response to climate change and has enabled the Meteorological Department to come up with seasonal rainfall forecasts crucial for food production and disaster management. In May 2001, the methyl bromide phase out project was launched.

**Status:** In 1999, work on the preparation of the country's First National Communication begun. The work involved updating both the greenhouse gas inventory and the V&A assessments using 1994 base year. As of November 2001, the First National Communication was completed and was being discussed by stakeholders, with the view to submitting it to the 7<sup>th</sup> Conference of the Parties (COP-7). Under the powers conferred by the Environmental Management Act of 1996, Malawi gazetted its Ozone Regulations in 1997 restricting importation of second hand refrigerators and importation of Ozone Depleting substances (ODS). So far, five projects to phase out ODS have been implemented beginning 1995.

**Capacity-building, Education, Training and Awareness-Raising:** Malawi has actively participated in meetings of the Montreal Protocol, thus enabling capacity building. Between 1995 and 1997, refrigeration technicians were trained, starting with "train the trainer programme", to support a project aimed at recovering and recycling refrigerant gases. A refrigeration association was also established. Under the methyl bromide phase out project, three alternative technologies are being demonstrated on both small and commercial farms. Civic education programmes and campaigns to reduce ODS, to promote alternative energy sources to fuel wood, to increase greenhouse gas sinks through afforestation and reforestation, and to raise environmental awareness, including dangers of bush fires, have been carried out.

**Information:** Malawi works with the Early Warning Weather System in Harare, Zimbabwe, and with EPA in the USA. Through regional and international workshops there is an exchange of data and information among countries participating in country study projects.

**Research and Technologies:** In keeping with the Montreal Protocol, the meteorological Department operates a Background Air Pollution Monitoring Station at Lilongwe Airport where atmospheric turbidity and chemical composition of rainwater are monitored. In accordance with the requirements of the UNFCCC, Malawi is conducting a Climate Change Country Study which consists of three areas: (a) greenhouse gas inventory, (b) vulnerability and adaptation studies (V&A), and (c) a study on mitigation of greenhouse concentrations. The greenhouse gas inventory was produced in October 1996. A preliminary report of the V&A study was produced in 1996.

**Financing:** The United States Environmental Protection Agency has provided financial support for climate change country studies; the Global Environment Facility, for climate change enabling activities project; the World Bank, for the Long Lead Climate Forecasting project; and the Multilateral Fund, for the Institutional Strengthening project.

**Cooperation:** The Montreal Protocol was acceded to in 1991; the London and Copenhagen Amendments were ratified in 1994. The United Nations Framework Convention on Climate Change was signed in 1992 and ratified in 1994. Malawi is an active member of the Intergovernmental Panel on Climate Change (IPCC) and has participated actively at COP meetings and sessions of its subsidiary bodies. As at 2001, Malawi is in the process of preparing its legal instrument to ratify the Kyoto Protocol.

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## CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

**Decision-Making:** Responsible entities for this sector include: the Ministry of: Agriculture and Irrigation; the Ministry of Natural Resources and Environmental Affairs; the Ministry of Water Department; and the University of Malawi. Also involved are local communities, farmers, NGOs, and the Coordination Unit for the Rehabilitation of the Environment (CURE). The Government has established a Presidential Land Commission to look into matters related to land tenure as it affects rural and urban communities, the large estate sector, and finally linkages and synergies of land matters in relation to the promotion of initiatives for sustainable development, taking into account the social, economic and sustainable environmental management in the country. Related policies include the Forestry Policy (1996), a Water Resources Management Policy (1994, revised in 1999), land-use utilization and catchment protection, and rehabilitation and reclamation of degraded lands. Streamlining of activities in the Ministry of Agriculture has resulted in two key documents: the Agricultural and Livestock Development Strategy and Action Plan, 1995 and the National Livestock Development Master Plan, 1999.

**Programmes and Projects:** Among the principal activities in this sector are the following: controlling soil erosion and land degradation; pilot agro-forestry programme for poverty alleviation, funded by the European Union; addressing soil erosion with agro-forestry interventions in Blantyre, Salima, Lilongwe, Liwonde, Shire Valley; and implementation of land use policy by the Ministry of Agriculture and Irrigation. The Starter Pack Scheme was introduced by Government in 1998/99 to provide farming inputs to households, registering around 1.9 million in the 1999/2000 season. In the past, development projects in the agricultural sector have not been properly coordinated. As of now, there is the Ministry of Agriculture Sector Investment Programme (MASIP), which has the task of doing so.

**Status:** The average yields of major crops have either stagnated or declined over the last decade despite increases in the sale of fertilisers to smallholders. Land degradation in form of soil erosion, declining soil fertility and cultivation in marginal lands are the main causes and are on the increase. Deforestation is at the centre of most of this degradation as the rising population exerts pressure on the dwindling land holdings to satisfy energy demands. Most districts have a rate of soil loss above the expected rate of soil formation of around 12 tonnes/ha/year. The national mean land holding size decreased from 1.53 ha in 1968/69 to 0.86 ha in 1996/97.

**Capacity-building, Education, Training and Awareness-Raising:** Issues include: training at the Land Husbandry Training Centre; training in land utilization, agro-forestry, land use planning, soil conservation; and training and institutional development for local communities, NGOs and line agencies. The major conservation activities by the smallholder farmers include the promotion of contour marker ridges and subsequent ridge alignment, vetivar hedgerow planting, box ridging, reclamation of gullies and raising of footpaths and field boundaries. The adoption of these conservation measures have picked up, with programmes of promoting low-cost technologies, such as the making and use of an A-frame and line levels. From 1994, the emphasis shifted from the use of hand levels or quick-set levels by the land husbandry field assistants to training the farmers themselves. Similarly, the livestock and poultry sector has progressed in capacity building and promotion of smallholder farmers in areas such as guinea fowl and rabbit rearing

**Information:** Information on this issue is available from the Ministry of Agriculture and Irrigation, the Ministry of Natural Resources and Environmental Affairs, the Ministry of Water Department, the Ministry of Lands and Valuation and the Ministry of Physical Planning; NG'S such as CURE and the Presidential Commission.

**Research and Technologies:** Major technologies promoted to improve soil fertility are undersowing and improved fallows using agroforestry species, promotion of soil improving (nitrogen fixing) trees and legumes, use of manure, compost making.

**Financing:** Financing comes from the Government, the European Union, and SADC-ELMS.

**Cooperation:** Malawi cooperates with: SADC Environment and Land Management Sector (ELMS), Southern African Regional Centre for Rehabilitation and Utilization of Soil (SARCCUS) and other international, bilateral and multilateral cooperation.

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## CHAPTER 11: COMBATING DEFORESTATION

**Decision-Making:** Responsible entities for this sector include: the Ministry of: Agriculture and Irrigation; the Ministry of Natural Resources and Environmental Affairs (Department of Forestry); the Ministry of Tourism (Department of National Parks and Wildlife); the Water Department; and the University of Malawi. Also involved are local communities, farmers, and NGOs. A number of policies and institutions were developed in the past decade, e.g., the Forest Policy of 1996 and Forest Act of 1997, which lay more emphasis on multi-stakeholder participation including local communities, community-based organizations (CBO) and non-governmental organizations (NGOs). The new policy also recognizes the role of the private sector not only in the utilization of forest resources but also in the management of these resources. Through the National Forestry Programme (NFP), developed within the decade, the Malawi Government has identified the key themes affecting forestry in Malawi, identified priority actions to be undertaken and also identified key roles and responsibilities of various stakeholders. The changes in policy have also included institutional change by recognising many institutions, external to forestry department that play important roles in forestry development of the country. The changed forestry policy now enables industrial plantations management by the private sector and community management of forest and tree resources, which will enormously contribute to reducing deforestation in Malawi.

**Programmes and Projects:** In dealing with deforestation and for effective implementation of the National Forestry Programme, the Forestry Department has been implementing two forestry programmes on i) forest and wood conservation and on ii) tree planting or afforestation. One obvious measure taken to combat deforestation has been to plant new trees as replacements for the ones being cut down, as encouraged through the Annual National Tree Planting Day/Week. The private sector has shown keen interest in promoting tree planting, for example, the greening programme promoted by Carlsberg Breweries.

**Status:** Out of the total land area of 94,270 km<sup>2</sup> of Malawi, 38 % is classified as forest. Of this area, 17 % is accounted for by natural woodlands on customary lands, 11 % by national parks and game reserves and the remaining 10 % by forest reserves and protected hill slopes. With a per capita GNP of just US\$200 per head, Malawi is one of the world's poorest countries. Forests remain central and critical to the livelihoods of the people, and rapid forest loss and degradation are impacting profoundly upon the poorest and vulnerable who depend most on these resources. During the last decade, the rate of deforestation, which refers to the percentage of forest cover lost per year, ranged from 1% to about 3% overall, averaging 2.3% in recent years (1998). This is the highest deforestation rate in the SADC region, representing a net loss of some 30,000 to 40,000 hectares per year of (mostly miombo) woodland in Malawi. Much of the current deforestation pressure occurs in indigenous forests and woodland, on customary land. Approximately 98% of Malawi's energy requirements are met by wood fuels with per capita consumption varying from 1.1 m<sup>3</sup> for rural people to 2.0 m<sup>3</sup> for urban populations. An estimated 37% of fuel wood comes from customary forests, 26% from forest reserves, 11% from forest plantations and the remaining 26% from crop residues and other sources. What is apparent though is that families, which use wood fuel (charcoal and firewood) for cooking, still consider it more attractive and cheaper than kerosene. Also, electricity remains the major source of energy for domestic use in high-income families. As was the case in the last decade, not only are households dependent on wood fuels, but they are becoming more so. At least there is no evidence to show that there has been any shift in energy use from wood energy to kerosene or electricity in recent years.

Policy-makers in Malawi have considered various ways of dealing with deforestation, as contained in Malawi's National Forestry Programme (NFP) and Malawi's Action Plan on Deforestation. The recently formulated NFP (2001), has been developed to provide mechanisms for operationalizing the Forestry Policy and Act, and to form a bridge between sustainable forest management on the one hand and poverty reduction on the other.

**Capacity-building, Education, Training and Awareness-Raising:** Various sectors of the Government have promoted the use of such forest products as medicinal plants, dyes, fibres, gums, resins, fodder, rattan, bamboo and works of local artisans. Some of these have also encouraged low-impact forest use, such as eco-tourism and the

managed supply of genetic materials, such as those used to develop medicines. All these developments have helped to promote sustainable management of tree and forest resources and reduce deforestation. Through the new policy, there is now greater awareness and need to build and strengthen capacity for all the stakeholders in the forestry sector including the communities, CBOs, NGOs, private sector and Forestry Department for more effective implementation of afforestation programmes. At the same time, more effort will have to be committed to promoting and exploring ways to make available the use of alternative energy sources including solar power, wind power, biogas, electricity and others which most people can not afford.

**Information:** Sources of information on forest include: the Ministry of Agriculture Natural Resources and the Ministry of Environmental Affairs (Department of Forestry), the Ministry of Tourism (Department of National Parks and Wildlife), the Water Department, and University of Malawi.

**Research and Technologies:** The Forestry Department continuously engaged in breeding trees that are more productive and resistant to environmental stress. The decade saw the introduction of a number of wood energy saving technologies in a Government effort to reduce wood used to generate the same energy and thereby help combat deforestation. The most common technologies that have been introduced are the mud stoves, braziers and various forms of solar heating systems for heating and cooking, and improved kilns for charcoal production. Although it is difficult, in the absence of any studies, to determine the number of farmers practicing agro-forestry, this practice is widespread in Malawi and has been particularly so in the last decade, when a lot of agro-forestry technologies and tree species were adopted. With limited available land in Malawi (with household landholding size of between 0.5 and one hectare) agro-forestry offers an optimistic scenario where trees can be scattered around the house, on farm boundaries and grown together with crops without interfering with crop production. Many smallholder farmers have been able to grow enough wood for their own use and thereby helped reduce deforestation particularly of customary land forests. Early projections in Malawi showed that if one-fourth of all smallholders were to become self-sufficient in wood production, claims on wood from customary land would drop by 1.5 million cubic meters per year. The adoption of more agro-forestry practices in the coming decade promises, therefore, to be one of the major ways of combating deforestation in Malawi.

**Financing:** The main source of funding to fight deforestation has been the Government revenue (Malawi Social Action Fund); main funding sources for the development of the NFP have been through DFID of the United Kingdom; GTZ; and the private sector.

**Cooperation:** Malawi's international obligations, with a bearing on forest and people, will in the coming decade help in the development of programmes that, among other things, aim at reducing deforestation. These include: the Framework Convention on Climate Change (FCCC) and Kyoto Protocol, which sets rules for carbon emissions and initiates the process by which Malawi can potentially benefit from international carbon offset schemes; the Convention to Combat Desertification (CCD), which commits Malawi to pursue a national plan for tackling desertification; the Convention on Biological Diversity (CBD), which commits Malawi to incorporate conservation of biodiversity in all sectoral policies and land use decisions; and the Convention on International Trade in Endangered Species (CITES), which prohibits or restricts trade in a large number of plant and animal species. Malawi has started programmes on CBD, together with other SADC countries, and further programmes will be drawn on the other conventions.

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## CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

**Decision-Making:** Institutions responsible for this area include: the Department of Economic Planning and Development, the Ministry of Agriculture and Irrigation, the Office of the President and Cabinet, the Ministry of Water Development, the Ministry of Local Government and Rural Development, the Sugar Corporation of Malawi (SUCOMA), the Electricity Supply Commission of Malawi (ESCOM), the Water Boards in Malawi, the Ministry of Physical Planning, the Ministry of Natural Resources and Environmental Affairs (MoNREA), the Tobacco Association of Malawi (TAMA) and the Agricultural Research and Extension Trust (ARET). These strengthen the National Desertification and Drought Steering Committee (NDSC). The Department of Forestry in MoNREA is the chair of the NDSC, while the Department Environmental Affairs is the Secretariat. The National Committee is comprised of all relevant sectors both from government and the private sector whose activities contribute to desertification in one way or the other. The Disaster Management Act was passed in 1991. Major Groups involved in this area include: NGOs, such as the Coordination Unit for the Rehabilitation of the Environment (CURE), the private sector (Malawi Investment Promotion Agency: MIPA), TAMA, ARET, the Tea Research Council of Malawi (TRC), local government, the Forestry Department (as chair), the Land Resources and Conservation Unit of the Ministry of Agriculture and Irrigation, SDC, and the Malawi Industrial Research and Technology Development Centre (MIRTDC).

**Programmes and Projects:** Malawi has produced a National Action Plan (2000) to combat desertification after ratifying the Desertification Convention in 1996, with funding from UNDP/UNSO. To date, relevant activities in this area include the Disaster Management Plan (Strategy), (draft produced in 1997); Small Scale Irrigation Draft Policy, 1996; Establishment of a drought early warning system in 1991 with the Ministry of Water Development as the lead agency; the South African Development Countries Food Security Early Warning Unit under the Ministry of Agriculture and Irrigation; and a Famine Early Warning System under agro-economic survey of the Department of Economic Planning and Development. Other strategies include water harvesting techniques and programmes by the Ministry of Agriculture and Irrigation. The Ministry of Water Development has been mandated to look into ways and means to develop programmes, which aim at water harvesting during the rainy season. Development of irrigation schemes for small-scale, medium and large-scale farmers is Government's priority number one utilising the water bodies of Lakes Malawi, Chilwa, Chiuta, Malombe and the Shire River water systems.

**Status:** An issue still to be resolved is the development of capacity and institutional mechanisms to develop and implement a comprehensive and practical National Action Plan through local community participation and decision-making processes utilizing other avenues such as the Capacity 21 initiative, at national, regional and local levels. The Government has attended INC and follow-up Convention meetings including SADC initiatives and relevant annual committee meetings.

**Capacity-building, Education, Training and Awareness-Raising:** The following are planned to take place soon to implement the convention: White Paper where strategies and actions including project ideas will be developed; creation of an institutional basis for planning and implementing the NAP and to build capacity on this basis; awareness-raising among the relevant actors and affected groups at the local community level, and at the regional and national levels including all decision-makers in line agencies, NGOs, the private sector and other interested individuals and affected groups; and development of modalities through the Environmental Management Act, the National Environmental Policy, the National Water Policy, the Forestry Act, the National Rural Development Plan to develop an integrated community forestry, rehabilitation and reclamation of river basins and catchment areas to reduce pressure on natural woodlands, revamp the water catchment areas and river basins respectively.

**Information:** Information related to this issue is available from the Department of Economic Planning and Development, Ministry of Agriculture and Irrigation, Office of the President and Cabinet, Ministry of Water

Development, Ministry of Local Government and Rural Development, Ministry of Land Physical Planning, Ministry of Natural Resources and Environmental Affairs, Agricultural Research and Extension Trust (ARET)

**Research and Technologies:** Research activities have focused on water harvesting techniques and programmes by the Ministry of Agriculture and Irrigation; Famine/ Drought Early Warning systems under agro-economic survey of the Development of Economic Planning and Development; Development of irrigation schemes for small-scale, medium and large-scale farmers.

**Financing:** Reclamation and rehabilitation work is financed by the SADC Environment and Land Management Sector, the Government revenue and development budget, NGOs and CBOs. The Ministry of Natural Resources and Environmental Affairs successfully negotiated with the CCD Secretariat and UNSO through UNDP and procured funds in 1999 for the development of the National Action Plan, an audit strategy and for the national awareness-raising workshop and campaigns. The NAP was published March 2001.

**Cooperation:** Malawi is a member of SADC, which is currently busy formulating a sub-regional action programme to combat drought and desertification. The International Convention to Combat Desertification in Countries Experiencing Drought and/or Desertification Particularly in Africa was signed January 17, 1995 and ratified June 13, 1996. As a party to the CCD, Malawi stands within the aegis to the Convention to develop forestry, land, rehabilitation and restoration initiatives to address the CCD commitments through training courses, exchange of information and advice and afforestation/agro-forestry initiatives within the region and internationally.

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## CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

**Decision-Making:** The structure for mountains includes the Ministries of: Agriculture and Irrigation; Water Development; Natural Resources and Environmental Affairs (Department of Forestry, National Council on the Environment); and the Ministry of Local Government and Rural Development; as well as the Department of National Parks and Wildlife; Bee Keepers Association of Malawi; local communities; NGOs; donor agencies; community-based organizations (CBOs); and parastatals. Fragile mountain catchment ecosystems are considered sensitive areas in the Environmental Management Act. They are major water catchment areas with indigenous forests, commercial forests used for recreation, nature conservation, agriculture and other communal land uses. Most of these areas are threatened and require urgent action to save them from further degradation.

**Programmes and Projects:** Park establishment for conservation of catchment areas of major rivers which support hydro electric power production and irrigation; Malawi-German Bee Keeping Project for placement of hives in the park for honey which is collected by local communities in the area; improvement of transit infrastructure e.g. roads and housing and training of staff in tourism; conservation of Mount Mulanje with community involvement and conservation of endangered species found in Mount Mulanje with assistance from the Department for International Development (DfID) and GEF; Rehabilitation of deforested hills and mountains in rural and urban areas; management of the mid-Shire River aiming at reducing soil erosion within the catchment area; conservation framework for the land management of open areas; and the National Water Development Project aiming at sustainable management of water resources which mitigates environmental degradation through integrated management of mountain, forest and river ecosystems.

**Status:** In 1975, 47% of the territory in Malawi was classified as forest. Today, 28% is forest, of which 21% is Forest Reserves, National Parks and Wildlife Reserves, and 7% is customary land. The distribution of forest area is as follows: Forest reserves (33.1%), National Parks and Wildlife Reserves (37.3%), Customary land (25.5%), Government plantations (3.4%) and Private plantations (0.8%). It is clear that forest area is decreasing at an alarming rate. The causes of the decline include the need for a growing population to exploit the resource for livelihood. A closer examination reveals that forests on customary land have been the main contributor to the above decline and continue to be under extreme pressure. Many of these forests are in mountain ecosystems. As forests on customary land disappear, more and more evidence shows that protected areas are threatened with encroachment and demands for de-gazettement. Agricultural expansion into marginal areas on customary land and devastating wild fires contribute to the degradation of mountain ecosystems. Management plans have been produced for the two major mountain ecosystems: the Nyika National Park (1999) and the Mulanje Mountain Forest Reserve (2000). Constraints associated with challenges of managing mountain ecosystems include: lack of adequate law enforcement; lack of funds to deploy law enforcing agents; lack of alternative sources of income to alleviate people's poverty and divert them from commercial exploitation of forests.

**Capacity-building, Education, Training and Awareness-Raising:** Staff development through research, training and dissemination of information; infrastructure development; strategies for mountain conservation evolution; and training of beekeepers.

**Information:** Information for this area is available from the Ministry of Agriculture and development, the Ministry of Water Development, the Ministry of Natural Resources and Environmental Affairs (Department of Forestry, National Council for the Environment), Local Governments and the Ministry of Tourism.

**Research and Technologies:** Research activities in this area focus on the biodiversity of mountain ecosystems; mapping of disaster prone mountain areas, especially land slides; most indigenous forests lying in protected areas are within mountains, hence design of co-management programmes are offering research opportunities.

**Financing:** Finance is provided by GTZ (Bee Keeping Association, since 1992); GEF/World Bank (Mulanje Mountain Conservation Trust, since 1997), DfID (Mulanje Mountain Conservation Trust, 1995); UN (Rural Water Supply and Sanitation in Malawi, Sustainability through Community Based Management 1994-2010), UNDP (National Sustainable and Renewable Energy Programme, 1997-2001). Through its revenue budget the Government supports some of the sustainable mountain development initiatives.

**Cooperation:** Malawi, as a SADC member, operates within the regional structures of this organization. Bilateral cooperation with other neighbours, Mozambique and Zambia, deals with border mountain ecosystems and areas. Malawi is an active member of the Convention on Biological Diversity, the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention), the Convention on Migrating Species, the Convention on the International Trade of Endangered Species, the Convention to Combat Desertification and Drought and the Framework Convention on Climate Change. As such, all stipulations of these Conventions which affect the sustainable management of fragile ecosystems and sustainable mountain development are considered in linkages at various national committees and as appropriate.

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## CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT

**Decision-Making:** Responsible entities for this sector include: the Ministry of Agriculture and Irrigation, Ministry of Natural Resources and Environmental Affairs, Ministry of Water Development, Ministry of Local Government and Rural Development, Ministry of Physical Planning, Agricultural Research and Extension Trust (ARET), NGOs, Tea Growers Association of Malawi, Sugar Association of Malawi, Agricultural Policy Research Unit (University of Malawi), and the National Seed Company of Malawi. Major groups involved are: local communities, farmers, and industry. A National Environmental Policy and an Environmental Management Act were both adopted in 1996. A White Paper for Agriculture was developed during 1995/96 addressing production, marketing, sustainable utilization of natural resources, financing, institutional infrastructure, information and agricultural technology, research, extension and training in line with sustainable development and environmental management. Policies on boosting agricultural productivity concentrate on larger farms, promote other ventures such as fish farming and introduce agricultural cooperatives. Estate owners are required to have 10% of their land devoted to tree growing. The Government has established a Presidential Land Commission that has looked into matters related to land tenure as it affects rural and urban communities, the large estate sector, and finally linkages and synergies of land matters in relation to the promotion of initiatives for sustainable development, taking into account the social, economic and sustainable environmental management and catchment protection, and rehabilitation and reclamation of degraded lands.

Strategies for promoting sustainable agricultural and rural development include: mitigation of drought; liberation of micro agriculture, crops; rural based development projects; the Malawi Social Action Fund; liberation and marketing of agricultural inputs, e.g. fertilisers; establishment of a Rural Finance Company for small scale business projects; strong increase in NGO activities in rural departments; introduction of small-scale irrigation schemes managed by communities; integrated approach in natural resources and environmental management by the Department of Parks and Wildlife and the Wildlife and Environment Society of Malawi; promotion of drought tolerant crops; land resource conservation through agro-forestry, erosion control and afforestation and other conservation practices; and job creation. The use of manure instead of inorganic fertilisers is encouraged, as inorganic fertilisers pollute lakes and water bodies and have an adverse effect on some fish species. Major groups involved into the decision-taking process include: Parastatals (Agricultural Development and Marketing Corporation, ADMARC), farmers, local communities, universities, and NGOs.

**Programmes and Projects:** Among the principal activities of this sector include the following: controlling soil erosion and land degradation; pilot agroforestry programme for poverty alleviation funded by the European Union. Addressing soil erosion with agroforestry interventions in Blantyre, Salima, Lilongwe, Shire Valley and implementation of land use policy by the Ministry of Agriculture and Irrigation.

**Status:** Dambos are used for vegetable and tobacco nursery and lead to environmental degradation. Cultivation in highlands is detrimental, hence the need for a law to prohibit the cultivation at certain points. A study was commissioned from the Ministry of Lands and Valuation to look into land tenure, the system that needs to be revised. Credit facilities are for inputs in Agricultural Development Divisions (ADDs), which facilitate or promote productivity. Loan repayment is as low as 56% at present. Farm supplies are limited due to the removal of government subsidies on farm inputs.

Achievements include: marketing of agricultural inputs liberalised in 1995/96; review of land management policy (2000/2001); food security policy in place (1994/95) – establishment of Agricultural Productivity Investment Programme (APIP) and Maize (crop) productivity Task Force (MPTF) in 1995/96 supported by European Commission, and Starter pack & Targeted Input Programme (TIP) for smallholder farmers (1997-2001); establishment of Agricultural Policy Research Unit (APRU) in 1994; establishment of rural/microfinancing institutions such as Malawi Rural Finance Company (MRFC) and Farmers Finance Company (FFC); introduction

of small scale irrigation schemes managed by communities e.g. treddle pumps; promotion of drought tolerant crops e.g. cassava; opening of new seed companies and participation of smallholder farmers in the seed industry e.g. National Seed, Cotton and Milling Company of Malawi, Seed Co Ltd, PANNAR Seed Co and NASSPa for farmers associations; enhanced soil conservation and fertility improvement through Malawi Agroforestry Extension (MAFE); increased participation of NGOs in food security projects; collection, research and promotion of indigenous crops (vegetables, fruits and tubers) and livestock; establishment of a Plant Genetic Resources Centre; conservation and utilization of wetlands for agricultural production e.g. rice fields around Lake Chilwa; inorganic fertiliser recommendations that are area specific; and Zero Emission Research Initiative (ZERI) – mushroom farming project started in 2000 under UNDP & Government support.

Constraints include: inadequate financing of the agricultural programmes (especially research and extension); limited number of agricultural micro-financing institutions; limited human resources; high levels of poverty among rural people/smallholders that limits their access to micro-financing; and HIV scourge.

**Capacity-building, Education, Training and Awareness-Raising:** Issues include: training at various levels for local communities, extension workers and decision-makers; promotion of rope and washer pump for small-scale irrigation; promoting use of shadoof for small-scale irrigation; and credit management schemes. Formal training in land husbandry at the Natural Resources College and universities includes training in land utilization, agroforestry, land use planning, soil conservation and institutional development for local communities, NGOs and line agencies.

**Information:** Several newsletters are published by the Ministry of Agriculture and Irrigation. A Department of Extension Services provides extensive outreach messages and services to farmers. Data is shared nationally and regionally through the Early Warning Systems Unit and the Famine Early Warning System (FEWS) for food security.

**Research and Technologies:** A Department of Agricultural Research in the Ministry of Agriculture and Irrigation is responsible for a wide range of research in crop and animal production and the generation of technologies. Other institutions are ARET, TRC, the University of Malawi, MIRTDC.

**Financing:** Actors include: Government financing and through Malawi Social Action Fund (MASAF); the European Union and SADC-ELMS; Agricultural Development and Marketing Corporation (ADMARC); Rural Finance Company; Finance Company of Malawi (FINCO); Tobacco Association of Malawi (TAMA); Sugar Corporation of Malawi (SUCOMA); Coffee Authority of Malawi; and Smallholder Tea Association of Malawi; Agricultural Productivity Investment Programme (APIP) by European Commission (EC).

**Cooperation:** Malawi cooperates with: SADC (Food and Natural Resources Sector, Environment and Land Management Sector, ELMS), SACCAR, Southern African Regional Centre for Rehabilitation and Utilization of Soil (SARCCUS), Gene Bank, Regional Early Warning System for Food Security. International cooperation with multilateral organizations such as FAO, the World Bank, UNDP, IFAD, and between Malawi and the USA takes place at various levels.

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## CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

**Decision-Making:** Institutions involved include: the National Herbarium Steering Committee for National Biological Conservation and Natural Wetland Conservation Committee; Ministry of Research and Environmental Affairs; Department of National Parks and Wildlife; Ministry of Natural Resources; and the Malawi National Biodiversity Committee. The National Parks and Wildlife Act was passed in 1992. It encourages community participation in the management of national parks. Communities also benefit from it. Currently, Malawi is conducting the National Biodiversity Strategy and Action Plan (NBSAP) with financial support of GEF through UNEP. Eight components covering eight areas of biological resources and the associated literature and legal requirements are being investigated by local Malawi consultants with full consultation with UNEP

**Programmes and Projects:** Botanical gardens have been established in the cities. A National Biological Diversity Committee was formed to oversee the work of other biodiversity sub-committees such as the Genetic Resources, Biosafety and Biotechnology Committee, and the Lower Shire Wetlands Project (Zambezi Basin Wetland Conservation and Resource Utilization Project) was set up.

**Status:** Malawi fully participates in CITES matters as a full member. However, public awareness on this convention has not been raised. The country needs to educate and inform the general Malawi public regarding the importance of this Convention and what it means to the common man in general. As a RAMSAR member, efforts are also underway to let the general public know what this Convention means to the wetlands of the country. Lake Chilwa was designated as a RAMSAR site in 1996.

**Capacity-building, Education, Training and Awareness-Raising:** Issues involved include: training of taxonomists to deal with agro-biodiversity and training of experts in other biodiversity areas. In July, 1997, a national biodiversity awareness workshop was conducted in accordance with the National Biodiversity Strategy and Action Plan. At this workshop, the public and stakeholders were informed and briefed on what the National Biodiversity Committee was doing as it prepared for the first National Report. The issue of incentive measures and the full participation of women and local communities on issues of biological diversity including the integration of sectoral policies and legislation was among the objectives.

**Information:** National Herbarium and Botanic gardens, Ministry of Natural Resources and Environmental Affairs, Department of National Parks and Wildlife, Malawi National Biodiversity Committee.

**Research and Technologies:** Malawi, as a member of the Southern African Botanical Diversity Network (SABONET), has benefited from data and sample collecting expeditions under the network.

**Financing:** Many activities are financed by the GEF through UNEP, World Bank and UNDP. Regional and international cooperation mechanisms include: Southern African Development Community Coordination on Biological Conservation; SACIM; Pan African Association of Zoological Gardens; Aquaria and Botanical Gardens; WWF; RAMSAR; IUCN - Regional Office for Southern Africa. Malawi is a member of the SABONET project dealing with botanical diversity in the region.

**Cooperation:** The Convention on Biological Diversity was signed in 1992 and ratified in 1994. The Convention on International Trade in Endangered Species of Wild Fauna and Flora was acceded to in 1982. Due to its active participation in the Convention negotiations before the Rio Summit, Malawi was the first chair of the Subsidiary Body on Technical and Technological Advice (SBSTTA) in 1995/96. The SBSTTA chairmanship was handed over to Norway at the second SBSTTA meeting in Montreal, Canada in September 1996. As a full party, Malawi has attended COP 1, 2 and 3 and has maintained its active role in CBD matters. A sub-committee has been put in place to deal with issues on clearing house mechanisms.

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## **CHAPTER 16 and 34: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY AND TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING**

### Environmentally Sound Management of Biotechnology

**Decision-Making:** Malawi has in place a National Biosafety and Biotechnology Committee chaired by the Biology Department of the University of Malawi. This Committee is under the ambit of the National Biodiversity Committee and the National Research Council of Malawi (NRCM). Members of the National Committee are drawn from NRCM, the Ministry of Natural Resources and Environmental Affairs (National Council for the Environment with its Technical Committee on the Environment), Malawi Industrial Research and Technology Development Centre, Genetic Resources and Biotechnology Committee, University of Malawi, Mzuzu University, Ministry of Agriculture and Irrigation, Malawi Bureau of Standards, National Herbarium and Botanic Gardens. The mandate of the Committee is to look at the five stipulations mentioned under “Status”, to look into the safe use and handling of genetically modified organisms, to put into effect the UNEP guidelines on biosafety and to monitor and evaluate other biotechnology initiatives in the country, including safe disposal of pharmaceutical wastes, according to UNICEF standards and appropriate technology. The Biosafety Board of Malawi is yet to be formed. However, the Biosafety Bill has been developed and will be discussed by the Parliament by 2002.

**Programmes and Projects:** Using a new (1998) facility of the DNA laboratory, work on applied genetics has been launched to understand genetic diversity. Work on tissue culture continues to support food security base.

**Status:** Some work has been done to invest in modern biotechnology such as: use of biogas as a renewable energy source; second generation biotechnology, mainly tissue culture, has been widely used in multiplication of planting materials and disease free plantlets in cassava, banana and sweet potato; DNA laboratories have been established for carrying out inventories of genetic diversity of plants and animals and understanding the dynamics of mosquitoes as disease vectors for malaria. However, much needs to be done regarding: (a) increasing availability of food, feed and renewable raw materials. (b) Improving human health, (c) enhancing the protection of the environment, (d) enhancing safety and developing international mechanisms for cooperation, (e) establishing enabling mechanisms for the development of the environmentally sound application of biotechnology. Current constraints include: limited trained scientists in biotechnology and biosafety and lack of funding to support an adequate level of activity.

**Capacity-building, Education, Training and Awareness-Raising:** Awareness and consultative workshops have been carried out for the grassroots, decision and policy makers, journalists, NGOs and the public at large. Training at the postgraduate level in biotechnology and biosafety has been carried out. Establishment and equipping of laboratories for tissue culture, molecular markers and biosafety assessment has been carried out.

**Information:** Newsletter on biotechnology and biosafety awareness is published on a monthly basis beginning 2001, targeting a cross-section of the Malawian citizenry.

**Research and Technologies:** Research on biotechnology awareness and public perception of Genetically Modified Organisms has been carried out. Establishment of new DNA laboratories has enabled a number of new projects to be initiated in applied genetics.

**Financing:** Public donor and private funding contribute to the current biotechnology initiatives in Malawi. Donor agencies include JICA, UNEP, USAID, Rockefeller Foundation, UNESCO and EU.

**Cooperation:** Malawi participates in all sub-regional, regional and international cooperative policy development and capacity-building ventures. Malawi attends meetings at the regional biosafety and biotechnology centre based in Harare and other SADC centres. Attendance at the biosafety and biotechnology meetings organized by the Secretariat of the Convention on Biological Diversity in Cairo, Madrid, Aarhus and Ethiopia was also done.

Transfer of Environmentally Sound Technology

**Decision-Making:** Malawi Statement on Technology Transfer was developed in 1994 and National Environmental Policy and EMA were adopted and enacted in 1996. Fisheries Policy and Fisheries Conservation Management have also been put in place as well as the Agricultural and Livestock Policy, the Forestry Act 1997, National Forestry Policy of Malawi 1996, etc.

**Programmes and Projects:** Several programmes and projects have been launched and these include implementation of international conventions – (UNFCCC, CBD, CCD), Outreach Programme, Aquaculture programme, Co-management of Fisheries Resources, Co-Management of Forestry Resources, Low-Cost Housing, Afforestation, National Sustainable and Renewable Energy Programme, APIP (Agriculture Productivity Improvement Programme) and Starter Pack Programme

**Status:** Malawi's strategies are clearly spelt out in the Poverty Reduction Strategy Paper on Science and Technology. The Government of Malawi, the donor agencies, non-governmental organizations, private sectors and communities have contributed in various ways towards the desire of transferring environmental-friendly/sustainable technologies.

**Capacity-building, Education, Training and Awareness-Raising:** For the development of science and technology, the following have been outlined as key outputs in the PRSP: National Science and Technology Policy Document, Science and Technology Act, establishment of National Commission on S & T, Physical Infrastructure for key S & T research institutions, Establishment of Village Technology Demonstration Centres and Comprehensive Human Resources Development Programme for S & T institutions.

**Information:** MIRTDC has a database for companies on technology that could be transferred to other parties.

**Research and Technologies:** The following research areas have been or are in place: Situation Report on Science and Technology, Technology Strategies for Sustainable Livelihood, Barriers Removal for Renewable Energy, Malawi Agricultural and Natural Resources Research Master plan.

**Financing:** Government of Malawi, UNDP, UNESCO and NGOs provide funding.

**Cooperation:** The Government of Malawi, Donor Agencies, Non- Governmental organizations, and the private sector have contributed in various ways towards the desire of transferring environmentally friendly and sustainable technologies. The international organizations/institutions involved in the campaign for technology transfer include UNDP, UNESCO, GEF.

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**CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES**

Although a landlocked country, Malawi signed the UN Convention on the Law of the Sea in 1984 to show its commitment to the protection and prevention of national, regional and international water resources. In further pursuit of her commitment, Malawi also signed the Washington DC Global Programme of Action (GPA) for Protection of the Marine Environment from Land-based Activities in 1995.

The GPA is a global initiative for protection of the marine environment from land-based sources of Pollution. The main objective of the Programme is to develop comprehensive, continuing and adaptive programmes of action within the framework of integrated coastal zone management.

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## **CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES**

**Decision-Making:** The relevant institutions include the Ministry of: Agriculture and Irrigation; the Ministry of Water Development; the Ministry of Natural Resources and Environmental Affairs (Water Resources Board; Department of National Parks and Wildlife); the Ministry of Local Government and Rural Development; and the Ministry of Transport and Civil Aviation (Department of Meteorology), as well as the Forestry Department; University of Malawi; Water Boards; and City Councils and Local Communities. The Government has established a National Water Development Policy, and there is an ongoing water development project to get good and clean water to the rural community, upgrading management of water resources and the provision of water related services. Areas receiving attention in policy and strategy formulation are: integrated Water Resources Development and Management which will involve integrated catchment management thus developing water resources and managing water taking into account the interactions among water and social and economic development; protection of water resources, water resources and aquatic resources; drinking water supply and sanitation, water and sustainable urban development; water for sustainable food production and rural development and impacts of climate change on water resources. Within the National Water Development Policy, it is the government's commitment to bring on board communities, water boards, local authorities, the private sector, NGOs and government line agencies in the areas of forestry, agriculture, national parks and local governments to address the issue of integrated management of water resources and drinking water supply and sanitation in the country with full community participation. The Government is committed to improving the representation of women at all decision-making processes in the water sector. Other participants in decision-making for freshwater include NGOs, the private sector, church groups, donors and other interested parties.

**Programmes and Projects:** The National Water Development Project supported by UNICEF is for upgrading the management of water resources and provision of water related services to: (a) ensure convenient access to safe water for domestic use for a progressively larger population of the community; (b) provide water infrastructure capable of underpinning economic development; (c) ensure the protection and management of water resources and aquatic and riparian environments.

A substantial population of Malawi lives within 50 kilometres of the shores of lakes Malawi, Malombe, Chilwa and Chiuta. Presently, shores and the water resources are increasingly being degraded due to anthropogenic activities including human settlements, agriculture, soil erosion and sewage effluents from lakeshore developments. Being cognizant of such activities and associated environmental impacts various programmes and activities have been carried out at local and national levels as follows:

*Lake Malawi/Nyasa Biodiversity Conservation Project (1995- 2001):* Implemented to acquire better knowledge and understanding of the structure and functioning of the lake ecosystem. The project focused on characterization and determination of biological and physicochemical elements of the lake system including: fisheries biodiversity, ecology of the lake, limnology of the lake system and seasonal variation of pollutant loading. The project also determined watershed-based anthropogenic activities that impact the lake ecosystem. The studies showed that the Lake Malawi system is significantly impacted by silt from soil erosion processes in the main catchment areas. Other pollutants negatively impacting the lake system include sediments, nutrients and pesticides from agricultural fields, effluents from lakeshore developments and atmospheric chemical depositions.

*Lake Malawi Ecosystem Management Project (LaMEMP) (2001-2009):* As a follow-on project to the Lake Malawi/Nyasa Biodiversity Conservation Project, the Government of Malawi initiated the formulation of a multi-sectoral framework for management of the Lake and its catchment resources in November 2001. The framework will be applied at the national level to improve fisheries production and management, and increase control of

watershed-based activities to reduce degradation of the environment and natural resources in the ecosystem. The main areas of intervention include agriculture, forestry, river discharge and water quality monitoring.

Lake Shore and Wetland Management Projects. The Malawi Government has been implementing integrated environmental management projects along the lakeshore districts of Malawi from 1998 to 2001 with financial support from DANIDA. The projects focused on community based management of environment and natural resources for the lakeshore districts of Karonga, Rumphi, Nkhatabay, Nkhotakota, Salima, Dedza and Mangochi, Machinga, Zomba and Phalombe. The Lake Chilwa Wetland management Project has been implemented to fulfill national obligations under the RAMSAR Convention. The project has been implemented since 1998 and is expected to finish in December 2001.

Specific project activities included the production of state of environment reports (SOERs) and district environmental action plans (DEAPs) and promotion of community based initiatives for protection of the lake and its wetland resources. The SOERs and DEAPs have now become useful tools for sustainable management of the coastal resources as well as those in the lake's watershed.

*Lake Malawi/Nyasa/Niassa Tri-lateral Initiative:* The World Wide Fund (WWF) has developed a trilateral initiative using an ecoregion approach to promote sustainable management of the lake ecosystem and watershed resources since 2000. The tri-lateral initiative represents an opportunity for bringing together the three countries of Malawi, Tanzania and Mozambique on critical issues affecting natural resource management in the lake. The draft concept idea is expected to be developed into focused management programmes.

**Status:** A large part of the Malawi population does not have access to an adequate supply of potable water and many do lack basic sanitation. However, some achievements include: a national water development policy developed in 1999 through a nation-wide consultative process; a country situation report on water resources of Malawi produced in 1999; in addition to two urban water boards, three more were established to cater for peri-urban areas; creation of the Malawi Social Action Fund (MASAF) that has resulted in increased number of bore holes in rural areas; and small scale farm irrigation schemes by Ministry of Agriculture and Irrigation.

The Lake Malawi/Nyasa Biodiversity Conservation Project ended in April 2001 and highlighted various areas for intervention to control and protect the lake resources from degradation. The LaMEMP is a follow-on initiative to address the critical issues identified. The first phase of lakeshore management projects supported by Danida will end by December 2001. A Phase II Community-based natural resource management programme is expected to commence in 2002. The Phase II programme will continue implementation of conservation initiatives initiated in Phase I. Generally, the national programmes and projects in this component of Agenda 21 are nascent and need sufficient time to develop in order to yield optimal meaningful levels of success.

So far, the biggest constraints include: 1) lack of adequate resources to implement intervention programmes along the shores and watershed of the Lake, 2) lack of a coherent framework for sub-regional cooperation involving the three riparian countries of Malawi, Tanzania and Mozambique; 3) lack of common goals and priorities for environmental management in the three riparian countries; 4) weak land-water interface in many environmental management programmes resulting in lack of synergy in the many programmes; 5) lack of a comprehensive management plan for the lake; this hinders development of effective strategies and programmes for water resources management; and 6) lack of harmonized legislation for environmental management in the three riparian countries; resulting in poor enforcement of existing laws and regulations.

The period beyond the WSSD needs to see a Lake system that has harmonized and client-focused conservation programmes at local, national, sub-regional, regional and international levels. Environmental policies and legislation need revamping to ensure common legal standing and approaches towards sustainable development and management of the Lake Ecosystem.

**Capacity-building, Education, Training and Awareness-Raising:** Capacity building initiatives have been launched to enhance data sharing and exchange of environmental information and technology at the national level. Capacity building efforts also embarked on staff training in academic degrees, environmental education in communities and schools local, national and sub-regional levels. However, capacities and awareness levels in integrated watershed management, sustainable fisheries production and enforcement of laws and regulations are low. Public awareness campaigns are ongoing in this sector and facilitate the importance of water and inclusion in the national education curricula.

**Information:** Information networks actively used in environment and natural resource conservation programmes at national and sub-regional levels include e-mails and limited electronic data bases. The networks involve the three riparian countries of Malawi, Tanzania and Mozambique. Malawi has a SADC Sub-regional Centre for In-land Fisheries and collaborates with other regional partners through networking and other channels of communication.

**Research and Technologies:** Scientific research has been carried out to determine diversity of aquatic organisms within the lake ecosystem, distribution of the biodiversity, fish productivity, and how productivity and biodiversity are affected by the physical and chemical environment. The latter component was the focus of the water quality and limnology research programme carried out within the SADC/GEF Biodiversity Project. The research focused on general limnological processes in Lake Malawi and how anthropogenic activities are impacting the Lake's chemical, physical and biological qualities. As part of the National Water Development Project, Seawatch for Lake Malawi has involved installation of equipment to collect and transmit data on various parameters of the lake, Lake Malawi level control, flood forecasting of the Lower Shire river, hydro-geological and hydrological assessment and mapping to provide information base.

**Financing:** The Government obtains funding from a variety of sources such as EU, IUCN, World Bank, UNICEF, ODA and NORAD for water supply and sanitation programmes, water policy and legislation, education, integrated management and conservation campaigns. So far, the major financiers of the initiatives, programmes and projects on protection and conservation of the lake resources include the Government of Malawi, World Bank, GEF, Danida and World Wide Fund.

**Cooperation:** Malawi is part of the SADC regional initiatives, which address water for domestic use and sanitation. Malawi also participates in the regional management of shared river basins and water course systems such as the Zambezi Action Plan (ZACPLAN) and was part of the Maseru-Lesotho meeting sponsored by EU and the SADC Environment and Land Resource Management Sector. At the sub-regional level, Malawi participates actively in SADC initiatives for the protection of shared water resources covering Lake Malawi/Nyasa/Niassa and Zambezi Basin.

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## **CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS**

**Decision-Making:** Organizations responsible include the Ministries of: Health and Population; Commerce and Industry; Local Government and Rural Development; and Defence; as well as the Malawi Bureau of Standards; the Drugs and Pharmaceutical Board of Malawi; the Pesticide Association of Malawi; the Consumer Association of Malawi (CAMA); and the Malawi Chamber of Commerce. Major groups include: Farmers; the local community; educational institutions; parastatals; and the University of Malawi. The Ministry of Commerce and Industry ensures that the country does not issue import and export licences for toxic and dangerous wastes. The same applies to firearms, ammunition, explosives and chemical and biological weapons.

**Programmes and Projects:** A system of control of transport of chemicals is in place to ensure: improvement and enhancement of a system for the Safe Management of Chemicals; improvement of the work on chemical dangers assessment; coordination of classification, packaging and marketing of chemicals; improvement of the work on measures to prevent illegal trade in toxic and hazardous chemicals; and exchange of relevant information regarding the safe management of chemicals.

**Status:** The City Assemblies in Malawi do not have schedules of toxic chemicals to be used for safe disposal of toxic chemicals. Management and neutralisation of toxic chemicals before they are released by industries into the environment is not done. A means of waste characterization is needed by the producer, the disposer and the recycler. Currently, all chemicals suspected to be toxic without proper characterization are dumped at a concrete pit. The most likely problem is a combination of chemicals which may violently react. An integrated approach to manage toxic wastes in Malawi is needed. This implies utilization of Water Resources Act, Water Boards Bye-Laws and Local Authorities Bye-Laws as a combined force in an effort to effect safer disposal of toxic chemicals. In addition, there is a need for National Standards on safer use of toxic chemicals and a Monitoring and Advisory Committee on toxic wastes management to establish a database of toxic chemicals, their use, impact and control. There is also the problem of importation of expired and nearly expired chemicals into Malawi. However, Malawi has made some progress through the enactment of the Environment Management Act 1996 and its publicity. This should be consolidated by: development of a comprehensive schedule of toxic chemicals; development of capacity of Local Authorities in terms of toxic chemicals wastes management and handling; making a national inventory of toxic, banned and obsolete chemicals; identification and regulation of industries that use/generate toxic chemicals; establishment of a toxic and wastes advisory and management committee; development of standards; and capacity building in terms of experts, equipment and infrastructure. Some of the constraints responsible for the above situation are: lack of monitoring facilities and training schemes, lack of funding on strategic activities that further lead to lack of enforcement of EMA 1996 and related Acts above.

**Capacity-building, Education, Training and Awareness-Raising:** There are efforts to train human resources and to raise public awareness at all levels.

**Information:** Sources of information in this area include: Ministries of Health and Population, Commerce and Industry, Local governments and Rural Development and Defence; Malawi Bureau of standards, Drugs and Pharmaceutical Board of Malawi Pesticide Association of Malawi and the consumer Association of Malawi.

**Research and Technologies:** Currently, Malawi Bureau of standards is developing and updating its standards to fit along with International standards such as ISO 14000

**Financing:** Finance is provided by Government revenue. Other sources of revenue include: donor funding; and bilateral and multilateral organizations.

**Cooperation:** Malawi is party to the Montreal Protocol, an international agreement that regulates use of some chemicals in industry.

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## CHAPTER 20 TO 22: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS, SOLID AND RADIOACTIVE WASTES

### Hazardous wastes:

**Decision-Making:** Authorities handling convention matters include the Ministry of Justice; the Ministry of Trade, Industry and Commerce; the Chamber of Commerce and Industry; Ministry of Natural Resources and Environmental Affairs (informing industry); and the Malawi Industrial Research and Technology Development Centre (MIRTDC). Major groups involved include the local communities and industry. The Ministry of Commerce and Industry ensures that the country does not issue import and export licences for toxic and dangerous wastes. The same applies to firearms, ammunition, explosives and chemical and biological weapons.

**Programmes and Projects:** A project is in the pipeline for recycling waste used by large industries in Blantyre City. A good housekeeping project includes discussions held in partnership with MBS, MIRTDC, the Polytechnic (University of Malawi), and industry managers. MIRTDC promotes waste incinerators and sawdust briquetting and assists in Stanlink briquetting of agricultural waste.

**Status:** The City Assemblies in Malawi do not have schedules of toxic chemicals to be used for safe disposal of toxic chemicals. Management and neutralisation of toxic chemicals before they are released by industries into the environment is not done. A means of waste characterization is needed by the producer, the disposer and the recycler. Currently, all chemicals suspected to be toxic without proper characterisation are dumped at a concrete pit. The most likely problem is combination of chemicals which may violently react. An integrated approach to manage toxic wastes in Malawi is needed. This implies utilization of Water Resources Act, Water Boards Bye-Laws and Local Authorities Bye-Laws as a combined force in an effort to effect safer disposal of toxic chemicals. In addition, there is need for National Standards on safer use of toxic chemicals and a Monitoring and Advisory Committee on toxic wastes management to establish a database of toxic chemicals, their use, impact and control. There is also the problem of importation of expired and nearly expired chemicals into Malawi. However, Malawi has made some progress through the enactment of the Environment Management Act 1996 and its publicity. This should be consolidated by: development of a comprehensive schedule of toxic chemicals; development of capacity of Local Authorities in terms of toxic chemicals wastes management and handling; making a national inventory of toxic, banned and obsolete chemicals; identification and regulation of industries that use/generate toxic chemicals; establishment of a toxic and wastes advisory and management committee; development of standards; and capacity building in terms of experts, equipment and infrastructure. Some of the constraints responsible for the above situation are: lack of monitoring facilities and training schemes, lack of funding on strategic activities that further lead to lack of enforcement of EMA 1996 and related Acts above.

**Capacity-building, Education, Training and Awareness-Raising:** Under the Basel Convention, Malawi had a grace period for implementation up to 1997, including carrying out an inventory on industries. This has led to identifying training centres for capacity building in the management of hazardous waste. These are South Africa for English-speaking countries including Malawi, Cote d'Ivoire for French-speaking countries, and Egypt for Arabic-speaking countries. A needs assessment aimed at identifying training needs in hazardous waste management was undertaken in September 1997. Locally, city councils had discussions with the Ministry of Trade and Commerce in the management of waste from industries, including air, land and waste-borne effluents. A discussion forum has been established with representatives from industries, to sensitise them on environmental damage by hazardous waste.

**Information:** Information on waste reduction is supplied from UNIDO.

**Research and Technologies:** A monitoring system has been established to identify whom, where and what is being dumped, but much more technical data is required.

**Financing:** Finance comes from CIDA, the World Bank, and the Basel Convention (funds for training).

**Cooperation:** The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal was ratified by Malawi in 1994. Malawi has not yet ratified the Bamako Convention, which prohibits the importation of hazardous waste.

Solid wastes and sewage-related issues:

**Decision-Making:** The Ministry of Local Government is the main decision-maker at the national level. City, municipal, town and district councils are important actors at local levels. Local Authorities make and use bylaws on solid wastes and sewage management. The management of solid wastes and sewage in Malawi was undertaken with minimal legislation until 1996 when Parliament enacted the Environmental Management Act. To strengthen the legal framework, a draft sanitation and solid waste policy was prepared in December 1998. In addition, draft guidelines were prepared with regard to Environmental Impact Assessment for solid waste management (2000) and EIA draft guidelines for sanitation projects (2000).

**Programmes and Projects:** The Blantyre City Sanitation Master Plan Study was conducted in 1992 as part of the local government development programme and covers four towns: Blantyre, Lilongwe, Zomba and Mzuzu.

**Status:** Solid waste is generated on streets, in commercial areas, from markets and as domestic waste, and it is collected and disposed at uncontrolled landfills in the major urban centres of Blantyre, Lilongwe, Zomba and Mzuzu. Waste disposal is managed by either council or private bodies. Enforcement of existing by-laws is apparently inadequate. The system shows problems associated with collection vessels, road access to waste and uncontrolled landfill issues. The sewer system only covers 24% of the area (e.g. commercial areas, institutions); 76% is served with pit latrines and septic tanks. In Mzuzu City, waste is being collected twice a week from households, commercial and industrial areas, and daily from public places, markets and hospitals. The equipment available includes two refuse trucks, one tractor trailer, one micro bin and one micro van. In Zomba municipality, 47.3% of all refuse is collected. There is one vehicle available and the only landfill is already exhausted. A study for a new landfill has been carried out. Market and location committees on environmental issues were established. There is one tanker available for emptying septic tanks. Provision is being made for ventilated improved pit latrines in peri-urban areas, for maintenance of burst sewer lines, and for emptying septic tanks/VIP latrines. Constraints include: road access to peri-urban waste and uncontrolled landfill issues due to irregular refuse collections by authorities, and down time of collection vehicles due to funding problems.

**Capacity-building, Education, Training and Awareness-Raising:** Most institutions engaged in production and provision of services do not have policies on solid wastes and sewage. Awareness of guidelines, which exist in other sectors, is also minimal. As a result of this, management of waste is done haphazardly, aggravating pollution problems. Campaigns have been mounted by Blantyre City Assembly to promote purchase of a dustbin by each household. More vigorous campaigns for solid waste disposal are, however, needed. Sanitation activities currently focus on promotion of coverage and utilization of sanitary facilities and inspection of sanitary facilities.

**Information:** Information in this area is provided by City, Municipal, Town and District Councils; the Department of Water development; and the Environmental Affairs Department.

**Research and Technologies:** A Local government development programme (1992) involved Sanitation Master Plan studies for the main urban centres of Blantyre, Lilongwe, Mzuzu and Zomba. The Malawi Industrial Research Technology and Development Centre conducted an inventory for wastes, i.e. what type is to be recycled and used

and how to reduce waste generation. The University of Malawi has carried out surveys in all the major cities to more clearly assess the magnitude of the problem of solid waste disposal. Inventory of greenhouse gases in the waste management sector was done in 1994. A Malawi draft inventory of greenhouse gas (GHG) emissions for 1994 in the Waste Management sector was compiled in December 2000. This inventory took into account gaps in the GHG inventory based on the 1990 base year and also evaluated the reliability of the data. There is also operational research and surveys on low cost sanitation technologies.

**Financing:** Finance is provided by UNICEF, the World Bank, the African Development Bank, bilateral Government grants (e.g. from Japan, Sweden, Canada), the private sector (e.g., Mitsubishi corporation) and NGOs.

**Cooperation:** Malawi cooperates with the International Water Supply Association and has bilateral agreements with SADC member states.

### Radioactive wastes

**Decision-Making:** Transportation and storage management of radioactive materials is being controlled by Radioactive Minerals Act 1964. However the Act has no clear provisions for waste management. City Assemblies have no clear guidelines on radioactive and toxic chemicals management. The Radioactive Mineral Act, however, is very old and covers only radioactive minerals within the country and does not regulate on imports. Further the schedule specifically regulates radioactive materials from uranium and thorium leaving out other common isotopes.

**Programmes and Projects:** Malawi has not yet instituted Programmes and Projects on safe and sound management of radioactive wastes.

**Status:** The application and utilization of radioactive materials in Malawi is not very well established and use of radioactive materials is minimal. The City Assemblies have no written disposal guidelines and they do not check or monitor presence of radioactivity in the wastes. According to the National Statistical Office, Malawi imports an average of 1942 kg of radioactive materials per year. There is a need to develop special disposal mechanisms for radioactive materials and identify the main users. The legal framework to empower the Local Authorities to register all major users of radioactive materials in Malawi is not available. There is therefore need to formulate a general Radioactive Material Act or amend the Radioactive Minerals Act (1964) to control and regulate: processing and occupational health; storage; transport; classification and identification of nuclides; volume and disposal management; import and export; and user legislation and licensing. Some constraints include: lack of capacity in terms of experts, and test and monitoring facilities; and lack of funding for training.

**Capacity-building, Education, Training and Awareness-Raising:** Currently there are no radioactive inspectors.

**Information:** The information leading to available quantities of radioactive materials in Malawi is very scanty. Malawi needs to establish a networking system with other countries within the African Region and overseas. This will allow access to valuable data and information in radioactive waste management.

**Research and Technologies:** The liquid scintillation counter acquired by the Malawi Bureau of Standards in 1994 is yet to be fully utilized.

**Financing:** Financing in this area comes from the government of Malawi and the private sector.

**Cooperation:** Malawi is a signatory to the Cartagena Protocol on Biosafety.

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## CHAPTER 24: STRENGTHENING THE ROLE OF MAJOR GROUPS

**Women:** Decision-Making: Women-related issues are addressed in the Ministry of Gender, Youth and Community services and in some NGOs. The Malawi Constitution provides for equality of men and women, and a Malawi National Gender Policy was adopted in March 2000 and an action plan for women in sustainable development as well as National Commission for Women and Development that deals with promotion of women issues in sustainable development. Programmes and Projects: A social mobilization programme is in place at Chancellor College, University of Malawi, and there is also the GABLE project. Status: These achievements are however hampered by the high prevalence of HIV/AIDS, limited capacity in gender mainstreaming, negative cultural practices, women's existing heavy workloads, unavailability of gender disaggregated data, high poverty levels among women, and high illiteracy levels among women. The overall impact from the above achievements has been minimal because environmental degradation is worsening and adversely affecting women. Capacity-building, Education, Training and Awareness-Raising: Women have access to opportunities in education and development, employment, economic empowerment and legal redress. Gender-sensitive school curricula are being developed. There is a social mobilisation programme at Chancellor College, University of Malawi and women's education is promoted through Girls Attainment in Basic Level Education (GABLE). There is also an opportunity for pregnant girls to continue their studies. Research and Technologies: See above. Financing: Funding comes from several donors including GTZ, UNESCO and UNICEF. Cooperation: Malawi ratified the convention on the Elimination of all Forms of Discrimination Against Women in 1987 and the SADC Gender Declaration as well as the National Platform for Action (Beijing Platform) in 1997. Cooperation is through SADC Gender, Beijing Platform for Action; through GABLE; and the Nairobi Forward-Looking Strategies for the Advancement of Women.

**Children and Youth:** Decision-Making: Key decisions regarding the status of the youth are made recognizing the existence of the National Youth Policy as well as Youth Organizations and Centres. Youth organizations are involved in sustainable development projects. There is a National Youth Council established to address sustainable development issues that revolve around children and the youth. Status: To help the youth develop into healthy productive adults requires a safe and supportive environment, accurate information and counselling, training to building life skills and health services that are accessible, confidential and of good quality, Malawi needs to balance development initiatives taking into consideration the Youth as leaders of today and tomorrow. Capacity-building, Education, Training and Awareness-Raising: The youth support a number of activities including the Solar Cooker Production, Will Campaign, Child Rights Programme, Re-enforcement Project, Straight Talk Project, Afforestation Project, Chilinde Tannery, Bio-gas plant, Poultry Production, Bee-keeping, Mushroom production, Fish-farming And Windmill-Young Entrepreneur Foundation. Financing: Funding for activities in this area comes from the Malawi Government, UNFPA, UNICEF, Maegret Senga International (NY), among others. Cooperation: Malawi cooperates with UNESCO in support of youth.

**Indigenous People:** Decision-Making: The constitution of the Republic of Malawi 1995 recognizes rights to culture and language, freedom of association, conscience and opinion. The democratic government of Malawi established a Chiefs Council to strengthen arrangements for active participation in national policies. The Local Government Act was legislated in 1998. Programmes and Projects: Vision 2020, Poverty Reduction Strategy Programme (PRSP), Nyika/Vwaza Boarder Zone Project, Mulanje Mountain Conservation Trust, Community-Based Natural Resources Management (CBNRM – Nature programme), Lake Malawi Biodiversity Programme, Lake Chilwa Wetland Management Programme and COMPASS are some of the areas that have aimed at empowering indigenous people and their communities in sustainable development. Status: Despite achievements cited above in decision-making structures, there is lack of clear policies and laws that promote indigenous people. The Forestry Act 1997 does not recognize the conservation role of indigenous practices and traditional leadership. Due to financial constraints, the local community empowerment is too slow for progress to be made. Malawi

ratified the Convention on Wetlands of International Importance (RAMSAR), Convention to Combat Desertification, and the Convention on Biological Diversity and also has formulated a Land Reform Policy. Capacity-building, Education, Training and Awareness-Raising: Local community empowerment is undertaken under the Local Government Act of 1998. Financing: Funding for the above-cited programme activities comes from the German GTZ, USAID and UNDP among several others. Cooperation: Conventions ratified are as cited in the profile's status above.

**Non-Governmental Organizations:** Decision-Making: NGOs and relevant CBOs are in all National Steering Committees in Biodiversity, Climate Change, Environmental Management Project and various national government ministries and departments. CONGOMA was established to coordinate the work of all NGOs in Malawi and CURE was established within the CONGOMA to deal with all matters related to environment within the NGO community. Status: NGOs participate fully in Agenda 21 decision-making and implementation and work hand in hand with government departments in implementing some of the programmes for conservation and preservation of the natural resources base. Financing: Government of Malawi, World Bank, DANIDA, UNDP, NORAD and USAID. Cooperation: NGOs have representation in National Committees dealing with GEF, Wetlands Biodiversity and Climate change.

**Local Authorities:** Decision-Making: Local Authority Policy has been reviewed and members of Local Authorities have been elected to run for local councils. The Association of Local Government in Malawi has been established to promote international cooperation among local authorities and also to promote the local community's participation in decision-making levels to achieve sustainable development. Status: The Local Authorities and Association of Local Government in Malawi (ALGM) have established linkages with the Municipal Development Programme. Towns and Development Sections facilitate consultative meetings on sustainable development. These initiatives are impeded by such constraints as lack of financial support to undertake the consultative processes; lack of capacity building in information technology to allow meaningful exchange of information; lack of continuity in information-sharing among local authorities and the youth into local authority programmes. There is a need to involve all local authorities to set the tide of unsustainable resource use. Capacity-building, Education, Training and Awareness-Raising: Malawi encourages local authorities to implement and monitor programmes to ensure participation of women and youth in local decision-making. There is also local Authority capacity building efforts for conducting Environmental Impact Assessment (EIA) and for conducting participatory process in the development of an Agenda 21 vision. Financing: Funding is provided by the Government of Malawi and UNDP 6<sup>th</sup> Country Programme. Cooperation: There is no any significant linkage with regional and international agencies or partners.

**Workers and Trade Unions:** Decision-Making: The Ministry of Labour and Vocational Training works hand-in-hand with other labour-related sectors such as the University of Malawi and Chamber of Commerce to ensure that the concerns of the labour force and unions are addressed at various levels both within the civil service and political system. Others involved include: Trade Unions, Chambers of Commerce and Industry, and Child Labour Committee. Status: Focus of trade unions is on salaries of the workers and their well being as supported by the Labour Act. Capacity-building, Education, Training and Awareness-Raising: This is done through Labour Relations Act and Industrial Relations Charter. Financing: Government of Malawi; USAID Private sector. Cooperation: Malawi has so far ratified twenty-three ILO conventions, and workers have taken some part in National Agenda 21 discussions and implementation. Malawi cooperates with the World Association of Trade Unions

**Business and Industry:** Decision-Making: Malawi Industrial Research and the Technology Development Centre (MIRTDC) and the Malawi Confederation of Chambers, Commerce and Industry (MCCCI) are the key focal points for issues pertaining to business and industry sectors vis-à-vis sustainable development. Malawi has an Environmental Management Act (EMA) and Water Resources Act to safeguard the environment and natural resources from business and industry investment settings. Status: The major constraint is that policies are in place but without consistent monitoring bodies. There is a need to enhance monitoring of the individual entities by the

establishment of monitoring institutions for industries and instituting comprehensive incentive packages for industries that observe environmental codes. Capacity-building, Education, Training and Awareness-Raising: MIRTDC is responsible for technology import and adaptation whereas the private sector has the responsibility to develop environmental codes. Financing: Funding comes from Government of Malawi, MCCCI, Private sector and COMESA. Cooperation: Malawi joined the WTO in 1995 and she is a member of SADC and COMESA regional blocs.

**Scientific and Technological Community:** Decision-Making: The following government departments and institutions, NGOs and the private sector are key to improving the exchange of knowledge and concerns between the science and technology community and the general public: Ministry of Education, Science and Technology, NRCM, MONREA, Department of Human Resources and Development, Ministry of Labour and Vocational Training, TEVETA, Private Sector, NGOs (CURE), Ministry of Agriculture and Irrigation (MOAI), Universities, National Road Authority and Ministry of Public Works and Transport Programmes and projects: MIRTDC and TEVETA have been established to train artisans. Status: To improve exchange of knowledge between the science and technology community and the general public, the Natural Resources College has been restructured; Science and Technology (S&T) policy development and Draft Bill have been finalized; TEVETA has been established to train artisans; a Code of Practice has been drafted by National Research Council of Malawi. These are but a few achievements Malawi has scored. However, these are setbacks by high attrition due to TB/HIV/AIDS related deaths; low intake or enrolment into tertiary education systems; low incentives for science and technology cadre; and weak networking systems for science and technology. Capacity-building, Education, Training and Awareness-Raising: Training of human resources, Institutional strengthening, awareness and networking, recognition and use of Information Technology, establishment of environmental programmes on radio and innovative Rural Action Learning are some of the activities aimed at building capacity on scientific knowledge in the community. Finance: Funding for the above activities comes from the Government revenue, the private sector, donor funds, bilateral funding, science and technology foundations. Cooperation: Malawi is a member of Commonwealth Science Council, ICSU, World Science Conference, OAU/STRL, COSTED, TWAS and SADC/ELMS

**Farmers:** Decision-Making: Agricultural Development Divisions (ADDS) are key to equipping farmers with modern-farming technologies. University of Malawi and the National Smallholder Farmers Association of Malawi, are involved from the Major Crops side. Programmes and Projects: Programmes for farmers are offered through radio programmes, Farmers' clubs and associations. Status: Some remarkable progress has been made to encourage sustainable farming practices to the extent that support institutions run by farmers (e.g. National Smallholder Farmers Association of Malawi) have been established, and tobacco farmers now access the Auction System directly. However, resources are limited to run and monitor such organizations as above; there are low literacy levels in women and extension services are limited. Capacity-building, Education, Training and Awareness-Raising: Agricultural Research Department conducts research whereas Agricultural Sciences Committee facilitates contracting research. Finance: The World Bank provides some funding. Cooperation: NGOs, the private sector and the Government sponsor farmer study tours.

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## CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

**Decision-Making:** The Government of Malawi recognizes and appreciates the importance of adhering to practices that will ensure sustainable development and it therefore, formulated the National Environmental Action Plan (NEAP), which was adopted in 1994. The Plan outlines actions that must be taken in order to address problems that frustrate efforts to achieve sustainable development. Non-governmental organization (NGOs) and Youth Groups in the area of environment in the past ten years have proliferated to complement government efforts to attain sustainable development

**Programmes and Projects:** Sustainable Development Network Programme (SDNP), Poverty Reduction Strategy Programme (PRSP), HIPC.

**Status:** There is hope that the goal of achieving sustainable development can be fulfilled because of opportunities that are in existence. Such opportunities include: community-focused decentralization; acceptance and institutionalization of the public sector reform; land reform process; launching of the Vision 2020 and the PRSP process; improved environment of information and communication technology; improved advocacy for the mainstreaming of HIV/AIDS; Gender and Environment in national policies and strategies; relative political stability; and market-based macroeconomic policies. Political willingness still remains paramount if financing sustainable development has to bear fruits

**Capacity-building, Education, Training and Awareness-Raising:** Through the PRSP and Decentralization processes a focus is given to community-based approaches on development activities. However, in order to address Malawi social, economic and developmental challenges in a holistic manner, there is a need for an establishment of a partnership between Malawi and its development partners.

**Information:** Information on financing can be obtained from the Ministry of Finance-Treasury Department

**Financing:** Sources of funding include: Malawi Government, UNICEF, WHO, UNDP, UNFPA, UNAIDS, WFO, FAO.

**Cooperation:** Malawi is party to several important conventions such as the Convention on Biological Diversity, the Convention on Climate Change, the Convention to Combat Desertification, and the Ramsar Convention.

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## CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

**Decision-Making:** At the policy level, Malawi has demonstrated in the last 10 years that it recognized the role of science in its socio-economic development. Chapter 8 of the Vision 2020 strategy is devoted to the development of scientific capacity to enable Malawi become a Science and Technology (S&T)-led country by the year 2020. Institutional arrangements are expected to be established for the management of programmes aimed at the development of capacities and capabilities in S & T. The establishment of the parliamentary Committee and Cabinet Committee on S & T respectively further strengthen the management of programmes aimed at the development of capacities and capabilities in S & T. There is also a National Strategy and Action Plan.

**Programmes and Projects:** An Environmental Science Programme for 2 years with MSC degrees is offered from the Natural Resources and Environment Centre (NAREC) at the Chancellor College of the University of Malawi. The University of Malawi and Mzuzu University have programmes in support of preparing more science teachers or secondary schools.

**Status:** Soon after the Rio Earth Summit, Malawi quickly organized itself for the implementation of the Rio Conference recommendations. In 1994, Malawi with the agreement of this East and Southern Africa States offered to host the secretariat for the African Foundation for Research and Science-led Development (AFRAND). A number of strategies have been formulated to promote the role of Science and Technology in sustainable livelihood systems such as on the exploitation of natural resources. The main obstacles surrounding the development of scientific capacities for sustainable development are the slow pace in implementing policy decisions for capacity-building and the lack of full commitment to development.

**Capacity-building, Education, Training and Public Awareness-Raising:** Chapter 8 of the Vision 2020 strategy is devoted to the development of scientific capacity to enable Malawi become a S&T- led country by the year 2020. The University of Malawi and Mzuzu University have programmes in support of preparing more science teachers for secondary schools.

**Information:** Information in this area can be found at the National Research Council of Malawi, the Malawi Industrial Research and Technology Development Centre, Mzuzu University, University of Malawi, and the Ministry of Natural Resources and Environmental Affairs.

**Research and Technologies:** No information available.

**Financing:** Funding is provided for activities in this area by the Government of Malawi, UNDP, and UNESCO.

**Cooperation:** Malawi is the secretariat for the African Foundation for Research and Science-led Development (AFRAND) for the east and southern African States.

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## CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

**Decision-Making:** Government ministries such as for Agriculture; Natural Resources and Environmental Affairs; Education, Science and Technology; Works and Training and Gender, Youth and Community Services are responsible for strategies falling under this profile. Donors and NGOs also contribute to the promotion of education and awareness as well as training of the communities. NGOs involved include: the Malawi Social Action Fund, Centre for Educational Research and Training, CURE, WVI, Concern Universal, etc.

**Status:** To ensure universal access to basic education, Malawi introduced free primary school education in 1994. There has been an introduction of Radio and TV programmes on environmental issues as well as production of posters and campaigns during mass rallies in order to achieve environmental and development awareness in all sectors of society. There also has been an integration of environmental issues in the existing school curricula at all levels of the education system, and also an establishment of Information, Education and Outreach Sections in the Department of Environmental Affairs. Malawi has strengthened its vocational training through the establishment of vocational schools and colleges such as TEVET and Technical Colleges so as to meet the environment and development with ensured access to training opportunity regardless of social status, age, gender, race or religion. To facilitate the transfer and assimilation of new environmentally sound, socially acceptable and appropriate technology and know-how, short courses and workshops are offered for workers drawn from different sectors both government and private and also post-graduate training of Environmental District Officers is offered. There is radio drama, plays and jingles to sensitize the public on environmental issues.

However, these achievements may be limited because of social practices and cultural beliefs that encourage girls' early entry into marriage and childbearing thereby affecting enrollment and dropout. There are also inadequate financial resources to equip environmental centers in order for them to operate effectively, and staff in the education system may not be fully qualified as environmental educationists – they are often geographers, teachers or biologists.

**Capacity-building, Education, Training and Awareness-Raising:** The Information, Education and Outreach Section in MONREA, academic institutions, the press and electronic media and civil society do offer education, public awareness and training to the society on sustainable development issues in the implementation of Agenda 21.

**Research and Technologies:** See above.

**Information:** No information available.

**Financing:** Funding is provided by the Malawi Government, World Bank, USAID, UNICEF, UNDP, DANIDA, CIDA and UNESCO

**Cooperation:** Attachment courses were offered by the Environmental Education Centre at the Rhodes University in South Africa. Malawi cooperates with USAID, UNICEF, UNDP, DANIDA, UNESCO, European Union, World Bank, CIDA in this area.

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## **CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY BUILDING IN DEVELOPING COUNTRIES**

**Decision-Making:** The Government of Malawi developed a National Environmental Action Plan (NEAP) in 1994 that identified key environmental issues. Thereafter the Environmental Support Programme (ESP) followed to support a strong and participatory institutional framework and training programme to increase the capacity and skills of various stakeholders. The National Environmental Policy and Act were adopted and enacted in 1996.

**Programmes and Projects:** The Environmental Management Project (EMP) supports training of persons from focal points in the line ministries, regional and district administrators and NGOs. The DANIDA Environmental Support Programme (DESP) has most recently identified capacity building in environmental management at national and district level as a key issue aiming at government, NGOs and private sector organizations.

In the National Strategy and Action Plan, the GOM is vigorously pursuing for the transfer of power and responsibility to the lower levels of decision-making through the decentralization programmes. There is also the Capacity 21 programme with funding from UNDP.

**Status:** The Government instituted a Training Needs and Resource Assessment for Institutional (TNRA) and Human Resource Development to identify and prioritize training and resource needs for the training and education of stakeholders. This was through a consultative process. Short-term training in environmental impact assessment (EIA) and biosafety, has been institutionalized in the University of Malawi. Capacity building has also been incorporated into sector policies including Forestry Policy, Water Resource Management Policy, Fisheries Policy, Science and Technology Policy, National Wildlife Policy and the Energy Policy to ensure the involvement of the private sector, communities and NGOs in the sustainable utilization of natural resources.

**Capacity-building, Education, Training and Awareness-Raising:** Government Training Needs and Resource Assessment was conducted and instituted through the Human Resource Development in 1995; Short-term training was given on EIA and Biosafety; DANIDA Environmental Support Programme also contributed in this area.

**Research and Technologies:** No information available.

**Information:** No information available.

**Financing:** Funding is provided by international organizations including the World Bank, the UNDP and the Global partnership, DANIDA as well as the Government of Malawi through decentralization programmes.

**Cooperation:** Malawi cooperates with the UNDP Capacity 21 Programme, World Bank, Global Partnership

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## CHAPTER 38:INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

**Decision-Making:** As an active participant to the UNCED and a signatory to several conventions and protocol, Malawi has taken seriously the commitment to reverse environmental degradation and has since taken several important strides towards achieving this objective. These include the following: National Environmental Action Plan (NEAP) 1994, National Environmental Policy (NEP) 1996, Environmental Management Act (EMA) 1996, the Procedures of Environmental Impact Assessment – EIA, an environmental education and communication strategy, Environmental Support Programme (ESP), the strategy for the Decentralization of Environmental Management (DEM), the Environmental Support Programme (ESP), the Strategy for the decentralization of Environmental Management (DEM) the development

**Programmes and Projects:** Relevant programmes include: the Sustainable Development Network Programme (SDNP), Poverty Reduction Strategy Programme (PRSP) and HIPC.

**Status:** There is hope that the goal of achieving sustainable development can be fulfilled because of opportunities that are in existence. Such opportunities include: Community-focused decentralization; acceptance and institutionalization of the public sector reform; land reform process; launching of the Vision 2020 and the PRSP process; improves environment of information and communication technology, improved advocacy for the main steaming of HIV/AIDS; gender and environment in national policies and strategies; relative political stability; and market-based macro economic policies. Political willingness still remains paramount if financing sustainable development has to bear fruits

**Capacity-building, Education, Training and Awareness-Raising:** The Government of Malawi created Environmental Offices in all the districts to co-ordinate environmental issues at district level, EIA short courses, EIA Sensitization Workshops and radio/TV Broadcasts, radio- programmes on environmental issues.

**Information:** Information is provided by the Ministry of Finance –Treasury Department

**Financing:** Financing comes from the Malawi Government, UNICEF. WHO, UNDP, UNFPA, UNAIDS, WFO, FAO

**Cooperation:** Malawi is party to several important conventions such as the Convention on Biological Diversity, the convention on climate change, convention to combat desertification, Ramsar Convention; New Partnerships for Africa’s Development (NEPAD); SADC and COMESA

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## CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

**Decision-Making:** Malawi participated in the United Nations Conference on Environment and Development (UNCED) at Rio de Janeiro in 1992. Malawi consequently subscribed to the 27 principles of the Rio Declaration on Environment and Development, 1992 and Agenda 21.

**Programmes and Projects:** Main programmes Malawi undertakes in sustainable development include: Climate Change Enabling Activities under the UNFCCC; SADC Biodiversity Support Programme under the CBD; methyl /Bromide Project under the Vienna Convention for the protection of Ozone; Radio campaigns on environmental issues.

**Status:** After 1992, and especially from 1994 Malawi has undertaken a lot of activities in the enactment of the framework and sectoral laws with a view to achieving compliance with and implementing some, international agreements that she has become party to. Malawi, as a developing country, has experienced a number of bottlenecks which include lack of technical knowledge to sufficiently contribute to the making of implementing the international agreements once entered into.

**Capacity-building, Education, Training and Awareness-Raising:** Important media for education and awareness-raising include the development of school curricula for education at primary, secondary and tertiary levels, and radio campaigns.

**Information:** Legal information is provided by the Ministry of Justice and Attorney General; Ministry of Foreign Affairs and International Cooperation; Greenwings; the University of Malawi; Ministry of Natural Resources and Environmental Affairs.

**Financing:** Funding is provided by the Malawi Government; UNDP; USAID; GEF

**Cooperation:** Malawi is party to the Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild fauna and Flora; the Vienna Convention for the Protection of the Ozone layer; the Montreal Protocol; Convention of Biological Diversity; and the United Nations Framework Convention on Climate Change

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## CHAPTER 40: INFORMATION FOR DECISION-MAKING

**Decision-Making:** The key player in national information systems network for informed decision-making and socio-economic development are the Government of Malawi, NGOs, private sector and civil society. The Major Groups involved include: scientists, researchers, NGOs and the civil society in general.

**Programmes and Projects:** Success stories for Malawi include activities from the SDNP, CKN and CHM, the Environmental Information System (EIS), and Institutional Linkages and Networking.

**Status:** Through the establishment of a national information systems network, Malawi broadened its opportunity for increasing its capacity to harness environmental and socio-economic development information. Malawi established the Sustainable Development Network Programme (SDNP) in 1996 to assist with the development of Internet and information services with emphasis on sustainable development and capacity building through training. In order to enforce the implementation of the Convention on Biological Diversity and support activities of the Subsidiary Body on Scientific, Technical and Technological Advice, Malawi has established information support focal point for Commonwealth Knowledge Network (CKN) and a Clearing House Mechanism (CHM). These two programmes have a broad objective of providing direct access to information and communication at national, regional and international level.

**Capacity-building, Education, Training and Awareness-Raising:** No information available.

**Research and Technologies:** No information available.

**Financing:** The programme has had no specific funding except for the EIS, CHM and SDNP whose resources are from the World Bank, UNEP and UNDP. Most of the operational costs are met by the government through other programmes.

**Cooperation:** The networking system is connected to UNEP's INFOTERRA and SASIN, the Commonwealth Knowledge Network and SARDC and is able to browse through the world web.

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## **CHAPTER: INDUSTRY**

**Decision-Making:** No information available.

**Programmes and Projects:** No information available .

**Status:** No information available.

**Capacity-building, Education, Training and Awareness-Raising:** No information available.

**Information:** No information available.

**Research and Technologies:** No information available.

**Financing:** No information available.

**Cooperation:** No information available.

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## **CHAPTER: SUSTAINABLE TOURISM**

**Decision-Making:** No information available.

**Programmes and Projects:** No information available.

**Status:** No information available.

**Capacity-building, Education, Training and Awareness-Raising:** No information available.

**Information:** No information available.

**Research and Technologies:** No information available.

**Financing:** No information available.

**Cooperation:** No information available.

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