

The impact of HIV/AIDS on livelihoods, poverty and the economy of Malawi

LISA ARREHAG, STEFAN DE VYLDER,
DICK DUREVALL AND MIRJA SJÖBLOM



In a number of countries in Sub-Saharan Africa, widespread HIV infection has already translated into full-blown AIDS epidemics. The effects of this disaster on lives and livelihoods are dramatic, yet the economic consequences are difficult to measure using conventional approaches. Although past and current consequences of the epidemic, and responses to these, can be empirically studied our knowledge of the overall socio-economic impact of HIV/AIDS remains deficient.

This study is an important step towards understanding the complex threats to society that HIV/AIDS poses, focusing on Malawi as a representative case. It addresses both the short and long term impact of HIV/AIDS by bringing together and analysing findings from qualitative and quantitative studies on the spread and impact of the epidemic. The authors' analysis provides a stronger foundation for conclusions of the consequences of HIV/AIDS and of appropriate policies to combat the deadly disease.

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Sida**studies**

Foreword by Sida

In the worst affected countries, HIV/AIDS entails a catastrophe not only for the individuals and households affected, but for the entire society. Yet, HIV/AIDS is very different from most disasters. There is nothing sudden or unexpected about it. It does not result in any big headlines in the news or, necessarily, in any acute sense of crisis requiring urgent and drastic measures. HIV/AIDS is a slow motion disaster with extensive time lags. It takes some five to ten years from the time the infection is introduced into a population until its full consequences appear in the form of illness and death. HIV/AIDS is also a disaster without a clearly visible end. Hence, it is not a question of coping with it for a limited period of time after which a return to business as usual will be possible, but of fighting the pandemic while at the same time adjusting and preparing for the fact that human development in the worst affected countries, for the foreseeable future, will be conditioned by the disaster and take a new still partially unknown shape.

We do not yet know how HIV/AIDS will shape development in the worst affected countries. As conditions for socio-economic development are radically altered, past development trends are inevitably broken and uncertainty about the road ahead increases. The experiences of yesterday lose value as forecasting instruments, and the rear-view mirror can no longer be relied upon as a compass for charting the course ahead.

Still, the socio-economic consequences of HIV/AIDS need not be a question of guesswork only. In a number of countries in southern Africa, widespread HIV infection has already translated into full-blown AIDS epidemics, and at least the early socio-economic consequences of the epidemic, and societal and individual responses to these, can be empirically studied. Furthermore, theories on economic development help us to make informed guesses and to formulate hypotheses. Indeed, there is today a considerable body of knowledge about the impact of HIV/AIDS in specific areas, on specific sectors and on the individual/household level, most of it based on case studies. Yet, surprisingly little work has been done to bring together this knowledge to arrive at a comprehensive picture of the dynamics involved, of the interplay between the impact of, and the adjustment to, HIV/AIDS and its overall socio-economic consequences. Macro-economic projections on the impact of HIV/AIDS based on standard modelling techniques yield unconvincing results in this regard as the assumptions and premises that they rest upon are open to serious doubt. Indeed, our knowledge of the aggregate economic consequences of HIV/AIDS remains deficient.

This study aims to address this need, focussing on Malawi as a representative case. The point has not been to add yet another study to an already long list of studies, but to bring together existing, but often fragmented, knowledge in order to arrive at a comprehensive picture of the consequences of HIV/AIDS on livelihoods, the economy and poverty reduction. Methodologically, this has entailed a need to marry the micro level with the macro level and the blending of qualitative information with quantitative data. The purpose of the study is twofold: (i) to improve our understanding of the consequences of HIV/AIDS on the economy, livelihoods and poverty of Malawi, with a view to creating a stronger foundation of knowledge for informed policy making, and (ii) to use Malawi as a case study for drawing more general conclusions on the consequences of HIV/AIDS on the economy and on poverty, conclusions that may have a bearing on other countries in the region as well.

Some key conclusions

HIV/AIDS and poverty are mutually reinforcing. HIV/AIDS acts as a forceful vehicle for impoverishment at the individual and household level and results in increased income and asset inequality. Poor households with small economic buffers are particularly exposed to the economic consequences of HIV/AIDS. For these, illness and death in the family due to AIDS often entails economic disaster as they are forced to sell off precious productive assets such as land and cattle to cope, with landlessness and destitution as a result. It is clear that HIV/AIDS leads to increased destitution and increased asset and income inequality.

There is also a reverse relationship between HIV/AIDS and poverty as lack of power and choice coupled with material needs leave girls and women exposed to sexual exploitation and often force them into 'risky behaviour' and transactional sex as a survival strategy. Furthermore, the risk of sexual contact resulting in infection is higher among the poor as their immune systems tend to be weaker.

The impact of HIV/AIDS on poverty and inequality has, to a considerable extent, been cushioned by informal safety nets and a tradition of reciprocal assistance within extended families. However, these safety nets are under severe strain from the high prevalence of AIDS and risk breaking down.

There is a need to address these issues at the national level, to devise means of supplying basic social protection and to provide back up for traditional informal safety systems. More generally, HIV/AIDS calls for a sharper focus on addressing the problems of increasing inequality and destitution in economic and social policies.

HIV/AIDS has a severe impact on agriculture and food security. The impact of HIV/AIDS on smallholder agriculture would seem to be particularly severe. Agriculture differs from most other economic activities in that it requires a certain minimum of labour input during specific periods of time in order to yield any result and, as large seasonal fluctuations in incomes and expenditures occur, special liquidity needs are imposed. As HIV/AIDS results in loss of labour and a drain on liquidity, some farm households respond by shifting to less labour intensive, but also less nutritious, crops such as cassava and at times even leave land fallow. An acute need for cash often forces farm households to take up work as day labourers at the expense of their own farm, or to borrow to make ends meet. Landlessness emerges as consequence of HIV/AIDS as a result of indebtedness, but also inheritance and property rights practices that discriminate against widows. There are considerable local variations with regard to the impact of HIV/AIDS on agriculture and food security which makes it difficult to draw general conclusions and partially explains why our knowledge still is quite sketchy. However, as this study clearly demonstrates, there is enough knowledge to warrant serious concern and an increased focus on this issue.

HIV/AIDS is very much a gender issue. The position and role of women has a strong bearing on HIV/AIDS. Among the younger age groups women are much more exposed to HIV/AIDS than men. The risk of contracting HIV/AIDS is manifestly higher for girls and women than for boys and men below the age of 25. The unequal position of women is also a major reason behind the spread of the disease and amplifies its economic and social consequences. Thus, greater gender equality and empowerment of women would not only possess intrinsic value, but is also arguably a prerequisite for fighting HIV/AIDS and for successfully addressing its consequences.

Increased knowledge and signs of behavioural change. There is ample evidence that knowledge about HIV/AIDS among the population at large has increased to a point where it may be considered to be reasonably good. Most people are aware of the danger of contracting the disease and have at least rudimentary knowledge about how to protect themselves against the risk. There is also evidence that this knowledge is slowly being translated into behavioural change. This is crucial for reducing the spread of infection, which in turn is the single most important factor determining the future of the society concerned. Achievements to date suggest that this is a battle that can be won. However, achieving sustainable behavioural change will require addressing the problem of poverty as well as that of the position of women.

The need to invest in children. It is generally recognised that children are particularly exposed to the consequences of HIV/AIDS, as the number of AIDS orphans sky rocket and as AIDS-stricken households have to resort to child labour to make ends meet. Still, the paramount importance of investing in the education and well-being of children can hardly be emphasised strongly enough. Together with the related issue of achieving behavioural change, mitigating the impact of HIV/AIDS on the young will determine the long term consequences of HIV/AIDS for high prevalence countries such as Malawi.

A weakened public sector. HIV/AIDS exerts a strain on the public sector mainly through (i) high attrition rates among middle and senior level staff, and (ii) increased need for HIV/AIDS related expenditures, in particular on health care. At least the Malawian case suggests that the negative impact of HIV/AIDS on public revenue is of comparatively less importance. With increased external funding of ARV treatment and public health related expenditures, the greatest impact of HIV/AIDS on the public sector is likely to be through the drain it imposes on its human resources. There is a need for more effective human resource development (and replacement) planning in order to prevent an erosion of competence and capacity, particularly at the middle and senior management levels.

The meaning and value of standard development indicators and measurements need to be reconsidered. In countries with a high prevalence of HIV/AIDS, there is a risk that standard development indicators and measurements will become misleading. A wide range of development indicators use the population as the denominator, e.g. per capita GDP, literacy rates, poverty rates etc. When assessing progress over time it is routinely assumed that the denominator remains more or less constant. For instance, an increase in literacy rates will typically be seen as proof of progress in the field of education. The fact that it might be due to abnormally high mortality rates among the illiterate population would hardly be considered. Under normal conditions, this disregard of the impact of changes in the denominator is of little consequence. However, in the situation where a large part of the population is infected with HIV/AIDS, the picture is quite different, as the population five to eight years hence will be very different from the population of today. Comparisons over time of GDP/capita, literacy rates, poverty rates or almost any other indicator that uses the total population as their denominator become very difficult indeed and are apt to be misleading. If more poor people than non-poor succumb to AIDS, the impact on per capita GDP and on the incidence of poverty will be positive, if illiterate people are over-represented among AIDS victims the rate of literacy will increase etc., yet this is hardly the manner in which poverty should be reduced.

Indicators such as GDP and productivity are also likely to convey misleading information. GDP growth is often used as an indicator of economic progress and increased well-being. Yet, GDP has qualitative as well as quantitative aspects. An increase in expenditure on medicine and health care due to AIDS at the expense of expenditure on education or investments in agriculture will have clear negative effects on present and future well-being, but will not show up in GDP. If those who are still healthy have to work longer hours to make up for the loss of labour of those who fall ill, and if the labour of children and elderly has to be mobilised in order to compensate for AIDS-related mortality among adults, then this will result in an increase in registered labour productivity that will be entirely fictitious. Increased AIDS-related mortality among young women will result in reduced birth rates and improved dependency ratios, yet this is hardly to be interpreted as signs of positive demographic development.

Hence there is a need to carefully assess the actual meaning of the economic indicators and measurements that are more or less routinely used and, perhaps, to focus more on processes than on aggregate economic outcomes in countries that are severely affected by HIV/AIDS.

The future is not predetermined. It is easy to depict doomsday scenarios for countries such as Malawi where HIV/AIDS has assumed pandemic proportions. Indeed, economic and societal collapse remains a distinct threat and a possible outcome for these countries. However, the study clearly shows that the future of these countries is far from predestined to be a disaster. As HIV/AIDS has become an intrinsic aspect of life, society adapts to the new circumstances. An acute sense of crisis can harbour the seeds of profound societal and behavioural change. There are clear indications that profound and positive cultural and behavioural changes are underway, albeit slowly. At the same time improved access to ARV treatment would not only prolong the life expectancy of those infected, but also make it possible for people to work who otherwise would not, and for children who otherwise would have been orphans to have parents. Much can also be done by the countries themselves, as well as by donors, to mitigate the consequences of HIV/AIDS and to address both the short and long term threats to the fabrics and future of these countries and societies. However, this will require putting HIV/AIDS at the forefront of development assistance to the countries concerned and redrawing development maps to line up with reality.

The study

This study was undertaken by four Swedish scholars based on a joint initiative of Sida and the Ministry of Economic Planning and Development in Malawi. The results and findings were presented at a conference hosted by the Government of Malawi in Lilongwe in February 2006.

Although the four authors have shouldered the brunt of the work put into this study, it is very much the result of a collaborative effort. Discussions at an early stage with Professor Anthony Barnett and Professor Alan Whiteside, both of them leading authorities on HIV/AIDS in their respective fields, were instrumental for the chiselling out the scope and focus of the study and provided an important source of inspiration. Professor Whiteside's encouragement and support during the course of the study turned out to be invaluable. A large number of people in Malawi supported and assisted the study in both personal and official capacities, and close collaboration with the Ministry of Economic Planning and Development and the National Aids Commission in Lilongwe was crucial to success. Within Sida, the regional HIV/AIDS team in Lusaka and the HIV/AIDS Secretariat in Stockholm were active partners in the work from the very beginning and supported it generously.

It is our hope that this study will serve not only as a source of knowledge and inspiration but also as a reveille, a wake up call!



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Executive Summary

Malawi is one of the poorest countries in the world. With an HIV prevalence of around 14 per cent of the adult population, it is also one of the hardest hit by HIV/AIDS. The HIV/AIDS disaster came as an additional burden on households, communities, public institutions and private enterprises at a time when margins were already small or non-existent.

Most of those who are HIV-positive are still healthy and do not know that they are infected. Thus, what can be registered today as consequences of the epidemic merely represent the tip of an iceberg.

The purpose of the present study, commissioned by the Swedish International Development Cooperation Agency (Sida), is to analyse the impact of HIV/AIDS on people's livelihoods and on the overall socio-economic development of the country.

A number of different factors are believed to be responsible for the high level incidence of HIV/AIDS in Malawi. As in many other countries, gender inequality and the subordination of women in sexual relationships are two of the main driving forces of the epidemic. Harmful traditional practices, such as "dry sex" and various initiation ceremonies are frequently mentioned as contributing factors. Untreated sexually transmitted infections greatly increase the risk of becoming infected. Poverty and vulnerability are other factors that may also accelerate the spread of the diseases, as many girls and women engage in commercial sex as a survival strategy.

HIV/AIDS is not a gender-neutral disease. More Malawian women than men are currently infected, and the ratio of female to male HIV-prevalence among adolescents is around five to one. Girls and women are also responsible for the lion's share of care and support when a family member falls ill.

At the household level, the costs of HIV/AIDS are dramatic. In addition to direct costs in the form of medical expenses, transport for patients seeking treatment, funerals and other out-of-pocket expenditure, indirect costs in the form of loss of labour within the household represent an extremely heavy burden on the family, in particular when a head of a household falls ill and passes away. The nature of the disease also makes it common for children to lose both their parents in households affected by HIV/AIDS. The traditional safety net in the form of the extended family is placed under severe strain as the number of AIDS orphans increases.

The impact of HIV/AIDS on the families affected depends on a number of different factors such as socio-economic conditions and access to land

and family labour. When a family member falls ill, one coping mechanism that many poor households are forced to resort to is to sell assets: bicycles, radios, sometimes livestock and even land. Surveys indicate that around 40 per cent of Malawian households affected by chronic illness had to incur debt or sell a portion of their assets to buy food or to pay medical or funeral expenses. Other adjustment mechanisms include taking children out of school, with serious long-term consequences for the formation of future human capital.

Over 80 per cent of the population of Malawi have agriculture as their main livelihood. While the prevalence of HIV is appreciably higher in the cities than in rural areas, the majority of Malawi's AIDS victims live on farming. Food security often deteriorates substantially in families affected by HIV/AIDS. One frequently observed coping strategy among smallholders suffering from shortage of labour is to resort to casual, and precarious, labour on other people's farms. They are also likely to resort to less labour-intensive – and, in general, less valuable and nutritious – crops.

While the most dramatic effect of HIV/AIDS is felt at the household and community level, the epidemic also exerts a pronounced effect on the real economy. The major impact is the loss of human capital, with strongly negative consequences for future growth prospects. Since HIV/AIDS, contrary to most epidemics, primarily affects the most productive age groups of the population, its impact on supply of labour is very severe. Already close to 20 per cent of the economically active population have lost their lives due to AIDS. Further, the number of prime-age adults dying from AIDS each year exceeds 80 000. In addition, absenteeism has increased drastically because of the need to attend funerals and HIV/AIDS-related morbidity has a negative impact on labour productivity.

All economic sectors are affected. Smallholder agriculture suffers both because it is labour-intensive and because of loss of income, which reduces farmers' opportunities to invest in improved seeds, fertilizers and soil preparation. In the manufacturing sector, which has been contracting for over a decade, it is difficult to isolate the effects of HIV/AIDS from other factors such as import liberalisation and an unstable macroeconomic and institutional environment. Still, it is clear that production costs have increased and labour productivity declined as a direct consequence of HIV/AIDS.

In a short to medium-term perspective, the changes in the demographic structure that occurs due to HIV/AIDS will have negative consequences on economic growth as the dependency ratio deteriorates. However, long-term demographic development is more uncertain. If the rate of new infections decreases, the dependency ratio may improve.

Our analysis of the medium-term effects of HIV/AIDS on economic growth is tentative. In an attempt to estimate the effects of HIV/AIDS on the development of per capita income up to 2015, we used three parameters – the investment ratio, total factor productivity and fertility – and carried out simulations with combinations of these parameters. The results were discouraging: it appears unlikely that the Millennium Development Goal of reducing poverty by fifty per cent before 2015 would be within reach even in an extremely optimistic scenario.

In our worst-case scenario, gross fixed capital formation would remain at today's ten per cent of GDP, and productivity and fertility were also kept constant. Based on these assumptions, the result was that per capita income would be 17 per cent lower in 2015 than in 2000.

The impact of HIV/AIDS on the public sector resembles, in many ways, the impact on agriculture and other economic sectors. Loss of experienced workers, increased absenteeism and attrition, considerable costs for the replacement of staff affected by HIV/AIDS and lower productivity in the delivery of public services have accompanied the spread of the disease. Since the incidence of HIV/AIDS has so far been highest among well-educated urban dwellers and in key public services such as health, the police and judiciary and agricultural extension services, the impact on the public sector has already been considerable.

In education, HIV/AIDS-related morbidity and absenteeism among teachers have become serious constraints on the supply of education. While there is no evidence showing that teachers in Malawi have a higher HIV prevalence than other population groups, the loss of experienced teachers poses a serious threat to the quality of the education system. This effect may partly be compensated for by reduced demand for education. In the health sector, which is also of paramount importance for the country's stock of human capital, problems are particularly severe. Patients suffering from HIV-related diseases, including opportunistic infections such as tuberculosis, occupy over 70 per cent of all hospital beds. Furthermore, the exodus of a high percentage of Malawi's nurses and physicians, primarily to Great Britain, has exacerbated staffing problems.

By and large, Malawi's public sector was poorly functioning even before HIV/AIDS. Problems included high vacancy levels, high attrition rates, inflexible recruitment procedures, financial constraints, a poor incentive structure and shortages of skilled staff. Malawi's public sector thus had an institutional vulnerability to the impact of the epidemic which has served to accentuate already existing problems. The combination of lower tax revenue – i.e. lower than in a no-AIDS scenario – and higher demand for

public expenditure in areas such as health, social security, care of orphans and others will lead to fiscal problems.

As to the long-term consequences of HIV/AIDS on economic growth and poverty, any attempt to make forecasts about the distant future is surrounded by a high degree of uncertainty. There are simply too many unknowns, not least related to non-economic factors such as changes in social norms and values, which are likely to affect both the spread of the disease and its economic impact. While the study does try to identify a number of adjustment mechanisms and behavioural changes that can already be observed, it would be misleading to attempt to quantify their socio-economic effects and translate these into long-term projections of, for example, growth of production, investment and per capita income.

Instead of presenting an economic model that would convey a false sense of precision to our analysis, our discussion on long-term consequences focuses on a number of mitigating and aggravating factors that may indicate how Malawi will be able to cope with the HIV/AIDS disaster. Among the mitigating factors, i.e. circumstances that in the long term may allow Malawi to overcome at least some of the negative effects, could be mentioned the fact that knowledge about the disease is widespread and that attitudes – towards for example commercial sex, multiple sex partners and extra-marital sex – are changing. Sexual behaviour is also changing – albeit very slowly.

Other positive factors are that prospects for international support appear good, and that medical progress is likely to continue. The existence of Antiretroviral Therapy (ART) means that the chances of prolonging the lives of HIV-positive patients are drastically better today than a few years ago. In a short to medium-term perspective, the envisaged scaling-up of ART can, however, be expected to place an additional burden on Malawi's fragile health system.

The aggravating factors are largely those indicated earlier: increased poverty and vulnerability at the household level, an increased number of orphans and a concomitant strain on the extended family (possibly accompanied by a rise in juvenile crime and violence), loss of human capital and severe pressure on key sectors such as health and education, higher costs of production and the danger of further erosion of Malawi's international competitiveness. Another aggravating factor is the deep-rooted tradition of male dominance in Malawian society. The subordination of women in connection with sexuality appears highly resistant to change and is a formidable obstacle.

The discussion on long-term consequences ends with a brief presentation of two radically different scenarios: one "disaster scenario," in which

HIV/AIDS leads to a virtual economic, institutional and social collapse, and another more optimistic scenario in which a number of different factors enable Malawi to cope with the disease in a way that strengthens, rather than weakens, social cohesion and the country's institutions, thereby making the long-term consequences appreciably less dramatic than in the most pessimistic scenario.

The objective of this study has not been to make an evaluation of the Malawian Government's policies, nor to present detailed recommendations about what to do. Nevertheless, the report ends with an attempt to summarise a few policy implications that emerge from the study related to prevention, treatment and care as well as policies aimed at mitigating the impact of HIV/AIDS.

Both humanitarian and strictly economic arguments call for a considerable emphasis on prevention. Every infection that can be avoided represents invaluable human benefit, in addition to being the most cost-effective way of coping with the disease. A comprehensive strategy aimed at prevention must include a number of different measures such as improvements in the distribution of condoms, the expansion of Voluntary Counselling and Testing (VCT) facilities, improved treatment of sexually transmitted infections, and determined efforts to tackle sensitive issues such as dangers associated with certain initiation ceremonies.

Our key message as regards prevention is that the empowerment of women in all spheres of economic and social life is of paramount importance for sustained progress in the fight against the spread of the epidemic. Legal norms protecting women's rights must be enforced and sexual abuse and all forms of gender-related violence must be defined and declared illegal. The high incidence of transactional sex, in which poor and vulnerable women receive some material gain in exchange for sexual favours, highlights the fact that economic empowerment of women must go hand in hand with their empowerment in sexual relationships.

Introduction

Malawi is one of the poorest countries in the world. Of the 177 countries ranked according to UNDP's Human Development Index, Malawi occupies place number 165.

In 2005, more than half of Malawi's population of 12.5 million lived below the national poverty line and about one fifth (22 per cent), or one in every five people, are ultra-poor and cannot afford to meet recommended daily food requirements (GOM and World Bank, 2006). Neither is poverty evenly distributed. Malawi's Gini index, which measures inequality, is estimated at 0.38 indicating an appreciably more unequal distribution of income than countries such as Ethiopia, Tanzania or Mozambique (World Bank, 2005).

Subsistence agriculture is the mainstay of the economy, accounting for around 40 per cent of GDP and over 80 per cent of total employment. The average size of a family farm is less than 0.3 hectares of arable land per capita. In the Southern Region, the most densely populated and poorest part of the country, it is less than 0.2 (GOM, 2002). The urban population, rising rapidly but still very small, makes up some 16 per cent of the total population.

Economic growth has been sluggish for decades, with an annual growth of per capita income of only 0.2 per cent between 1975 and 2003 (UNDP, 2005). The 1980s were characterised by stagnation and decline, while the period 1994–99 witnessed economic recovery and rapid growth. Today's per capita income remains lower than in 1979 (*Ibid.*). Thus, when HIV/AIDS began to take a heavy toll of sickness and death in the 1990s, the Malawian economy and society were already under serious strain.

Against this background of poverty and inequality, the effects of the HIV/AIDS pandemic on people's livelihoods are dramatic. The HIV/AIDS disaster came as an additional burden on households, public institutions and private enterprises at a time when margins were already small or non-existent. One factor aggravating its economic impact was the fact that during the initial phases of the disease was the rate of HIV infection, and subsequent death from AIDS, highest among urban and relatively educated people: teachers, government officials, doctors and nurses, policemen and others.

With an HIV prevalence of around 14 per cent among adults, and appreciably more in urban areas and among pregnant women, Malawi is estimated to be the ninth worst affected country in the world. Some

940 000 adults and children are believed to be living with HIV today. The vast majority of the carriers of this virus do not yet know that they are infected.

The number of AIDS-related deaths since the first cases were diagnosed in the mid-1980s has reached 650 000, and over 80 000 additional deaths due to AIDS are expected each year. In 2005 over half a million children in Malawi had lost one or both of their parents to AIDS (UNAIDS, 2006). As a consequence of the AIDS epidemic, life expectancy has been decreasing for a number of years and today is less than 40 years.

The severity of the pandemic is undeniable. In previous research it is argued that AIDS is a unique threat to humankind in that its economic impact is greater than that of most prevalent diseases (e.g. Barnett et al., 2002). Some of the reasons given for this include the fact that it is incurable and surrounded by silence and stigma, it is a long-wave crisis with a long incubation period during which the HIV infection is invisible, and it slowly kills the most productive members of society.

The purpose of the study

The purpose of this study, commissioned by the Swedish International Development Cooperation Agency (Sida), is to present a comprehensive overview of the consequences of HIV/AIDS for Malawi. The study focuses both on the short and medium-term effects on the household level, as well as on the long-term macroeconomic effects (in the study defined as effects occurring after 2015). The primary objective of the report is to analyse the impact of the HIV/AIDS epidemic on Malawi's economy, livelihoods and poverty.

Hence, we do not intend to make an evaluation of the Malawian government's policies, nor to present detailed recommendations for future policies. Nevertheless, the report concludes with a brief discussion of policy implications, including suggestions directed towards the donor community.

Methodology

This study is mainly based on secondary data, i.e. existing literature (both published and non-published), on the impact of HIV/AIDS on the socio-economic development of Malawi. When it has not been possible to find data from Malawi, we occasionally draw on literature from neighbouring countries that share some of Malawi's characteristics.

It should be stressed already at the outset that the availability of reliable data, not least crucial information about norms, sexual behaviour, at-

titudes and adjustment mechanisms that is sensitive and private in character, is scarce and frequently contradictory. As a consequence, part of our analysis was forced to rely on data from only a few studies whose findings may not always be applicable to the entire country.

The literature review has also been supplemented by interviews with key informants from government, academia, the donor community, the private sector and NGOs in Malawi. Each interview sought to confirm or update printed information, as well as to identify new and planned research. In particular, the informants were asked about the causes and consequences of the HIV/AIDS epidemic in Malawi, impact mitigation plans, current responses, and existing and future research. Moreover, an attempt is made to analyse HIV/AIDS and the development of macroeconomic variables by descriptive methods and interpreting data in the light of a simple macroeconomic model.

One of the major methodological problems encountered in the writing of this study was that the impact of HIV/AIDS in many cases is highly visible and yet very hard to measure. Another issue of concern, which is related to the heavy stigmatization surrounding the disease, was the difficulty in accessing reliable data as people affected by HIV and AIDS are reluctant to report certain information such as cause of death etc. During the literature review stage a number of important research gaps were also identified. It was, for instance, found that community level data on the impact of HIV/AIDS is largely lacking. Such information is important when disentangling the increased burden placed on community-based, extended families from the increasing number of AIDS orphans and ill people in need of care.

The work was initiated in April 2005 when the team visited Malawi to establish contacts, conduct interviews and gain access to relevant literature. It continued as a desk study until September 2005, when the team paid a second visit to Malawi in order to conduct further interviews and collect data. The findings of the study were disseminated and discussed at a workshop organized by the Ministry of Economic Planning and Development in Malawi (MEPD) and Sida in February 2006 in Lilongwe. Then the study was presented at Sida in Stockholm in March 2006. During the seminar in Malawi a large number of people from various sectors in the country were given the opportunity to provide input for the study. Among the speakers were Mary Shauwa from the Office of the President of Cabinet, Mr. Roy Hauya at the National AIDS Commission (NAC) and Dr. Per Ronnås, Chief Economist at Sida head quarters. Many participants endorsed the study, and emphasised the importance of this kind of exercise in order to formulate relevant policies aimed at fighting the AIDS epidemic and its consequences in Malawi.

The structure of the study

The first chapter is intended to provide a background picture for a number of issues that are discussed in greater length in the latter parts of the study. The chapter, for example, discusses the spread and prevalence of HIV/AIDS in Sub-Saharan Africa and in particular in Malawi. In this chapter we also illustrate the situation of women and describe certain norms of sexual behaviour that facilitate the transmission of HIV. When possible – i.e. when studies and other sources of information so permit – we attempt to identify adjustment mechanisms and indicators of behavioural change that, along with factors such as poverty and the resources available especially within the health sector, will affect the future spread of the epidemic. The chapter also contains a discussion of the advances made in Malawi in its efforts to scale up life-prolonging Antiretroviral (ARV) treatment of HIV-positive patients. In the final part of the chapter a discussion on the demographic impact of HIV/AIDS is included.

Chapter 2 is a micro level analysis that explores the impact of HIV/AIDS on the individual, household and community levels. In addition, we identify strategies used on these three levels to cope with the epidemic. In the final sections of the chapter the effects of HIV/AIDS on the urban informal sector are considered, and in this context particular attention is paid to women's situation.

Chapter 3 focuses on the impact of HIV/AIDS on economic growth on the macro level. The first section attempts to summarise how conditions for growth are affected in a medium-term perspective (in this context defined as up to 2015). Using a simple growth framework, we give an account of the impact of AIDS on the determinants of economic growth in Malawi.

Chapters 4 to 6 deal with the impact of HIV/AIDS on the real economy. In the first two chapters the productive sectors of the economy, including smallholder as well as commercial agriculture, and manufacturing are analysed. As always, we also attempt to identify adjustment mechanisms that may develop as the epidemic unfolds. Since the overwhelming majority of Malawians are small-scale subsistence farmers, particular attention is paid to issues related to coping strategies among smallholders affected by illness and death. Then, in Chapter 6 the environmental consequences of the epidemic, and in particular the uses of natural resources, are highlighted.

Chapters 7 to 11 discuss the impact of HIV/AIDS on the public sector, covering issues such as effects on government revenue, expenditure and human resources. Special attention is paid to two key areas for public sector delivery in Chapters 8 and 9: health and education. The tenth chapter

touches briefly upon the impact of the epidemic on social security, while Chapter 11 focuses on more intangible aspects of public sector delivery such as safety, security and justice.

Chapter 12 presents a tentative analysis of long-term responses and the consequences of the disease. Since the long-term impact (i.e. effects occurring after 2015) depends on so many unknowns this chapter is, by necessity, surrounded by a great deal of uncertainty and speculation. The analysis ends with a presentation of two different scenarios: one “disaster scenario” in which vital political, social and economic institutions suffer from a virtual collapse, and another more optimistic scenario.

The final chapter is a summary of major conclusions and a discussion of policy implications for the Malawi government and other stakeholders, including the international donor community.

In addition, there are three appendices. The first one gives a brief presentation of the structure of Malawi’s economy. The second appendix describes Malawi’s current HIV/AIDS programme. And the final one provides a brief account of the impact of HIV/AIDS on the Poverty Reduction Programme (PRSP), the Malawi Growth and Development Strategy (MGDS) and the Millennium Development Goals (MDG).

HIV/AIDS in Malawi

CHAPTER 1

This chapter first describes the salient characteristics of the disease and its spread and prevalence in Sub-Saharan Africa at large and in particular in Malawi. Then, Sections 1.4 to 1.6, describe current facilities for testing and treatment with Antiretroviral Therapy (ART) in Malawi. Section 1.7 explores the major drivers of the HIV/AIDS epidemic in the country, and Section 1.8 looks at HIV/AIDS and behaviour patterns. The final section discusses key demographic indicators. Malawi's current HIV/AIDS programme is briefly described in Appendix 2.

1.1 Prevalence in Sub-Saharan Africa

In Sub-Saharan Africa, AIDS emerged against a backdrop of extreme poverty, hunger, conflict and inadequate infrastructure. These factors combined have exacerbated the spread of the disease in this region of the world and it is the one hardest hit by the epidemic, as illustrated in Table 1.

In 2003 prevalence was stable in most of Sub-Saharan African countries. However, in some countries, such as Swaziland, the HIV prevalence rate (the proportion of people living with HIV) was still rising in 2003. This was also the year when Swaziland's HIV prevalence rate reached the highest level in the world, with 38.8 per cent in the age group 15–49 (UNAIDS, 2004a).

According to the 2006 global report on the AIDS epidemic by UNAIDS, the prevalence rate has recently decreased in several countries. This is mainly due to an increased AIDS mortality which has caused the HIV prevalence to level off. However, in 2005 Swaziland remained the country with the highest adult HIV prevalence rate, but it had declined to 33.4 per cent, according to Table 1. Botswana is found in second place among the countries hardest hit, with a HIV prevalence of about 24 per cent.

Table 1: Adult (15–49) HIV prevalence rates in Sub-Saharan Africa (end of 2005)

Country	Adult (15–49) HIV prevalence rate
Global Total	1.0
Sub-Saharan Africa	6.1
Swaziland	33.4
Botswana	24.1
Lesotho	23.2
Namibia	19.6
South Africa	18.8
Zambia	17.0
Mozambique	16.1
Malawi	14.1
Uganda	6.7
Tanzania	6.5
Rwanda	3.1

Note: Estimates are given in rounded numbers.

Source: UNAIDS, Report on the global AIDS epidemic, 2006.

1.2 The spread and modes of transmission

Malawi is severely affected by HIV/AIDS and registers the ninth highest HIV prevalence in the world (see Table 1). The adult prevalence rate in 2005 was approximately 14 per cent – a level of HIV infection that has remained fairly constant over the last ten years (MOH, 2006). In 2005 some 850 000 adults (in an estimated population of 12.5 million) were living with the virus as reported in Table 2.¹ However, if the estimate of HIV positive people is allowed to include HIV positive children the total number of HIV positive people in Malawi amounts to 940 000. Every year over 85 000 people lose their lives to AIDS in Malawi (MOH, 2006).²

¹ The HIV prevalence in Malawi is estimated from surveillance results from antenatal clinics (ANC). There are biases in antenatal surveys and the resulting HIV prevalence data. However, the data from the 2004 DHS with national population-based HIV prevalence estimates provides a similar estimate of the epidemic (with an adult 15–49 prevalence of 12 per cent) (NSO and ORC MACRO, 2005, p. 230).

² The HIV epidemic has also fuelled a severe tuberculosis (TB) epidemic (see also Chapter 8). TB case notifications have increased by more than 500 per cent over a 20-year period (1985 to 2005) to some 26 000 TB cases annually. A countrywide survey in 2000 of TB patients found an HIV sero-prevalence rate of 77 per cent (MOH, 2006).

Early in the epidemic more men than women were infected, but as the epidemic matured more women became infected. In 2003 well over half of the total numbers of infected adults were women (i.e. 58 per cent). According to the latest estimates the proportion of infected men to women is becoming more equal. However, women still make up the majority of the total number of infected people, as illustrated in Table 2. This is particularly true among young people (15–24) as will be further elaborated in Section 1.9 on demography.

As already mentioned, in 2005 the total HIV population in Malawi was estimated to 940 000. Of these, adult women over 15 years of age represented 53 per cent (UNAIDS, 2006). In the table below we also see that prevalence levels are considerably higher in urban (17 per cent) than in rural (11 per cent) areas.³ However, the absolute number of HIV positive rural dwellers outnumbers urban HIV carriers by roughly two to one. In terms of regional epidemiology, HIV prevalence in the Southern Region of Malawi (18.6 per cent) is about double the level in the Central and Northern Regions (between 9.3 and 13.5 per cent) (Malawi Partnership Forum, 2006).

Table 2: Estimates of the HIV/AIDS epidemic in Malawi in 2005

Indicator	Value
Adult prevalence in per cent	14.1
Number of infected adults	850 000
Number of infected adult women	500 000
Urban adult prevalence* in per cent	17
Rural adult prevalence* in per cent	11
Total HIV+ population**	940 000

Notes: Adults=ages 15–49.

*Figures are from 2004. Source: GoM and World Bank (2006). **Includes both adults and children (0–49).

Source: UNAIDS, *Report on the global AIDS epidemic*, 2006.

³ In most countries in Sub-Saharan Africa, HIV infection is higher in urban than in rural areas (UNAIDS, 2004: 31). However, the gap between urban and rural HIV prevalence narrowed in the 1990s.

The three predominant modes of HIV transmission in Malawi are: heterosexual contact (88 per cent of infections),⁴ mother-to-child transmission (as many children receive the infection from their mothers during pregnancy, birth or through breastfeeding), and transfusion with infected blood (NAC, 2004). Without any preventive measures, it is estimated that approximately 30 per cent of babies born to HIV positive mothers will be infected around the time of birth (NSO and ORC MACRO, 2005).

Since the point in time when the first AIDS cases were diagnosed in Malawi in 1985, the epidemic has become generalised and has spread to all segments of the population (NAC and MOH, 2003). However, available data indicates particularly high prevalence rates in subpopulations consisting of marginalized and high risk HIV infection groups such as prisoners, highly mobile workers and women engaged in prostitution or transactional sex (Malawi Partnership Forum, 2006; GOM, 2004). It is worth noting however that urban, well-educated and wealthy segments of the population also tend to have higher rates of infection; this positive correlation between high socioeconomic status and HIV prevalence appears to be strongest among men (see Section 1.7.1).

1.3 Knowledge about HIV/AIDS

Estimates show that general awareness of AIDS in Malawi is virtually universal.⁵ Of all women and men, more than 98 per cent of the respondents had at least 'heard of AIDS'. However, when it comes to a more comprehensive knowledge of HIV/AIDS, such as beliefs about AIDS and knowledge of HIV/AIDS transmission and prevention methods, the majority of respondents do not have a comprehensive understanding. For instance, only 22 per cent of women and 39 per cent of men recognize condom use, and limiting sex to one uninfected partner, as HIV prevention methods. The same proportion of women and men are aware that a healthy-looking person can have AIDS, or are able to reject two of the most common local misconceptions (NSO and ORC MACRO, 2005).⁶

Along the same line of reasoning, knowledge and behaviour indicators utilised by UNAIDS (2004) show that only 34 per cent of women and

⁴ The probability of transmitting HIV in a single act of intercourse is low under normal conditions. The probability of HIV-1 infection per exposure also differs between women and men. It is many times higher from a man to a woman than from a woman to a man (Barnett and Whiteside, 2002, p. 38). However, a number of factors dramatically increase the risk of infection such as multiple partners, wounds or a sexually transmitted infection (STI).

⁵ This is true across age group, urban-rural residence, marital status, wealth index and education.

⁶ The two most common local misconceptions about HIV in Malawi are that HIV can be transmitted through mosquito bites and through supernatural means.

42 per cent of men (aged 15–24 years) could identify at least two prevention methods and reject three misconceptions about HIV/AIDS. Even though these scores are low, Malawi, together with Botswana, has the best results on these indicators in Sub-Saharan Africa. The 2004 DHS mentioned above also found that education is positively correlated with the likelihood of having comprehensive knowledge of HIV/AIDS and men are, in general, more knowledgeable about HIV/AIDS than women. The more educated the respondents were (both men and women) the more likely they were to have knowledge about at least two ways to avoid AIDS. Hence the consistent pattern of lower in-depth knowledge about HIV/AIDS for women compared to men could partly reflect women's disadvantage in access to education. While 30 per cent of female household members in Malawi have never been to school, the proportion among males is 20 per cent (GOM and World Bank, 2006).

Overall, the literature reviewed concerning knowledge and behaviour in Malawi shows that there are large gaps in the information that people have on the origins and spread of the disease (e.g. Pinder, 2004). Hence, there is still a considerable necessity to educate the population about modes of transmission, especially in the rural areas where levels of knowledge are low (NSO and ORC MACRO, 2005). The gaps in people's knowledge can partly be explained by the sources of information available for learning about HIV/AIDS, as well as their access to such a source. In Malawi, verbal communication is a more efficient means of communication than the written word. Hence, not surprisingly the main source of information on HIV/AIDS is the radio, followed by friends and health centre personnel. Other important sources include posters, newspapers, village and church meetings, traditional healers and personal observations of HIV-infected people. In general, men have a higher exposure to mass media than women; 67 per cent of women and 85 per cent of men listen to the radio at least once a week (NSO and ORC MACRO, 2005).

1.4 Testing for HIV

In Malawi the great majority do want to be tested for HIV (81 per cent of women and 87 per cent of men) (NSO and ORC MACRO, 2001). This result is consistent with findings from several studies (e.g., de Graft-Johnson et al., no date).⁷ However, data on the desire to be tested does not necessarily reflect the likelihood of actually taking a test. In fact, HIV testing in Malawi remains

⁷ Note that the demand to be tested includes both those who responded that they have not yet been tested but would like to be tested (unmet demand) and those who have already been tested (met demand).

below 25 per cent in the adult population. The most common reasons for testing is concern regarding infection risk and illness (MACRO, 2004).

In addition, the results of the 2004 DHS show that four of five of those infected with HIV (85 per cent of infected women and 80 per cent of infected men) do not know their HIV status, either because they were never tested or, to a much lesser extent, because they were tested and did not receive their results. Men are more likely than women to know their sero status. This is particularly true for HIV-positive individuals (NSO and ORC MACRO, 2005). When it comes to HIV testing, the 2000 DHS results show that of those aged 15–49 who reported ever having been tested for HIV, 15.2 per cent of men and 8.5 per cent of women have taken an HIV test (NSO and ORC MACRO, 2001). In the most recent DHS 2004, no great differences are found when it comes to gender (17 per cent of men and women) (NSO and ORC MACRO, 2005).⁸

The evident and major discrepancy between people's willingness to be tested and actual testing is also due to the limited availability of, and access to, VCT services.⁹ At the end of 2005, 249 sites nationwide in both the public and private sectors provided counselling and testing and, in total, these facilities performed more than 482 000 HIV tests (MOH, 2006).¹⁰

Assuming the existing health facilities were evenly distributed, there would have been one health facility per 50 000 population in 2005. Despite these capacity constraints, the number of people tested for HIV each year is increasing. In 2005, Malawi developed a Five Year Counselling and HIV Testing Scale-Up Plan (2006–2010) to lay out the framework and strategies within which HIV Testing and Counselling (HTC) services would be massively scaled up to reach the goal of three million Malawians tested by 2010 (*Ibid.*).

For a summary of the HIV testing and ART provision situation in Malawi over the period 2002 to 2005, see Table 3. This table shows that the number of sites in the public sector providing HTC services almost dou-

⁸ The lack of gender difference in the latest DHS results might be a result of various preventive measures from voluntary counselling and testing (VCT) by service providers, such as encouragement to undertake HIV tests in couples. However, recent data collected from January to July 2005 by the Malawi AIDS Counselling and Resource Organisation, one of the main providers of VCT in Malawi, showed that gender related barriers to VCT testing still appear to exist, where fewer young (15–29 years) women access VCT. A higher proportion of women (18 per cent) receive positive results as compared to men (4 per cent). The possible existence of gender-related barriers to VCT, and the reason for such barriers needs to be explored further. To date, anecdotal evidence indicates that women avoid testing for fear of bringing the disease into the family, which in turn could imply the end of social and family support (Nyirenda et al., 2006).

⁹ According to a recent study two thirds of men and three quarters of women preferred to learn their test results with their partners present (de Graft-Johnsson et al., n. d).

¹⁰ HIV prevalence in patients/VCT clients was 25 per cent, 11 per cent in blood donors, 13 per cent in antenatal women and 69 per cent in TB patients (MOH, 2006).

bled in the past year, from 146 sites in 2004 to 249 in 2005. As a result, a 60 per cent increase can also be observed in the number of HIV tests carried out from 2004 to 2005.

Table 3: Comparison of HIV testing and ART in Malawi, 2002 to 2005

Indicator/Year	2002	2003	2004	2005
Total HCT sites	70	118	146	249
Total HIV tests overall	149 540	215 269	283 467	482 364
Number (%) of positive tests	33 303 (22%)	50 115 (23%)	64 635 (23%)	111 153 (23%)
Total ANC women HIV tested	5 059	26 791	43 345	52 904
Number (%) tested HIV positive	840 (17%)	3 383 (13%)	6 069 (14%)	7 052 (13%)
Total facilities providing ART*	3	9	24	60
New patients started on ART	1 202	3 703	6 769	24 678
Patients ever started on ART**	1 202	6 414	13 183	37 840

Notes: *In the public sector. ** This represents cumulative figures over time.

Source: MoH, 2006.

1.5 Drugs and treatment facilities

There is no vaccine or cure for HIV infection or AIDS. There have, however, been drugs available to fight and prevent opportunistic infections for many years.¹¹ Over the past ten years, researchers have developed antiretroviral (ARV) drugs to fight the virus. The ARV drug gradually reduces the viral load and improves the CD4-lymphocyte count, helping the immune system to recover and preventing the development of opportunistic infections. ARV must be taken for life to be effective, and patient adherence to therapy, as well as good nutrition, is crucial. If these requirements are fulfilled, ARV can greatly improve both length and quality of life. However, the average duration of life extension remains uncertain. As with any drug there may be problems with intolerance, side effects, resistance and toxicity.

¹¹ Individuals diagnosed with AIDS often contract life-threatening diseases called opportunistic infections caused by bacteria, viruses, etc. that are usually non-lethal to healthy people. For African AIDS patients, TB is the most common cause of fatality.

The major breakthrough in treatment came in 1995 when the triple combination of ARV (i.e. three drugs taken together at the same time) called highly active antiretroviral therapy (HAART) was introduced. Because HIV can become resistant, a combination treatment such as HAART is necessary to suppress the virus. HAART has greatly improved the health of those taking this treatment.

In December 2005 the total number of ART certified sites in Malawi reached 83 (60 public and 23 private health facilities) (Global Fund Report Update, 2006). The drugs from these sites are provided free of charge at the Ministry of Health (MOH) and the Christian Hospital Association of Malawi (CHAM) facilities.¹² This is possible due to substantial contributions primarily from the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM). Private sector hospitals and clinics also provide ARV drugs, but at a cost of MK 500 (USD 4) per month (MOH, 2005).

1.6 ART-provision

As in so many other Sub-Saharan African countries, Malawi has had a slow start in the provision of ART. At the beginning of 2004 only 4 000 people were receiving treatment (News24, 2006), while some 170 000 HIV-positive people were estimated to be in need of ART (MOH, 2005). However, in recent years there has been significant progress in ART scale-up and at the beginning of 2006 about 46 000 people had started ART. The MOH is currently making an effort to take control over the provision of ART by implementing its second national ARV scale-up plan for 2006 to 2010 (see Table 4).

Despite the recent progress in the provision of ART, far from every one who needs it receives the necessary treatment. According to Biswick Mwale, the executive director of the NAC, the estimated unmet need for treatment was still 150 000 people in 2006 (News24, 2006). In an ideal situation, all the estimated 940 000 HIV-positive individuals in Malawi would be provided with ART over the next 10 years. However, given the capacity constraints of the health sector in Malawi (see Chapter 8), the country goal (according to the Second National ARV Scale-up Plan) is to have 245 000 patients on ART by the end of 2010 (MOH, 2006). In 2005 the MOH put over 22 000 people on free treatment, which was about 3 000 more than was originally planned for (see Table 4), (MOH, 2006).

¹² Two main types of ARV drugs are used in clinical practice in Malawi: reverse transcriptase inhibitors and protease inhibitors (MOH, 2006).

Based on a recent report, the most important challenges emerging from ART scale-up are: limited human resources, inadequate infrastructure, weak pharmacy management, the increasing burden of cohort analysis using a manual system, difficult access to ART clinics for poor people and people living in remote areas and finally, high early death rates (MOH, 2006). These challenges need to be tackled in 2006 and beyond if quality of service is to be upheld. Furthermore, as mentioned above there are not enough drugs for everyone in need. Thus, many hospitals providing ART are forced to put people on waiting lists for access to treatment. At *the Lighthouse*, for instance, patients who sought ART in September 2005 had to wait up to three months.¹³

Table 4 shows the planned number of new patients starting on ART per year and the number of patients that have ever started on ART (both in the public and private sectors). The numbers in boldface type will be financed by the Global Fund for the years 2006–2008. It is noteworthy that the original target for 2006 of having 35 000 new people on treatment has been considerably surpassed by 11 000.

Table 4: Estimated number of new patients starting on ART per year and the cumulative number of patients ever started on ART by the end of each year in the public and private sectors in Malawi

Year	Number of new patients to start on ART during the year	Number of patients ever started on ART by the end of the year
2005	20 000	37 840
2006	35 000	70 000
2007	40 000	110 000
2008	45 000	155 000
2009	45 000	200 000
2010	45 000	245 000

Note: The numbers in boldface type will be financed by the Global Fund for the years 2006–2008.

Sources: MoH, 2005 and MoH, 2006.

When it comes to equitable access to ART, constraints on access for rural communities and among children are still evident. By the end of 2005, the majority of patients were adults (95 per cent), and the remaining five per cent were children aged 12 years or under. Regarding geographical

¹³ *The Lighthouse Trust* was established in 2001 in Lilongwe. Today, *the Lighthouse* is the first specialist centre in Malawi for the care and support of people living with HIV and AIDS. (Interview with Dr. Ralf Weigel, 2005 and Phiri et al., 2004).

equity, there were substantially more Malawians in the Southern Region on ART than in the North and Central Regions. A longer history of ART provision, a higher prevalence rate and a larger population in the south partly explain these regional differences.

Relating access to gender, 61 per cent of the patients who accessed ART in 2005 were women (MOH, 2006). Studying this number though, it should be noted that a larger proportion of the population infected by HIV or AIDS is female; hence there is also a greater need for ART in the female population. One contributing factor to the relatively high number of women accessing ART is the fact that the drugs were made free of charge in June 2004. Since women in general have access to fewer economic resources than men, the previous ART cost particularly discouraged women from seeking treatment (Mhango et al., 2005). Still, lack of transportation and food may constitute barriers, particularly for women, to accessing and adhering to treatment (Nyirenda et al., 2006).

1.7 Drivers

The purpose of this section is to explore some of the key factors driving the HIV epidemic in Malawi. These include: poverty, sexually transmitted infections (STIs), (especially untreated infections), mobility, gender inequality, attitudes towards sex and towards HIV/AIDS, including stigma and discrimination, harmful traditional practices and risky behaviour patterns.

Underlying most of these factors is the crucial issue of gender inequality and male domination in economic and sexual relationships, see further discussion below.

1.7.1 Poverty

While HIV/AIDS is likely to exist in every country in the world, it is clear that the prevalence of the disease and the capacity to cope with it vary considerably between different countries, and between different social groups within each country. And, as is the case with so many other natural or man-made disasters, the countries and households most affected by the AIDS epidemic tend to be those least able to cope with it.

In the developed countries, HIV/AIDS has not become an epidemic, and the incidence – i.e. the number of new infections – has stabilised, or even been reduced among the groups that were most severely hit initially. In rich countries, AIDS has to an increasing extent become a disease among the poor.

In many low-income countries, including Malawi, the prevalence of HIV is (still) highest among urban and relatively well-to-do people. While

18 per cent of urban women are HIV positive, the corresponding proportion of rural women is 13 per cent.¹⁴ For men, the urban-rural difference is even higher, and the ratio is approximately two to one, with 16 and 9 per cent respectively. Education is also positively correlated with HIV prevalence; both men and women without formal education have lower rates of infection than those who have completed primary and secondary education. It is also striking that men in the highest wealth quintile have a far higher HIV prevalence (14.9 per cent) than men in the poorest quintile (only 4.4 per cent). For women, the corresponding figures are 18.0 and 10.9 per cent, respectively. The fact that wealthier men are strongly over-represented is probably a reflection of the fact that many sexual relations have a “transactional” character; men with higher income or status find it easier to engage in casual, high-risk sex and have more opportunities to travel (see also section 1.7.3 on mobility).

Data from Malawi does not permit an analysis of how socioeconomic characteristics among the HIV-infected group have changed over time. However, judging from international experience, and given the fact that comprehensive knowledge about HIV/AIDS is appreciably higher among Malawi’s well-educated women and men, HIV/AIDS is eventually likely to assume a prevalence pattern that resembles other infections. HIV/AIDS has many, well-known, unique features, but in general, in countries – or in communities within countries – where there is a high prevalence of illness there is also a high prevalence of other economic, social and physical ills. Furthermore, the fact that HIV prevalence has been decreasing for a number of years in Lilongwe and Blantyre, while it is still increasing in remote areas with widespread poverty may indicate that transition to a higher prevalence among the poor is also underway in Malawi.

In a longer-term perspective, we should expect a two-way link between HIV/AIDS and poverty. Although this inter-relationship is complex, it is widely acknowledged that HIV/AIDS leads to poverty and that poverty in turn directly or indirectly creates vulnerability to HIV/AIDS. On the one hand, as illustrated on a number of occasions in this study, HIV/AIDS worsens the poverty situation at the individual, household as well as community and national level. HIV/AIDS exacerbates poverty by primarily killing people at their most productive ages, leading to a premature loss of human capital and income. On the other hand, people living in poverty are more vulnerable to HIV infection due to a number of factors such as less access to food, HIV information, education, health care services, serious gender inequalities and so on. In addition, poor access to food and health leads to

¹⁴ Data in this paragraph is taken from the DHS 2004.

poor general health, which increases the risk of HIV infection and leads to a faster progression of AIDS.

Systematic gathering of statistical evidence on the factors that are believed to influence the prevalence of HIV/AIDS can be found in the World Bank's book "Confronting AIDS" (1997). The main findings – corroborated by a number of other studies, including the World Bank (2004) – are that poverty and inequality exacerbate the spread of AIDS in a number of different ways. Comparing countries at different levels of per capita income, a strong correlation between both low income and unequal distribution of income and high rates of HIV infection is found. There is also a strong correlation between the spread of HIV/AIDS and the extent of inequality between the genders as measured by, for example, the gap between adult male and adult female literacy rates.

One common observation in the literature is that poverty and gender inequality make a society more vulnerable to HIV because a woman who is poor, either absolutely or relative to men, will find it harder to control sexual decision-making by saying no to sex, or insist that her sex partner abstain from sex with other partners, or use a condom (see Section 1.7.4).

Poverty and lack of education and opportunities among women may also force women to engage in sexual relationships for survival; the role of "transactional sex" in Malawi is further discussed below (Section 2.2.1 and 4.3.1). Men on the other hand are normally buyers, not sellers, of commercial sex and an increase in men's incomes relative to those of women might actually increase the number of sexual partners per man, as well as men's demand for commercial sex, and thereby the risk of HIV transmission.

Rapid social and political change may help to spread HIV/AIDS in a number of ways. Traditional social norms and values may be eroded. Poverty, insecurity, drug use and criminality may spread, thereby increasing the risk of HIV being transmitted through new channels.

Structural and socio-economic factors of the kind indicated above are important for an understanding of how HIV/AIDS can be transmitted from relatively small "high-risk" groups to the population at large. It should, however, also be stressed that the overall health situation in a community, and the quality of the health services available, has a profound impact on the ease with which the infection spreads, and on whom it affects.

The risk of HIV infection through sexual contacts is basically a function of the number of different sexual partners and the risk of transmission per sexual contact. Numerous studies have shown that the latter risk is appreciably higher in poor countries than in rich, one reason being the much higher prevalence of other STIs in poor countries (and in poor communities in rich countries). In addition, lack of knowledge about STIs,

and lack of means to cure them, affects the poor disproportionately (for further information see Section 1.7.2).

1.7.2 Sexually transmitted infections

STIs are recognized as an independent risk factor for HIV transmission. Untreated STIs such as herpes or syphilis are very common in Malawi and the risk of sexual transmission of HIV may be increased five to ten times in the presence of an STI. In addition, for people who are infected by HIV, the symptoms of STIs may be more severe, the infectious period may be increased and standard treatments may fail (NAC, 2005).

High HIV prevalence rates (from 37 per cent to 55 per cent) were found among patients with an STI in seven districts of Malawi (US Census Bureau 2002, quoted in GOM and World Bank, 2006). The 2004 DHS, however, reported a very low number of STIs, one per cent among women and men. This result suggests underreporting, especially among women. However, when all reports of genital ulcers and sores and STIs are combined into one index, the same survey indicates that 8.4 per cent of women and 5.6 per cent of men had some type of STI in the last 12 months.

This is significant, given the evidence that sores or ulcers may facilitate transmission of HIV, especially if left untreated which is often the case in Malawi. These findings are supported by statistics from the Queen Elisabeth Central Hospital, where 50 to 60 per cent of men with STIs had been ineffectively treated elsewhere before seeking treatment.

According to the DHS (2004), of those reporting an STI (other than HIV/AIDS) in the last 12 months, women were more likely to have sought some type of treatment or advice (women 60 per cent and men 40 per cent). The most popular sources of treatment for women were traditional healers (31 per cent), while men preferred the treatment at a clinical hospital (29 per cent). With regards to attending a health facility, only a minor difference between the genders emerged (men 29 per cent and women 27 per cent). The low use level of health facilities for treatment of reported STIs further indicates that many did not receive adequate treatment, a pattern that was also observed in the 2000 DHS.

1.7.3 Mobility

Mobility is a marker of enhanced risk of HIV infection. When people move and/or families are split up, the likelihood of engaging in risky sexual practices increases. This mobility brings them in contact with many possible sexual partners, which makes them vulnerable to HIV infection. Highly mobile groups, such as truck drivers and fishermen, run a considerable risk of contracting and spreading HIV, thereby acting as a

“bridge” or access channel to groups with low-risk sexual behaviour. In the same way, mobility patterns of smallholder farmers, estate workers and vendors travelling to trading centres to buy or sell put them more at risk (i.e. GOM, 2004).

Highways and borders have also been identified as environments of elevated HIV vulnerability. In a study of the Mulanje district in the Southern Region of Malawi, a factor contributing to the high transmission rate of HIV was the mobility of the population. This included traffic by car, truck or public transport between Mozambique, Mulanje and Blantyre, cross border traffic by foot or bicycle and the mobility of the population within the district as migrant labourers for tea estates, for trade or to seek services. The border area therefore played a particular role within the district in the local economy and the dynamics of the HIV/AIDS epidemic.¹⁵ In general, places and activities that result in gatherings are particularly risky with regard to the spread of HIV. Such places include weekly markets and agricultural trading centres, plantations and estates (*Ibid*) (see further Section 4.3.1).

1.7.4 Gender inequality

The disproportionate impact of the disease on women illustrates the lack of progress in implementing human and legal rights for all members of society independent of gender, and on a fundamental level the HIV/AIDS pandemic is a crisis of gender inequality. Analyses of women’s social situation in Malawi have found that they are disadvantaged in almost every sector of development. This is often explained by social attitudes towards women and culture, which discriminate based on gender. In a global comparison Malawi has position 129 out of 140 countries ranked on UNDP’s gender-related development index (GDI)¹⁶ with a GDI of 0.396 (the values ranges from 0 to 1, where 1 is the highest level of gender equality) (UNDP, 2006).

From a physiological point of view, women are subject to a higher risk of HIV infection than men. As already mentioned in Section 1.2, transmission during sexual intercourse is almost twice as likely to lead to female infection as to male infection (World Bank, 2004). In the case of Malawi, women’s subordinated position in society as well as limited access to income generating resources (e.g. land, education) makes women dependent on their male partners both in the domestic arena and the sphere outside

¹⁵ The border area between Malawi and Mozambique has historically also played a major role for mobility patterns between the two countries. This was particularly the case during the late 1980s when approximately one million refugees from Mozambique moved into Malawi.

¹⁶ GDI measures gender inequality by using the unweighted average of three component indices: life expectancy at birth, education and income.

the home (see also Section 2.3.2). The lack of autonomy for Malawian women further increases their vulnerability to AIDS.

A study from the Nkhota-kota district, located on the shores of Lake Malawi, gives another illustrative example of the power relationship between women and men. The gendered labour market in this region implies that fishing is exclusively for men. At first this may not seem harmful. However, the reality is that during the low season when the fish market is very limited, an unequal relationship develops in which women who wish to buy fish are asked to trade sex for the “favour” of purchasing the fish. Because of low condom use there is a high risk of HIV transmission in this setting, not only for the parties involved in the fish-for-sex transaction, but also for their respective partners (Kathewera-Banda, 2005).

Economic insecurity not only forces women to engage in high-risk sexual relationships and denies them the option to negotiate safe sex, but it also constrains women to stay in situations where their rights are violated, such as in cases of domestic violence.

Studies show that female employees are subject to sexual harassment by their male colleagues at work, that female students are pressured to have sex with their teachers and that many young girls are often engaged in cross-generational relationships with so-called “sugar daddies” in exchange for gifts or money (Kadzamira et al. 2001, Weissman et al. 2006). However, the frequency at which sexual harassment occurs at workplaces, in schools and elsewhere, is less known.

Gender Based Violence (GBV) remains a persistent problem in Malawi, and it is both a cause and a consequence of HIV/AIDS (White et al., 2004). GBV not only reinforces the subordination of women, but is also connected to physical and psycho-socio consequences such as sexual abuse, which in turn increases the risk of injury, HIV infection and unwanted pregnancies. Fear of violence also stops women from accessing HIV/AIDS information and seeking and receiving treatment, even if they are aware of their sero-positive status. At the same time AIDS may cause violence and worsen the situation for women who are already suffering from GBV.

The DHS (2004) shows that one in three women (28 per cent) has, since the age of 15, experienced physical violence. In most cases it is intimate partner violence, and husbands are the key perpetrators. Data also shows that 13 per cent of ever-married women had experienced sexual violence. The most frequently reported forms of spousal violence are slapping and arm twisting (16 per cent) and forced intercourse or marital rape (13 per cent). Under these circumstances, marriage is a women’s primary HIV risk factor since they have little power within their marriage to abstain from sexual intercourse or to negotiate safe sex.

Men's abusive relationship to women most probably also has to do with the concept of masculinity. Matinga and McConville (2003) found that one of the most deep-rooted beliefs in Malawi is that 'being a man' means being dominant and in control, especially in sexual relationships. The Ministry of Gender reported similar findings in 2001.

It is important to acknowledge that in many cases women lack safe options in their own communities in order to avoid HIV infection. Gender-specific vulnerabilities, risks and opportunities need to be acknowledged and female empowerment both socially and economically should be regarded as one of the most effective prevention strategies in this context.

1.7.5 Stigmatisation

Stigma and discrimination of people living with HIV and AIDS (PLWHA) is widespread in Malawi and fuels the epidemic. The fact that there is no cure for HIV/AIDS contributes to stigma and fear and limits people's ability and willingness to seek Voluntary Counselling and Testing (VCT), proper treatment, and support.¹⁷ Denial and silence about HIV/AIDS are other aspects that have increased stigma (MANET, 2003; Frankenberger et al., 2003).¹⁸

The DHS (2004) investigated accepting attitudes towards people living with HIV using four indicators.¹⁹ The result of this exercise reveals that only 31 per cent of women and 30 per cent of men express acceptance to all four indicators.

Currently, there are few incentives for people to openly disclose their HIV status in Malawian society due to perceived and real threats of stigma and discrimination. It is, for instance, not uncommon for those with access to information regarding others' sero-status to reveal this information, failing to respect people's right to privacy and confidentiality. Despite the fact that the stigma of HIV/AIDS is severe, it is reasonable to believe that it will be less so in future years. This is because an increasing number of people are deciding to test their status, extensive knowledge on HIV/AIDS and protection from infection is spreading in the country, and there is increasing access to ART.

¹⁷ At the beginning of the epidemic, a number of metaphors were used for the disease that served to reinforce and legitimise stigmatisation. These include AIDS as death, as horror (in which infected people are demonised and feared) and as punishment (e.g. for immoral behaviour) (MANET, 2003).

¹⁸ Examples of stigma include abuse from health care professionals and traditional healers who may demand monetary and other material favours (MANET, 2003).

¹⁹ The four indicators are: 1) if respondents would be willing to take care of orphaned children of family member who died of HIV; 2) whether they would buy fresh vegetables from shopkeepers who have HIV; 3) if they believe an HIV positive female teacher should be allowed continue teaching and, finally 4) if the respondents would not fear disclosing status of family member who became infected.

1.7.6 Harmful traditional practices and risky behaviour patterns

In Malawi, HIV/AIDS transmission has been aggravated by harmful cultural traditions, beliefs and sexual practices. These practices are often based on deep-rooted associations between sex, health and illness which continue to influence sexual and reproductive health and health-seeking behaviour. This makes it hard for women and men to protect themselves against HIV (Bryceson et al., 2004; Matinga and McConville, 2003). For most part, these practices particularly increase women's risk of HIV infection and are both the result and the cause of unequal gender relationships.

Some of the most harmful and frequent traditional practices discussed in the literature with regards to the spread of HIV/AIDS include:

- *Dry sex.* This practice implies the use of herbs to dry out the vagina supposedly to increase the man's pleasure during the sex act (NAC, 2003b). This is an extremely dangerous practice with regard to the spread of HIV infection, since it causes a lot of friction, tears, and lacerations in the vaginal wall. This is especially true if someone has an STI, which easily leads to bruised genital organs and bleeding wounds.
- Traditional healers' use of non-sterile cutting and piercing tools to heal patients, to perform circumcision, etc. This may damage patients' health or even put their lives at risk since it is easy to spread HIV using these tools. Another example is the use of sex as a treatment therapy.
- *Chokolo*, or widow inheritance, whereby a woman is 'inherited' by her deceased husband's brother. This practice was originally developed within communities as an informal safety net. However, it is now well known that it spreads HIV/AIDS.²⁰
- *Fisi* is a man (*hyena*) who has sex with a woman who fails to conceive by another man or with a young girl who has just undergone the puberty phase to unveil her maturity.
- Other risky practices and behaviours include: widow and adolescent sexual cleansing rituals, various initiation ceremonies, lack of condom use, inconsistent health-seeking behaviour, young age of first sexual intercourse and multi-

²⁰ In Kenya and Uganda, the widespread traditional practice of widow inheritance is no longer mandatory (Rugalema, 1999) and this may leave widows in a weak economic position, which can lead to other risky sexual behaviour patterns. Initiatives to stop these practices have now been taken (discussed in Jayne et al., 2004).

ple sexual partners (e.g., Munthali et al., 2004; Smith and Watkins, 2005).²¹

Many of the risky sexual practices exert a disproportionate impact on women, since they may have difficulties in refusing unprotected sexual intercourse due to their subordinated status. The latest DHS for example shows that while only one per cent of women had multiple sexual partners during the last year, the corresponding number for men was 11 per cent. The proportion of women (8 per cent) who had been engaged in higher risk sex, i.e. sex with a partner other than their husband or cohabiting partner, was also much smaller than the equivalent share of men (27 per cent) (NSO and ORC MACRO, 2005). This implies an increased risk of infection for married women, as only 42 per cent of married men that reported paying for sex in the last 12 months used a condom in the last paid sexual encounter (NSO and ORC MACRO, 2005 cited in GOM and World Bank, 2006).

1.8 The impact of HIV/AIDS on behaviour patterns

Has information on HIV/AIDS had any effect on changing behaviour patterns in Malawian society? Currently, the answer to this question varies greatly depending on who is providing the answers. Many harmful traditional practices are beginning to be re-evaluated by community chiefs and the population at large. National observations indicate that people are adapting their customs and practices to avoid the spread of HIV/AIDS. Circumcision and other traditional health procedures are, for example, far more likely to be performed with new razor blades today, and traditional sexual rituals are not as frequent (e.g., Bisika et al., 2004; Bryceson and Fonseca, 2005).

In Bryceson et al. (2004), the residents of three villages interviewed felt that sexual relations had not been altered in connection with publicised measures to prevent the spread of HIV. In a study in ten villages in central Malawi by Shah (2003) in contrast, both men and women reported that they had taken measures to protect themselves against HIV/AIDS. The most frequently quoted measure was to stay with one partner and to discuss HIV/AIDS with their partner. The DHS (2004) results show that on the national level the three most frequently reported means of preventing HIV/AIDS were abstinence, condom use and limiting the number of sexual partners (NSO and ORC MACRO, 2005).

²¹ In certain subpopulations it is more common to have multiple sex partners than in the general population, including truck drivers (43 per cent), fishermen (34 per cent) and policemen (28 per cent) (GOM, 2004).

These conflicting findings indicate that attitudes in Malawian society are currently undergoing a significant transformation. They also show that behavioural changes have started to occur, but at different speeds and degrees in different places. Anecdotal evidence, for example, suggests that remote rural areas are more traditional and more rigid regarding behavioural change. This phenomenon seems likely, given that these areas are the hardest to reach with preventive HIV/AIDS messages.²²

Encouraging signs of behavioural change undoubtedly already exist. Examples include villagers who avoid cultural practices known to increase the spread of HIV, that the median age at which women have sex for the first time shows a slight rise, increased openness when it comes to discussing issues about sexuality and HIV/AIDS, widespread knowledge, a strong demand for VCT, and a slight increase in condom use.

However, there are still a number of discouraging signs. They include the heavy stigma and discrimination of people living with HIV/AIDS and that many misconceptions about HIV/AIDS and condoms still exist, see further Section 1.8.1. In addition, the role of unprotected sex with multiple and casual partners in the spread of HIV needs to be better understood and accepted as a harmful practice, especially among certain high risk groups of the population. That is, while safety measures to reduce the further spread of the epidemic have been taken by some, the main factor behind the rapid spread of HIV in Malawi is that many people, especially men, continue to have multiple sex partners.

Other areas of concern include negligible increase in the use of condoms among women and the increase of sex with non regular partners among youths. In sum, particular attention must be paid to these negatives in order not to lose the progress already made. More information and analysis about behavioural change and other complex issues will be presented in subsequent chapters.

1.8.1 Views on, and use of, condoms

In Malawi, condom use tends to vary considerably between different categories of people. National survey data shows that condoms are not popular among married couples. Condom use for this category has declined slightly between 1996 and 2000, from four to three per cent for women and from nine to six per cent for men. Condom use in sex with non-cohabiting partners, however, increased from 20 to 29 per cent among

²² This finding is supported by information in the 2004 DHS that urban women are more knowledgeable about AIDS than rural women. Whereas 64 per cent of women in urban areas can identify two misconceptions and confirm that a healthy-looking person can have AIDS, the corresponding proportion for rural women is merely 45 per cent.

women and from 38 to 39 per cent among men (NSO, 1996; NSO and ORC MACRO, 2001). An encouraging sign is that condom use with a non-cohabiting partner increased further in the DHS 2004 data to 30 per cent for women and 47 per cent for men.

For a married couple, and sometimes for non-cohabiting partners that have known each other for a long time, the decline in condom use is probably due to the fact that they do not find condoms necessary. However, since many have unprotected sex with other partners both before, after and during marriage, avoidance of the use of condoms within marriage increases the spread of STIs and HIV at the same rate as between single women and men (Matinga and McConville, 2003).

Among young women and men (aged 15–24), many know a source of condoms (77 per cent and 88 per cent respectively). However, the percentage that actually uses them is much lower, especially among women. For instance, only 16 per cent of the women aged 15–24 used a condom the first time they ever had sex, compared to 26 per cent of men aged 15–24 (NSO and ORC MACRO, 2005). That is, even when adolescents have information about where they can obtain a condom (and mostly they are also free of charge) many still engage in unprotected sex. Results from UNAIDS (2004) knowledge and behaviour indicators show that a large number of males aged 15–24 years (71 per cent) had ‘high-risk sex’ in the last year.²³ The same indicator for women is much lower (17 per cent), which is a general pattern for Sub-Saharan Africa. Moreover, of those who had high-risk sex in the past 12 months aged 15–24, 47 per cent of men and 30 per cent of women used a condom.²⁴

Among men who reported commercial (paid) sex in the last 12 months, 43 per cent said they used a condom on the last occasion. This is a substantial improvement compared to the 35 per cent reported in the 2000 DHS. Moreover, condom use during commercial sex is found to be more common among men with less education and those in the rural areas, in the Southern Region (NSO and ORC MACRO, 2005). This might seem contradictory to what was stated in Section 1.3 earlier, i.e. that people with high educational attainment that live in urban areas are the ones have the most profound knowledge about HIV/AIDS. However, in connection to this it should also be noted that these factors do not automatically translate into behavioural change.

²³ Proportion of 15–24 year-old respondents who had sex with a non-marital, non-cohabiting partner in the last 12 months, of all respondents reporting sexual activity in the last year (UNAIDS, 2004).

²⁴ Compared to the DHS (2000) this result represents an improvement in men’s use of condoms during high-risk sex, from 38 per cent in 2000 to 47 per cent. The opposite is true for women, from 32 per cent to 30 per cent (DHS, (NSO and ORC MACRO, 2001)).

What are the main reasons for the gap between knowledge about HIV/AIDS and condom use? Findings from the 2000 DHS indicate that most people (76 per cent of women and 84 per cent of men) think that condoms are safe. However, certain population subgroups are more likely to believe that they are not. For instance, less than one-half of the women in the North think condoms are safe to use (NSO and ORC MACRO, 2005).

Among women, low condom use may also reflect women's overall subordinated position in society in Malawi, which implies powerlessness to negotiate abstinence or condom use. For instance, a woman who asks for a condom may fear being accused of unfaithfulness, and consequently violent retribution from her partner. Others may not adopt safe behaviour patterns because they perceive their individual risk of HIV infection to be low (this applies to men as well). Another important obstacle to condom use are messages with conflicting views on sexual behaviour and the use of condoms, which cause confusion and make it difficult to prevent the spread of HIV. The current messages include religious morality, sexual satisfaction and social stigma (Kaler, 2004a).

1.8.2 Discussing sex and HIV/AIDS

Unwillingness to discuss questions related to sex and HIV/AIDS has frequently been pointed out in previous research as the prevailing norm in Malawian society. This is partly because sex has previously been surrounded by a culture of secrecy and silence. Such a culture has led to reluctance to discuss issues related to HIV/AIDS since this disease is mainly spread through sexual contact.

In several studies (e.g. Shah et al., 2002; Pinder, 2004) it has been found that cultural norms and religious beliefs inhibited some participants from freely discussing issues related to sex and STIs. Some also felt obliged to refer to HIV/AIDS as a 'chronic illness' during the interviews and focus group discussions.²⁵ In a study by BRIDGE (2004) covering eight districts in Malawi, it was found that interpersonal discussion about sex and HIV prevention was rare, especially among families and males. The results of the DHS 2000, for example, show that most married couples and those living together report that they have never discussed the prevention of HIV/AIDS with their partner (over 70 per cent of women and 80 per cent of men).

However, conflicting evidence questioning the view that Malawians in general are reluctant to discuss issues about sex and HIV/AIDS is appearing at an increasing rate. Recent literature shows that Malawians

²⁵ The cases of chronic sickness that are referred to in these studies were not clinically tested for HIV/AIDS, but are based on a checklist of possible symptoms and diseases associated with HIV/AIDS.

are much more comfortable discussing sex and HIV/AIDS amongst themselves today than before (e.g., Kaler, 2004b). Similar opinions were also expressed by several of our interviewees. However, according to Shah (2003), discussing these issues with peer group and friends is still far from the prevailing norm in society. Moreover, there is a lack of consensus about whether it is worthwhile changing behaviour patterns in order to avoid HIV/AIDS. This is because many perceive the epidemic as being something inevitable or assume that the risk of their becoming infected is very small.

1.9 The impact of HIV/AIDS on key demographic indicators

In this section, we take a closer look at the demographic impact of the epidemic. We do this by briefly considering the impact on the population structure of Malawi and on a few key demographic indicators including mortality rates, life expectancy at birth, infant and under-five mortality rates, the maternal mortality ratio (MMR) and, finally, the total fertility rate (TFR).

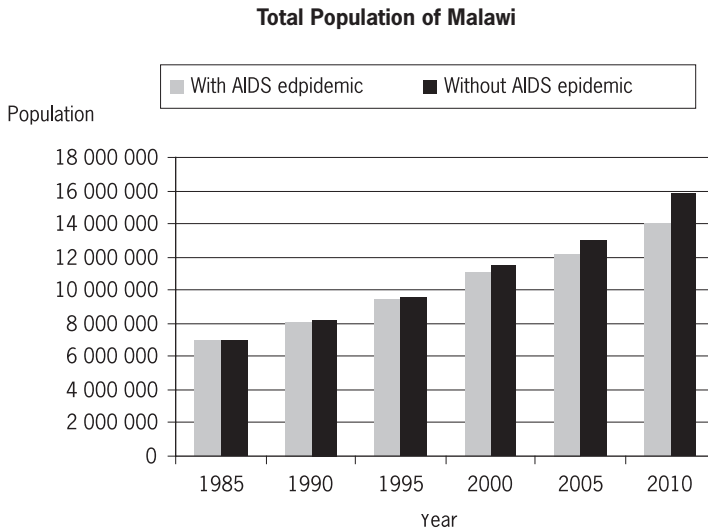
1.9.1 Demographic structure of the population

Despite its dramatic death toll, AIDS will not cause negative population growth in most countries in southern Africa. Rather, population growth will continue to be positive since the high fertility rate more than outweighs the rise in mortality (Bulatao, 2006). However, AIDS will cause the number of adults in the population to grow more slowly in the coming decades than in a scenario with no AIDS present (US Census Bureau, 2004; UN, 2005).

The population projection by the NAC (2003) in Figure 1 below illustrates this point. This projection assumes that the TFR will continue to decline slowly from about six births per woman today to 5.4 by 2010.²⁶ According to the projection, the annual population growth rate will be 2.4 per cent with AIDS, compared to approximately 3.2 per cent without AIDS.²⁷ Figure 1 further shows that without any AIDS deaths, the population would be almost 16 million in 2010. However, because of AIDS, it will only be about 14 million. Likely changes in Malawi's dependency ratio in the medium and long-term will be discussed in Chapters 3 and 6.

²⁶ The TFR is the average number of children a woman would bear if fertility rates remained unchanged during her lifetime.

²⁷ This is the case, except for the most heavily impacted countries of Botswana, Lesotho and Swaziland, where the population is projected to decrease as deaths outnumber births, as well as in a few other countries (e.g. South Africa) where population growth is expected to be brought to a halt.

Figure 1: Population projection in a situation with and without AIDS (1985–2010)

Source: Adapted from NAC (2003).

There are considerable variations in the HIV infection rates in the Malawian population between regions, genders and age groups, as described in Section 1.2. This in turn affects the demographic structure and growth of the population, as well as its labour force. Considering the differences between the genders, women are being infected at faster rates than men. Based on UNAIDS (2006) 53 per cent of all HIV infected adults are women, as discussed earlier. This gender disparity is mainly due to the fact that women are more vulnerable than men to HIV transmission (see Section 1.2).

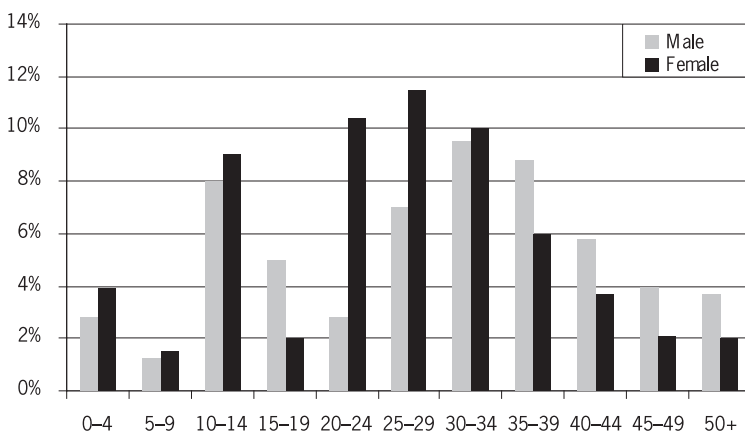
The total number of reported AIDS cases, according to gender, is quite equal however the distribution by age group and gender differs widely. In Figure 2 below we can see that, of the number of reported AIDS cases in 2003, more than four times as many women as men reported having AIDS in the age group 15–24. This indicates that HIV infects women earlier than men. This gender differential is consistent with the pattern of HIV infection and AIDS-related mortality observed throughout Sub-Saharan Africa.

As a result of the many AIDS cases in the younger age brackets discussed above, a similar pattern is also evident in the distribution of deaths by age with more reported deaths reported in the age group 25–49 (Statistical Yearbook, 2005). As many as 38 per cent of the reported deaths are in this age group. The least number of deaths reported is in the age group 15 to 24 with

only 10 per cent of all the reported deaths. One reason for this is sexual mixing patterns, whereby older men have sex with young girls in the belief that they are 'AIDS free' (NSO and ORC MACRO, 2005; NAC, 2004a).

Another contributing factor is the traditional pattern of partnering, where men are on average over six years older than their partners (NSO and ORC MACRO, 2005). This implies that women, on average, begin to have sexual interaction at an earlier age than men, which in turn is risky since young girls are more susceptible to STIs and HIV.

Figure 2: Age and gender distribution of reported AIDS cases, Malawi in 2003

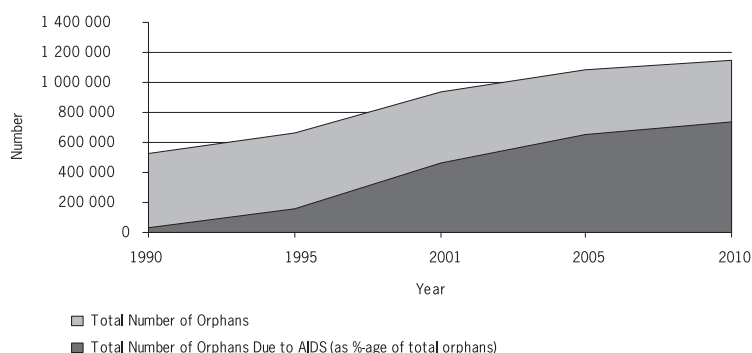


Source: Adapted from NAC (2004).

One of the most severe consequences of HIV/AIDS is the increasing number of orphans. It is hard to estimate the exact number of AIDS orphans in Malawi.²⁸ However, according to estimates by UNAIDS, in 2005 about 550 000 children between 0 and 17 years old had lost one or both of their parents to AIDS (UNAIDS, 2006). The number of children under 18 who were living without one or both parents rose from about 800 000 to 1.2 million (NAC, 2004b). Most of this increase was the result of sharp rises in adult mortality rates.

What will happen in the future as a result of such large numbers of orphans? Projections show that the number of orphans due to AIDS in the year 2010 will account for 64 per cent of the total number of orphans (741 000 AIDS orphans). Alternatively expressed, they will make up about 12 per cent of the total number of children 0–14 years old (see Figure 3).

²⁸ There have been disparities in the definitions employed by the studies reviewed. As a result, the number of orphans varies considerably between studies.

Figure 3: Predicted number of orphans in Malawi (1990–2010)

Note: Orphans in this figure include children between 0–17 years that have lost one or both of their parents in 2003.

Source: Various.

1.9.2 Impact of HIV/AIDS on demographic indicators

Since the first AIDS cases were diagnosed in 1985, the number of AIDS-related deaths in Malawi has reached 650 000. DHS (2004) data comparing death rates from the surveys in 1992 and 2004 shows that all-cause mortality for women and men (aged 15–49 years) has risen sharply during the 1990s. However, since 1997 mortality for both genders has remained at the same level. But given sharp rises in the prevalence of HIV infection and AIDS over the last 20 years, Malawi is expected to suffer increases in both female and male adult mortality in the near future (NSO and ORC MACRO, 2005). According to the MOH (2006b), this effect is already seen as AIDS is the leading cause of death in Malawi in the most productive age group. The disease is resulting in over 85 000 adult and child deaths annually (MOH, 2006).

On a more positive note, under-five and infant mortality rates show a declining trend. Over the period 2000–2004, the under-five mortality rate was 133 deaths per 1 000 live births, compared with 187 to 190 for the period 1990–1999 (NSO and ORC MACRO, 2001 and 2005).²⁹ The infant mortality rate declined by 27 per cent from 104 deaths per 1 000 live births to 76 per 1 000 (NSO and ORC MACRO, 2005). In the developing world, the reasons for such improvement in factors related to child survival are typically many and varied. Thus, they are difficult to discern. However, a few factors that could be associated with improved child survival include the progress made in the provision of clean water for the rural population, malaria control activities and progress in the education of

²⁹ The infant mortality rate is the number of infants who die before reaching one year of age per 1 000 live births and the child mortality ratio is the probability of dying between the age of 0 and 5 per 1 000.

women (primary caregivers). Although this signifies important progress, it should be kept in mind that child mortality in Malawi still represents one of the worst rates in Africa.

Another key demographic indicator is the maternal mortality ratio (MMR).³⁰ In the 2004 DHS the MMR is estimated to be 984 maternal deaths per 100 000 live births. Based on the 2000 DHS survey, the MMR was estimated to be higher with 1 120 maternal deaths per 100 000 live births.³¹ This ratio exceeds by some 80 per cent the estimate from the 1992 result of 620 maternal deaths per 100 000 live births. However, how much of the MMR estimate that includes mortality related to AIDS is not clear, but the direct effect of the epidemic appears to be minor (see Appendix 3 on MDGs). In addition, MMRS are subject to serious sampling errors and cannot adequately be expected to indicate trends with only three observations (NSO and ORC MACRO, 2005). Although the findings of the 2004 DHS indicate that the MMR has declined since 2000, the ratio is still unacceptably high. This issue was brought up during the Health Sector Wide Approach (swaP) Mid-Year Review, where it was argued that the progress along the Maternal and Neonatal Health Roadmap had been very slow (MOH, 2006b).

HIV/AIDS also affects total fertility rates (TFR), since fertility tends to be lower for infected than for uninfected women. Moreover, as mortality rates are rising for women, the TFR is expected to decline over time and indeed this is also the pattern that can be traced in the 2004 DHS. That is, the TFR measured from the 2004 DHS (6.0) is slightly lower than the TFR measured in the 2000 DHS (6.3). This is also in line with model estimates by UN (2005) which projected the following fertility paths: from 6.1 over the period 2000–2005 to 4.7 in 2015–2020.

Another factor that affects the TFR is that about one-third of children born to infected mothers are themselves infected and unlikely to reach childbearing age. In this way, AIDS mortality is expected to affect future population growth as the increase in deaths among women of reproductive age also leads to fewer births.

Nevertheless, it is possible that HIV/AIDS also is increasing TFR in general, since higher adult mortality has been found to induce women to have more children (Lorentzen et al., 2005; Kalemli-Ozcan, 2006). This

³⁰ In line with the Millennium Development Goals (MDGs) one of Malawi's targets is to reduce the maternal mortality by 75 per cent by the year 2015. However, so far there has been little progress in the achievement of this goal (MOH, 2005b) (see Appendix 3 on MDGs).

³¹ This ratio is calculated as the MMR (maternal deaths per 1 000 woman years of exposure) divided by the general fertility rate. It is expressed per 100 000 live births. In contrast with the maternal mortality rate, this ratio emphasises the obstetrical risk of pregnancy and childbearing.

effect is not included in the population projections of us Census Bureau (2004) and UN (2005). Currently there is an ongoing debate in the literature about the impact of HIV/AIDS on fertility which is described in Chapter 3 in some detail.

We conclude this chapter by considering yet another important demographic characteristic, life expectancy at birth. This indicator measures the average number of years a newly born infant is expected to live if health and living conditions at the time of its birth remained the same throughout its life. This demographic indicator has dropped from 45 years in 1990 to 38 years in 2003 (UNAIDS, 2004a).³² By comparing the situation over time, the great impact of HIV/AIDS on life expectancy at birth becomes evident.

³² Over time HIV/AIDS may also reduce birth rates indirectly through its impact on sexual behaviour, such as condom use and reduction of number of sexual partners (Epstein, 2004).

Impact on livelihoods

CHAPTER 2

In this chapter, we discuss the cost-related impact of HIV/AIDS on individuals, households and communities, and the strategies they use to cope with the epidemic.³³

There are several categories of costs associated with the HIV/AIDS epidemic – both direct and indirect. The direct costs are primarily out of pocket expenditures such as medical and funeral expenses. Indirect costs include loss of income and labour as a consequence of prime-age mortality or by those who give up jobs to nurse the sick.

Sections 2.1 describe direct costs of the epidemic. This is followed by Section 2.2 that analyses the coping mechanisms developed as a response to these direct costs. Subsequently, in Sections 2.3 and 2.4 the indirect costs of the epidemic and their respective responses are considered. In Section 2.5 we discuss the effects of HIV/AIDS on the urban informal sector and in the final parts of this section the situation of women in this environment is given special attention.

In the literature there is an ongoing debate over whether it should be said that households ‘cope’. According to the critics of the use of this term, this denomination takes the attention from the hardships experienced by households and also tends to shift the responsibility over to the households and avoid public responsibility for helping affected households. Keeping this criticism in mind, however, the term ‘coping’ will be applied throughout this study since it is a common term used in previous research.

³³ In this chapter, the community level analysis is not extensively developed due to lack of studies.

2.1. Direct costs of HIV/AIDS

2.1.1 Medical expenditure

When planning for HIV/AIDS related policy interventions, it is vital to possess information on how large a share of the household budget is assigned to medical expenditure in a household affected by HIV/AIDS. Unfortunately, this is not easy to assess in the case of Malawi due to the paucity of data, and in cases when data exists due to difficulties in comparing the results across studies due to the use of different methodologies. What is known, however, is that for those affected by HIV/AIDS-related illness, medical expenditure and transport costs make up a substantial share of the household budget. This is supported by the 2004 DHS results which show that 63 per cent of women mention the cost of transport, 62 per cent the cost of treatment, 60 per cent see the distance to a health facility as a major problem in accessing health care for themselves when they are ill.

In general, Malawian households pay a large share of the health bill, i.e. 26 per cent in 1998/1999 (Martin-Staple, 2004). The National Health Accounts from 2001 showed that the average individual (not household) health care expenditure (in March 2000 prices) was USD 3.7 (MOH, 2001). This cost is expected to be substantially higher for households affected by HIV/AIDS, primarily for two reasons: the longer duration of illness associated with this disease and because the HIV/AIDS infection tends to cluster in such households. Similar to the study by Shah et al. (2002), 'affected households' in this report includes those who spend time and other resources caring for the sick and bearing the burden of increased expenditure.

Since we have not been able to find information about health care spending at the household level separated into households affected/not affected by HIV/AIDS in Malawi, we draw on evidence from rural Tanzania. Ngalua et al. (2002) studied health seeking behaviour and expenditure by those who have lost an adult family member. Their findings confirmed that health care spending on average is higher for a household affected by HIV/AIDS, largely because of the longer duration of illness. The mean direct health costs in households experiencing an AIDS death accounted for USD 70, which represented about 24 per cent of the total per capita income. The same extensive expenditure pattern is observable in other countries. In Zambian households, for instance, the out-of-pocket spending for HIV/AIDS was 29 per cent of the total household budget (MOH, 2001).

We do not have information on the amount households in Malawi spend on traditional medicine, perhaps since this service is not always paid for in money (GOM, 2003). However, as discussed in Chapter 1, in

relation to the treatment of STIs for instance, traditional healers are often preferred by villagers as health providers over health clinics (see Section 1.7.2). This is especially true for women. This finding is supported by literature from other African countries, where medical costs incurred by households affected by AIDS are often expenses paid for traditional forms of medicine (FAO, 2004). In Burkina Faso, for example, households contributed 14 per cent of the total expenditure on AIDS in 2003. Of this, in turn, 70 per cent was used on traditional healers.

2.1.2 Funeral expenses

Funeral expenses represent a heavy burden for the majority of low-income households. This cost is largely borne by rural communities, since it is common for HIV infected urban dwellers of rural origin to return to their communities when they fall ill. This finding is in accordance with the Statistical Yearbook (2005) data, in which rural households are found to have a disproportionately high share of economic inactivity due to illness or aging. This is the case for 17 per cent in rural areas compared to 2 per cent in urban areas.

Costs for funerals include both direct expenditure (paying for a coffin, clothes, funeral ceremony, etc.) and indirect costs, such as lost labour time (Bota et al., 2001). At the funeral, the guests are also offered food, which often requires sacrificing valuable livestock. Absenteeism from work to attend funerals also leads to substantial costs. This is because a funeral may last from a few hours to several days, and there may be several funerals per week due to the large number of deaths caused by AIDS.

While there is no information on average household expenditures on funerals in Malawi, the estimated cost borne by the public sector for a funeral of a junior or middle-income official of MK 45 720 (USD 714 in 2002 current prices) can serve as a reference (see Table 5). Funeral costs are even higher for senior officials.³⁴ In order to grasp the gravity of the situation on the household level, however, this cost needs to be viewed against the fact that the average annual household expenditure in Malawi in 2005 was MK 99 532 (USD 1 342 in 2002 current prices) (Statistical Yearbook, 2005a).

Another benchmark is the amount of the household budget spent on one funeral in Tanzania by households experiencing an AIDS death. This amounted to a mean value of USD 34 (i.e. about eleven per cent of the annual household budget) (Ngalula et al., 2002). It should also be noted that in households a major expense related to funerals is the payment for food.

³⁴ Funeral costs for most teachers and lower to middle management staff were estimated to fall between MK 12 000 and MK 30 000 per funeral (i.e. between USD 187–468). Transportation costs mainly account for the difference (GOM/UNDP, 2002).

Table 5: Estimated funeral costs in the public sector in Malawi

Transport	MK 30 000
Coffin	MK 10 000
Per diem (2 nights) (Driver and welfare worker)	MK 3920
3 Wreaths	MK 1800
Total	MK 45 720

Note: Costs are in Malawi Kwacha, with an average rate calculated as of 2002, i.e. 1 Kwacha= USD 0.014.

Source: GoM/UNDP, 2002.

In conclusion, the rapid increase in the number of ill adults as a result of HIV/AIDS increases the direct costs associated with the disease. These costs primarily consist of funerals, transportation and medical costs. This in turn leads to an increased strain on available household resources.³⁵ In this way, HIV/AIDS has the potential to either damage or entirely deplete available household funds that had been reserved for fertilisers or seeds. Increased medical and transport expenses caused by HIV/AIDS-related illness may instead consume household funds.

2.2 Responding to direct costs

In rural Malawi, a number of strategies aimed at supplementing income or simply maintaining household expenditure levels in the advent of an HIV/AIDS-related, prime-age adult death have been developed. Some of the most common coping strategies aimed at dealing with the direct costs of the epidemic are presented in Sections 2.2.1 to 2.2.4 below.

2.2.1 Relying on *ganyu* labour

When a household suffers HIV/AIDS-related labour losses or illnesses, productive activities may be dropped and households begin to depend on new sources of livelihood, such as *ganyu*, or casual wage labour. *Ganyu* labour (see further Chapter 4) is by and large a product of the countryside where cash earnings are needed by peasant farmers but are hard to obtain. However, it occurs both within agricultural and non-agricultural

³⁵ Despite the draining impact of transportation costs on the household economy, this cost has not been widely elaborated upon in this study due to paucity of data. In general terms, however, the importance of this cost is shown in the Statistical Yearbook (2005) survey. That is, transportation costs as a share of the total annual household expenditure is 5.8 per cent. This represents the third largest expenditure item after 'food and beverages' (54.7 per cent) and 'housing and utilities' (20.6 per cent).

work (Bryceson et al., 2004). Ganyu is an important source of livelihood for many households and a way of supplementing income. Though, it is often poorly paid in cash or in kind (e.g., in food). Some studies even claim that this is the main source of income for the majority of poor households (e.g., Chiwona-Karlton et al., 2005).³⁶

Ganyu has been the primary form of inter-household labour exchange between peasant households through much of the 20th century and is used to supplement income, particularly for the poorer (and landless) households during periods of seasonal stress. It is mainly the poorer households who delay working on their fields, while the better-off hire ganyu labourers for agricultural operations. As a consequence, ganyu labour has gained a negative connotation associated with deepening impoverishment.

Once households begin to depend on ganyu, it is difficult to stop. When working on others' land, they are unable to work their own fields. This reduces crop yields and makes them even more dependent upon seeking ganyu to meet future needs. Reliance on payment in kind for ganyu also implies that sufficient money cannot be raised to buy fertilisers to produce a surplus crop or to repay loans. This often leads to a downward spiral of further ganyu or that the ganyu worker's crops are handed over to the creditor. This situation is referred to as the 'ganyu trap' (Shah, 2003a).

The results in the study by Shah et al. (2002) showed that about 26 per cent of the total sample households depended on ganyu for more than four months a year. Amongst the very poor households, about 55 per cent were dependent on ganyu for more than four months per year. Women made up a larger percentage than men in this group. Of the very poor households affected by chronic illness, only 20 per cent experienced a further increased dependence on ganyu. The low number among the chronically ill households might be due to the fact that they do not have any labour to set aside for ganyu.

Ironically, increased reliance upon ganyu may also increase susceptibility to HIV/AIDS infection. This is largely explained by economic conditions on the local labour market. That is, ganyu labour opportunities are hard to come by during the off-peak agricultural season.³⁷ This may lead

³⁶ This might be the case if the casual labour required on the estates is also included in the sample. However, the GOM and World Bank (2006), which is based on the Statistical Yearbook (2005) data, shows that even though a large percentage of households hire casual labour in a season, the amount of working hours remains relatively small.

³⁷ In Malawi there are, in general, labour shortages at the peak of the cropping season (around December to January) a fact that will negatively impact the households' ability to make productive use of resources such as land. However, at the same time for most of the year there is substantial underemployment, particularly in rural areas. In this way it is argued in the GOM and World Bank (2006) that seasonality of demand for labour is leading to both underemployment and labour shortages.

to high-risk behaviour patterns, which increase the likelihood of being infected with HIV. Women's transactional sex is, for example, an expanding area of ganyu labour and the primary driving force for this activity is of course the money that it generates (White et al., 2004; Shah, 2003a; GOM, 2001).³⁸ Among female border traders for instance, about one third (32 per cent) were involved in non-regular partnerships. The reasons for engaging in risky behaviour included being away from home, beer drinking, need for money to supplement income, security of goods, etc. (see also Sections 1.7.3 and 4.3.1). This is despite the fact that 99 per cent of these women had heard of HIV/AIDS (GOM, 2004).

2.2.2 Selling assets

Sales or liquidation of assets is a frequent coping mechanism used in response to adult morbidity and mortality. According to the International Food Policy Research Institute (IFPRI) (2002), HIV/AIDS is the greatest cause of households' asset depletion, as it strips away all forms of assets (both productive and non-productive assets). Sales of assets (i.e. dissavings) take place when households are faced with economic problems, need to raise money to meet food or medical expenses, to pay off debts, etc. Shah (2003) found that about 40 per cent of the households surveyed that were affected by chronic illness sold a portion of their assets to buy food or to pay medical or funeral expenses. However, available estimates vary considerably in the literature.

Items typically sold include both productive and non-productive assets such as livestock, radios and bicycles, which are the only form of savings that most of the poorer households possess.³⁹ A study of five villages in Malawi concluded that rural households affected by AIDS are losing (or have lost) a large part of their assets largely because of the impact of HIV/AIDS (Pinder, 2004). These results are supported by other African country studies. In the literature there is also evidence showing that divestment of durable assets is higher among households with an HIV/AIDS-related death than for other households.⁴⁰ However, in general, capital assets lost by afflicted households are usually re-distributed within the rural economy rather than lost entirely (FAO, 2004). The capacity lost when a prime-age adult dies is, however, permanent.

³⁸ The income from this trade ranges from K 20–K 500 per day. On occasions it can reach K 1 000 to K 2 000 (USD 8–16). However, this income is not consistent and depends on the clients (White et al., 2004).

³⁹ In Shah et al. (2002) some households sell their corrugated iron sheets that are used as roofing material.

⁴⁰ When investigating the sequencing of asset liquidation the following pattern has been observed: 1) savings, 2) business income, 3) household assets, 4) productive assets, and 5) land (Mbaya, 2002).

By selling off assets, households are able to mitigate the short-term effects of adult mortality and other shocks. However, in the medium to long-term, using asset depletion as a coping strategy leads to negative consequences. These include increasing a household's vulnerability to income shocks and/or decreasing a household's use of cash inputs in crop cultivation. The final result can be reduced productivity of overall crop production (Mather et al., 2004). Another concern with this coping mechanism is that forced sales of assets to raise financial capital tend to bring in paltry prices.

One important example of asset depletion is the sale of productive assets such as livestock, which is a common coping strategy for households all over Sub-Saharan Africa. This strategy does not necessarily result in increased poverty if moderate in scope. However, at some point a household's level of livestock holdings is no longer sufficient for the family's needs. In such situations, which are more likely to occur in a household affected by HIV/AIDS than in other households, this coping strategy is perhaps best described as erosive. It is likely the AIDS epidemic will result in a concentration of the ownership of cattle assets, as afflicted households sell off assets to those with the resources to accumulate them (FAO, 2004; Jayne et al., 2004). The findings of Mbizule (2004) support this view; households with a chronically ill member) in Malawi own fewer cattle than the general sample population.

Moreover, rearing livestock also requires human and capital resources. Such resources are often lacking in households affected by AIDS as a result of death or increasing costs associated with the long duration of illness of a household member. The lack of active adults (particularly males) also means less ability to protect livestock from theft. Insecurity in rural areas, particularly due to theft of crops and livestock, is a major problem in Malawi (GOM 2002; Pelser et al., 2004; Statistical Yearbook, 2005).⁴¹ The HIV/AIDS epidemic compounds this effect in several ways.⁴² Without sufficient financial resources, households affected by HIV/AIDS have less money available to pay livestock related expenses (e.g., feed, pesticides, etc.). Hence, these households tend to have fewer livestock than non-affected households due to divestment or loss.

⁴¹ Between the years 2000–2005, as many as 33 per cent of the households included in the Statistical Yearbook (2005) experienced a livestock theft or death.

⁴² The epidemic leads to poverty, which increases the number of people using theft to secure income. In addition, adults absent from home for long periods cannot guard their animals (Ngwira et al., 2001).

2.2.3 Borrowing to meet increased costs

Not all households have the necessary cash reserves to meet increasing expenses related to HIV/AIDS illness that consume both cash savings and assets. In this situation, some resort to borrowing. A study by Mbizule (2004) found that 27.3 per cent of the households with a chronically ill member borrowed money, which can be compared to almost 23 per cent in the general study population. However, Shah et al. (2002) found that only about 14 per cent of the households affected by chronic illness borrowed from other villagers, and among the non-affected households even fewer did.⁴³ It has also been observed that the use of micro-credit for HIV/AIDS-related medical expenses reduces the household's ability to take loans for agricultural expenses such as seeds, fertilizers or tools.

In terms of borrowing from financial capital services (credit, savings, and insurance), one study found that about one-quarter of the households investigated belonged to farmers' clubs and credit clubs, and these were primarily the better-off households. In contrast, female-headed households experienced difficulties in accessing loans and were less likely to belong to these clubs (Frankenberger et al., 2003). The poor primarily rely on informal credit at high interest rates or on group-based micro-finance services. Households affected may be forced to hold distress sales in order to endure the increased burden of medical and funeral expenses. Crops are harvested and sold before maturity, standing crops may be pledged against a cash loan, or a part of their meagre food stock could be sold to meet some of the most pressing needs (Shah et al., 2002).

Here it should also be added that limited access to credit by smallholder farmers in Malawi (and elsewhere) is a longstanding problem. Furthermore, the Statistical Yearbook (2005) data confirms that credit access among smallholders remains very low. Including all types, a total of about 13 per cent had accessed credit. However, male-headed and wealthier households that have large landholdings have better chances of accessing credit (including agricultural credit).

2.2.4 Adjustments of funeral practices

In response to increased funeral expenses due to increased HIV/AIDS-related deaths, some reports indicate that changes in burial practices are currently taking place in order to minimize costs associated with funerals.

Traditionally, funeral ceremonies lasted four to seven days, with more rituals after one month, 40 days or a year. Now, as the HIV/AIDS epidemic

⁴³ It is also possible to expect that borrowing has been hampered because families affected by HIV/AIDS experience stigma and discrimination from community-based credit groups.

adds to the number of dead, mourning periods, as well as ceremonies have become shorter and less expensive. Anecdotal evidence also indicates that nowadays it is more common that only the closest family attends the funerals and, when possible, they are increasingly postponed to the weekends. However, this is only possible if the deceased died towards the end of the week, since there is a general lack of mortuaries in Malawi in which to keep the corpse. We were also informed that even if the cause of death is HIV/AIDS, this is more often stated directly at the funeral today than previously. This indicates that the heavy stigma and discrimination surrounding the disease has been somewhat lessened, at least in some places.

2.3 Indirect costs of HIV/AIDS

In Sections 2.3.1 to 2.3.3 we assess the indirect costs of HIV/AIDS in the Malawi case. We do so by focusing on labour supply effects with particular focus on women's labour time. In the final section we study the costs of the increasing number of children orphaned by HIV/AIDS.

2.3.1 Loss of labour

One of the major indirect costs of HIV/AIDS within households is the loss of labour. This is often the starting point for several other constraints. In a study by Shah et al. (2002), the authors observed that over 70 per cent of the households affected by chronic disease experienced loss of labour. AIDS-related mortality and the loss of one or several key workers in the affected household means the remaining family members become unable to maintain the necessary level of agricultural production. This loss of labour also leads to problematic livelihood decisions by these households such as delaying agricultural operations, finding other income generating activities, etc.

Recent research by Mather et al. (2004) suggests that the affected household's cost for losing a prime-age adult might not be as high as expected by previous research. It also questions the assumption made above that the typical affected household faces more severe labour constraints in agriculture than non-affected households.⁴⁴ For their analysis they use the number of prime-age adults after death as an indicator of available household labour and a thirteen-year panel survey (1990 and 2002). Their results are illustrated in Table 6 below which shows that the aver-

⁴⁴ In this case Mather et al. refer to affected households as those households directly and immediately affected by death due to illness. There is also evidence that many of these deaths are HIV related.

age affected household (middle column) has as many prime-age adults after death as non-affected households (i.e. about five people in the household).⁴⁵ This result is partly explained by the affected households being found on average to have more prime-age adults and a larger household size prior to the death of a prime-age adult in 1990 (5.7 persons) relative to non-affected households (5.2 persons). Another factor is the long time period over which these effects have been analysed.⁴⁶

Table 6: Before and after: Characteristics of rural households with or without a prime-age adult death in Malawi

Household characteristics (mean values)	Non-affected households without death in the house- hold	Affected households with a prime- age adult death in 2002**	Affected households with a head/ spouse death in 2002
<i>1990– before death*</i>			
Household size (No. of people)	5.0	5.7	5.1
Prime-age adults (No. of people)	2.3	2.8	2.7
<i>2002– after death</i>			
Household size (No. of people)	5.5	5.2	4.5
Prime-age adults (No. of people)	2.7	2.7	2.5

Notes: *Before death refers to the situation in 1990 for the “affected households” before they had experienced a prime-age adult death. After death refers to the situation in 2002, after the affected households had experienced a prime-age adult death.

**This marks the average affected household that experienced a prime-age adult death in 2002.

Source: Mather et al. (2004).

Even if the various household types report about the same number of people, this does not mean that the situation does not exert a severe effect on these households. Rather, this implies that the household’s ability to cope with the loss of labour should also be considered. That is, if the household secures other labour, i.e. from relatives, neighbours or child labour, then

⁴⁵ In this study, prime-age is defined as adults between 15–49 years. Mather et al. use the term ‘prime-age’ to indicate that this is the most important period for labour and sexual activity, and during which infection with HIV is most probable.

⁴⁶ In general, one potential source of selection bias in household surveys is household dissolution due to a prime-age death. That is, if a household selected by the sampling procedure suffered a prime-age adult death and thereafter dissolved prior to 2002, then that household could not be selected.

the affected household does not necessarily undergo more severe labour constraints in agriculture than non-affected households do. For example, in the smallholder household it is common to have many children and to let them work to fill up the loss of a prime-age adult death.

Moreover, given the gender-based division of labour and knowledge, a surviving parent may not be able to pass on the skills of the deceased parent to their children. This process, similar to the loss of institutional memory in companies, is particularly important to the farming household with its series of tasks requiring specific knowledge, such as selecting good seeds. Consequently this is likely to impact negatively on agricultural production as well as the quality of land as child labour is increasingly used in production. Furthermore, it highlights the importance of education and skill development. The gender aspect of an adult death is also illustrated by Southern African Development Community (SADC) (2003) in Malawi with regards to area of land planted. The results show that households with a recent adult male death have 32 per cent less area planted than households with a female death.

The effects of the death of a prime-age adult are larger on households that are relatively poor prior to the death. The effects may also lead to the impoverishment of a household, frequently caused by HIV/AIDS. Several empirical studies on the impact of prime-age adult mortality on agricultural production and incomes, in Malawi as well as in other countries in Sub-Saharan Africa, have shown this. Better off households that possess food and other reserves are frequently found to be positioned to hire casual labour and to survive the morbidity or death better than their counterparts (Drimie, 2002; Yamano and Jayne, 2004; Mather et al., 2004).

The study by SADC (2003) further examined the effects of four HIV/AIDS proxies on household income in Malawi, Zambia and Zimbabwe.⁴⁷ Their results indicated that a household with a chronically ill active adult received less income (measured in income per capita) than households without chronically ill adults. They also showed that both the number of chronically ill household members and the timing of HIV/AIDS (e.g. during the harvesting period, when no hands can be spared in agriculture) were important factors for impoverishment. In conjunction, these results showed that households affected by HIV/AIDS have a less stable income than non-affected households.

⁴⁷ The HIV/AIDS proxy variables used in this analysis fell into four categories: morbidity variables (e.g., chronically ill household head), mortality variables, hybrid proxy variables (i.e. a combination of mortality and/or morbidity) and demographic variables.

2.3.2 Women's labour time

In addition to losing the labour of the person who is ill or has died, economic losses are imposed on households by those held back from work or who are not able to reach their normal productive levels. This can occur when taking the patient to the hospital or obtaining medicines and other items for the patient. This is especially true for women in the whole of Sub-Saharan Africa – women who have to allocate their labour time between domestic and caring activities as well as activities outside the home.

Ngwira et al. (2003) argue that since women in the rural areas in Malawi are usually responsible both for cultivating food crops and household tasks, they work between 15–17 hours per day. This is substantially more than the eight hours that men are assumed to work. In addition, national statistics show that females are engaged in subsistence farming (94 per cent) to a much larger extent than men (76.8 per cent) (NSO, 1998). This is consistent with the Statistical Yearbook (2005) data which shows that women spend almost eight times longer per week doing household chores than men do (i.e. excluding the time they spend caring for children).⁴⁸

In relation to these findings, it is interesting to explore how women allocate their labour time and in particular how HIV/AIDS affects this time allocation. A recent survey conducted by the Afrobarometer in 2004 (across fifteen countries in East and Southern Africa) addressed this issue and found that four in ten Malawians (43 per cent) spend more than five hours a day caring for sick household members, as do 30 per cent of Zambians. Differences between areas of residence were also found, and rural people were more likely to bear the burden of illness and care for sick household members.⁴⁹ Even if the survey conducted by the Afrobarometer did not separate the effect according to gender, it is very probable that these measures show the time women devote to various household activities, as this is largely the women's domain in Malawi as well as in Zambia (as described above) (Afrobarometer, 2004). This is also supported by recent data from the Integrated Household Survey II that shows that girls are far more likely to do chores, including taking care of sick household members, than boys (GOM and World Bank, 2006).

The Afrobarometer also makes assessments of the time spent by households caring for orphans. These results show that between one-quarter and one-fifth of Malawians (25 per cent) and Zambians (23 per cent) spend more than five hours a day caring for orphans. Since public support

⁴⁸ That is, while women on average spend 7.7 hours per week doing domestic tasks, men (on average) only spend 1.2 hours per week doing the same (Statistical Yearbook, 2005).

⁴⁹ This is not surprising given that many urban-based individuals return to their rural birthplace during the chronic phase of AIDS, as already mentioned.

is limited (see Chapter 10) these burdens are most likely carried by social networks such as the extended family system. Thus, in Malawi, these networks seem to absorb much of the impact of the epidemic. Moreover, in the three countries Malawi, Zambia and Mozambique, a higher proportion of female-headed households were found to care for orphans than male-headed households. This gender difference was most pronounced in Malawi, where nearly 40 per cent of female-headed households cared for orphans, compared to 21 per cent of male-headed households (SADC, 2003).

Hence, not only are women more susceptible to HIV/AIDS infection, but the impact of HIV/AIDS is also highly gendered, to the disadvantage of women. The fact that women assume most of the care-giving responsibility has the potential of adversely impacting on women's participation in the labour market.

2.3.3 Children orphaned by HIV/AIDS

The increasing number of orphans is described as one of the worst consequences of the AIDS epidemic in many African countries (e.g., Barnett and Whiteside, 2002:177; ILO/UNAIDS, 2002).⁵⁰ Undeniably, there is also growing concern in villages across Malawi about the number of orphans. Orphans impose a heavy burden and increased financial costs for basic needs such as food, clothing and schooling. Frequently the extended family, particularly grandmothers and young women, face the indirect costs of supporting and caring for orphaned dependents, as pointed out in Section 2.4.1.

Orphans are likely to be more susceptible to HIV, be more malnourished and have greater difficulties accessing land and loans than non-orphans. Their status also confers an added risk of abuse (Mbaya, 2002). In addition, orphans may have unmet psychosocial needs after a parent's death. For children orphaned by HIV/AIDS the situation is often worse, with a smaller quantity of assets to draw from since those assets have frequently been depleted during their parent's illness.⁵¹

Summing up, the indirect costs of the epidemic for affected households in general lead to increased labour and cash constraints and losses of intergenerational transfer of knowledge. HIV/AIDS may also result in impoverishment and greater inequalities in the ownership of various types of assets. It is also reported that there is increasing concern in villages about the increasing number of orphans caused by the epidemic and that a large part of women's time is devoted to taking care of them.

⁵⁰ The definition of an orphan by the GOM is a child who has lost one or both parents because of death and is under the age of 18 years (GOM, 2005c).

⁵¹ Another vulnerable group in Malawi that is highly exposed to HIV is people with disabilities (e.g., Munthali et al., 2004b).

2.4 Responding to the indirect costs

The household may use a variety of traditional coping strategies to deal with specific hardships and problems. To illustrate this, we investigate the coping strategies developed to deal with the labour losses that result from the illness of a prime-age adult, including the use of child labour. Finally, female-specific coping strategies will be considered (see Chapter 4.4, for an analysis of commonly employed coping strategies related to land).

2.4.1 *Relying on the informal safety net*

Assistance from extended family networks is a crucial source of support for households coping with the loss of a prime-age adult due to HIV/AIDS (Munthali, 2002; Shah et al., 2002). Care for the sick and orphans is primarily a household responsibility. However, the increased burden of an affected member is often felt beyond the relevant household. Relatives often share the responsibility of taking care of the sick and organising funerals after death and neighbours usually help with small immediate needs on a reciprocal basis. This interdependence between households in a community also increases the number of affected households in a society. The fear is that as HIV/AIDS impacts on larger numbers of families, the relevant social networks may begin to break down.

If extended families do collapse, we may begin to see an increasing number of street children, youth gangs and youth-headed households in the future. For such groups, education may no longer be viable, which in turn makes them even more vulnerable to HIV. However, a recent study provided evidence from the national level that so far only one per cent of children (aged 14 and younger) live in child-headed households, a finding that further shows the importance of the extended family in terms of orphan care (Doctor, 2004).

Shah et al. (2002) found that over 20 per cent of the households affected by chronic illness sought long-term support from others. In a recent study by Masanjala (2005), as many as 30 per cent of the respondents answered that they got help from the community when experiencing the death of a household member, while 24 per cent sold assets and 20 per cent said that they borrowed money. This help is often in the form of provision of food and other necessities, moving in with relatives, taking care of children, helping with farming practices and so forth.

Poverty-stricken extended families and communities are increasingly placed under pressure by the expense of caring for HIV infected, chronically sick members and growing numbers of AIDS-related orphans. As we mentioned earlier, the burden of nursing the sick falls heaviest on women

(girls and grandmothers) who are also obliged to take on the responsibilities of sick or dead parents. Recently, however, the pressure of this large number of orphans has led to the establishment of village-based orphan-ages in several sites throughout Malawi to deal with this immediate need. A study by Chiwona-Karlton et al. (2005) conducted in the Domasi town area, for example, showed that no less than three village-based orphan-ages had been established.

2.4.2 Children are taken out of school

One visible impact of the HIV/AIDS epidemic is that children may be taken out of school at an early age. This is done primarily because the child's labour is needed in the household to meet the shortfall caused by the death of a prime-age adult, or because the parents or the extended family cannot afford the direct cost of schooling.⁵² Despite policies and laws designed to curtail exploitative child labour, the practice continues in many settings (NSO and ORC MACRO, 2005). Many children who are taken out of school to work at home never return to school, or alternatively only return to take the same class as they did before they left.

In the DHS (2000), 27 per cent of children aged five to 14 were either working for a non-relative (paid or unpaid) or spent four or more hours a day doing household chores. According to the DHS report for 2004, this indicator has exploded over the years to a level of 37 per cent in 2004. In contrast to the results from the 2000 survey, girls were more likely than boys to do domestic work in 2004. (NSO and ORC MACRO, 2001)

The fact that children are being taken out of school may also help explaining why national statistics show both high repetition and dropout rates in primary school classes (for further details see Chapter 9) (NSO and ORC MACRO, 2005).⁵³

In Malawi and in other countries of Sub-Saharan Africa, girls are more prone than boys to be withdrawn from school in the event of a prime-age adult death (e.g., Ngwira et al., 2002). In Malawi this is especially the true for poor girls from rural areas (World Bank, 2004a). These findings are supported by national statistics on primary school dropout rates. In particular, these statistics show that girls have higher dropout rates than boys from Standard five to Standard eight (Statistical Yearbook, 2004; MoE, 2004). This suggests that, despite initiatives to promote the continuation

⁵² According to the Statistical Yearbook (2005), however, taking children out of school as a response to various expenditure-related shocks to the household is quite uncommon in Malawi.

⁵³ There is no data that directly links dropout rates to HIV/AIDS. However, 30 per cent of the primary school dropouts indicated that they left because of work (see Chapter 9) (NSO and ORC MACRO, 2003).

of girls' schooling, boys are able to move past a primary education to a greater extent than girls (NSO and ORC MACRO, 2001).

The withdrawal of girls from school due to AIDS deserves to be given special attention as this may also lead to serious long-term implications. Educated mothers, for instance, tend to be more likely to send their children to school, bear fewer children and immunise them against childhood diseases, than less educated women. Hence, if girls' educational levels decline, other development goals such as reduction in fertility and a decrease in child/maternal mortality might be difficult to achieve (Ngwira et al., 2005). Moreover, when girls are withdrawn from school at an early age, their prospects for employment diminish; this is especially true for qualified and highly paid jobs. As a result, inequality in education will further fuel gender biases in the labour market.

2.4.3 Female coping strategies

Many women lose their rights to matrimonial land upon the death of their spouses, as will be discussed further in Section 4.2.3. In situations like these, women employ a range of strategies to ensure continued access to land. Such strategies include: remarriage to gain access to a new piece of land, never re-marrying in order to secure the permission of in-laws to continue to access part of late spouse's land and remaining on matrimonial land through a relationship with the late spouse's brother ('wife inheritance').

One coping strategy seen in Malawi, as well as in other countries, is that young women and orphaned girls in particular use early marriage (often at the expense of their education) (Munthali, 2002). For female orphans, marriage becomes a way of escaping the welfare gap and low status of being an orphan. As a consequence, sexual activity as a prelude to finding a partner for marriage begins very early in Malawi (Ngwira et al., 2005). In a similar process, orphaned girls already made vulnerable by AIDS face an even higher risk of contracting HIV (Bryceson et al., 2004). The need for greater focus on gender-specific vulnerabilities, risks and opportunities was also noted in discussions held by the Malawi partnership forum for HIV/AIDS during the six-monthly review of the national HIV and AIDS response in 2006 (Malawi Partnership Forum, 2006).

Summing up, in the second part of this chapter we show that it is important to know how well households are able to cope with the increased loss of labour in order to assess the impact of the epidemic. The interaction of several factors, such as access to resources and the ability of the community to provide support, determines the severity of impact and a household's ability to cope with the economic results of HIV/AIDS. The

organisation in extended families is a very important informal safety net that helps communities cope with HIV/AIDS. However, there is a fear that as HIV/AIDS impacts on a larger number of households, the extended family system may break down under the burden of increasing numbers of orphans and ill people.

2.5 Impact of HIV/AIDS on the urban informal sector

In this section, we briefly discuss the characteristics of the urban informal sector in Malawi. We do this by focusing on a few of its crucial characteristics, such as its size and importance as a source of income for households in Section 2.5.1. Based on this information, we describe the impact of HIV/AIDS on this sector in Section 2.5.2. Finally, in Section 2.5.3, we focus on women's situation in the informal sector.

2.5.1 Characteristics of the urban informal sector

There is as yet no commonly agreed-upon definition of the informal sector, which makes a comparison between various studies problematic. However, in general the informal sector consists of small-scale enterprises engaged in a wide range of economic activities outside, but in frequent interaction with, the formal economy.

The informal sector is of growing importance for the production of goods and services, and it is a major employer in many developing countries. In Malawi, it provides jobs for people who would otherwise be unemployed since there are few formal jobs available. One of the coping strategies used in response to HIV/AIDS is to increasingly rely on income earning activities generated by the informal sector (Devereux, 1999).

According to a study by Madziakapita (2003), who interviewed 600 informal sector participants in the three major cities in Malawi, the two issues that enhance the growth of the informal sector are the lack of formal-sector employment and the desire to survive. People go into the informal sector primarily for the following reasons: lack of formal employment (45.8 per cent), to survive and support their families (20.7 per cent) and due to the belief that they can earn more in this area (17.8 per cent). However, it should be added that only 11 per cent of the respondents in this study were females. Cultural and economic barriers explained the small number of females.

It is hard to single out how large the share of the *urban* informal sector is as a part of the total informal sector. In 2002, 18 per cent of people aged five and over were regarded as regular formal-sector employees. Similarly, another study found that 14.5 per cent of the labour force worked in the

modern sector in 1991 (some 530 000 people), while 85.5 per cent worked in the informal sector (about 3 200 000 people). Another study on micro and small enterprises found that these firms employ about 1.7 million people and contribute about 15 per cent of GDP.⁵⁴ Based on this information, a reasonable approximation of the size of the informal sector is about ten per cent of the total labour force. The remaining 90 per cent work within the agriculture and formal sectors.

2.5.2 Current impact on the informal sector

Informal sector businesses are a relatively good source of income in Malawi where about 40 per cent (about five million people) live on less than one USD a day (UNDP, 2004). More than 80 per cent of informal sector participants earn enough money from their businesses to make a reasonable living (Madiziakapita, 2003).⁵⁵ According to the same study, there are indications that informal sector benefits also benefit rural areas of Malawi. Of the 600 participants interviewed in this sector, 64 per cent send some money back to their home villages to support their relatives.⁵⁶

Because of limited research and data on the impact of HIV/AIDS on the informal economy, in the discussion below we assume that the impact on this sector will be experienced in more or less in the same way as it would in a small sized company. Whenever relevant, the following sections are also supported by findings from other countries in Sub-Saharan Africa.

Although data on the impact of HIV/AIDS is limited, it is quite clear that as workers in the informal sector become infected with HIV and fall ill, they will either be absent from work or perform below their normal level of productivity. Eventually, this will affect their income. When workers develop full-blown AIDS and become too weak to work, a regular company would be forced to replace them. In addition, they would incur recruitment and training costs for replacing experienced workers lost through HIV/AIDS. This is not expected to happen in the informal sector to the same extent. A more likely outcome is that informal businesses will have to close down, disappear or will be replaced by other businesses.

⁵⁴ Higher estimates of the contribution of the informal sector GDP (as a percentage of non-agricultural GDP) are found in Sub-Saharan Africa overall (41 per cent) and in Zambia (1998) (24 per cent) (ILO, 2002).

⁵⁵ Forty-nine per cent made less than MK 500 (USD 7) per day, while 28 per cent made an average of MK 501 to MK 1 000 (USD 7–13). Twelve per cent made MK 1 001 to MK 2 000 (USD 13.3–26.7). Seven per cent made MK 2 001 to MK 3 000 (USD 26.7–40). The remaining four per cent made more than MK 3 000 (USD 40) per day.

⁵⁶ 64 per cent sent less than MK 1 000 (USD 13), while 26 per cent never sent anything. The remaining ten per cent sent more than MK 1 000 per month. However, this is not a practice unique to informal sector participants. Formal sector employees also support their families in the rural areas.

However, the above analysis needs to be enriched with some conditions applicable to the informal sector. According to ILO, informal economy workers are especially vulnerable to the impact of HIV/AIDS for four major reasons: (1) their activities are rarely based on (or lead to) financial security; (2) the nature of their work is usually heavily dependent on their labour; (3) they do not have access to health facilities and social protection schemes; and, (4) they usually lack access to credit to help them develop their businesses.

In particular, it is reported that the small size of the enterprises makes it difficult to replace a skilled or semi-skilled worker if the employee falls ill or dies. This is similar to what is experienced by regular small-sized companies. Because of their size, they will also find it difficult to absorb the costs of increased absenteeism, staff turnover and death. They are therefore much more vulnerable to the impact of HIV/AIDS than large enterprises and indeed than regular small-sized companies. This finding is supported by other studies on the impact of HIV/AIDS on the informal sector (Wilkins, 1999).

While most of the above was found to be valid for the general conditions in the Malawian informal sector, it contrasted with the first point mentioned, i.e. that activities of informal sector participants are rarely based on (or lead to) financial security. That is, based on the information from a study of 600 individuals employed within the informal sector in Malawi, it was found that activities in this sector in many instances actually do lead to financial security. It is also worth making some additional comments about the point mentioned above, i.e. that workers in the informal sector do not have access to health facilities. In Malawi, public health care included in the Essential Health Care Package is basically free of charge. As a result, there is in theory no obstacle for proper care for informal sector workers.⁵⁷ Nevertheless, it might not be a realistic assumption, due to the poor status of the health sector (see Chapter 8).

In addition, HIV/AIDS tends to force informal sector participants to become even more marginalised than they already are. Income sources in the informal sector are often jeopardised in households affected by HIV/AIDS, mainly among those who already are asset-poor and vulnerable. With fewer prime-age adults in the household, non-farm income is likely to fall. In particular, since non-farm income sources are often gender specific, the remaining family members may not easily replace the lost labour, such as labour input in staple food production. Thus, a

⁵⁷ Briefly, the Essential Health Care Package addresses the major causes of morbidity and mortality among the general population (GOM/UNDP, 2002, and Kemp et al., 2003).

prime-age adult death may result in the loss of that source of income, as pointed out earlier.

2.5.3 Women and HIV/AIDS in the informal sector

The situation for women in the informal sector, and in street trading environments in particular, has been identified in studies from other countries as being especially vulnerable to HIV/AIDS (e.g., Wilkins, 1999). Poverty and inequality are visible in street trading environments, and considerable literature has established clear links between these factors and the transmission of HIV/AIDS (GOM, 2004). Trading is the most common, non-farm business activity for both urban and rural areas in Malawi overall, and for women in particular who predominantly engage in petty trading. No studies with a specific focus on women's situation in the informal sector with regards to the impact of HIV/AIDS have been found for Malawi.

Recent statistics from many countries in Sub-Saharan Africa show that slightly more men than women work in the informal sector, but that more women participate in informal compared to formal work. In the entire Sub-Saharan Africa, self-employment (as a percentage of non-agricultural informal employment) in the informal sector amounted to 71 per cent for women and 70 per cent for men between the years 1994 and 2000 (ILO, 2002).⁵⁸ Together, these two findings serve as a first indication of the situation in Malawi. However, due to shortage of data, we cannot confirm this.

Research from other countries in the informal sector shows that women are generally disadvantaged due to their lack of education, poor access to resources and limited bargaining power, as compared to men. In a comparative study on Uganda and South Africa for example, it was found that street trading in both countries was one of the largest sectors of informal work, and women made up the majority of the street traders. It has also been found that street trading environments are often characterised by poor occupational health and safety standards. As a result, and because of the usual multiple responsibilities of domestic and productive work that fall on women, they face greater exposure to general and work-related risks. These risks include the escalated risk of ill health (Chazan, 2005). Moreover, because care-giving is usually the task of women, it appears that the increase of prolonged illness and care due to AIDS has reduced the time available for women to engage in income-earning activities more

⁵⁸ Informal activities in agriculture were not included in the estimates of employment in the informal economy reported. Since agricultural activities are an important source of employment (as indicated earlier), especially for women, their exclusion reduces the overall estimate of the size of the informal economy (ILO, 2002).

than it has for men. Jayne et al. (2004) expect this trend to become even more pronounced in future decades in the hardest-hit countries as the disease escalates.

2.6 Summary

While definite answers concerning the impact of HIV/AIDS on the micro level are not yet available, existing research at least sheds light on some crucial aspects. Below we briefly present some of our conclusions and discuss further implications of the findings in this chapter.

We have shown that the intensity of the impact of this epidemic is not experienced uniformly across the affected households and individuals; rather, it will depend on a large variety of factors. The impact will primarily hinge on the available resources and the circumstances under which the epidemic strikes. Simplified, we can say that the greater the various costs (direct and indirect) of HIV/AIDS, the greater the impact will be. The impact at the household level is determined by variables such as the timing and duration of illness, the relative socio-economic status of the household, the affected individual's position in the household, social norms of marriage, and so on.

Households affected by AIDS use coping strategies such as selling assets, increased borrowing and reliance on ganyu labour to a larger extent than non-affected households. Paradoxically, ganyu labour also increases susceptibility to HIV/AIDS infection. Some argue that this is one of the socio-economic impacts by which HIV/AIDS is changing the contours and dynamics of poverty. Taken together, this may exacerbate unequal asset distribution and lead to landlessness and destocking (see further Chapter 4).

One frequent coping strategy within households experiencing scarcity of labour is to rely on child labour by withdrawing their children from school. This in turn damages these children's education and future skill base, leading to long-term effects for society as a whole. This is true for both genders but to a greater extent for girls, since they are more likely than boys to be withdrawn from school in the event of a household adult death. As a consequence of less schooling, women will have less knowledge about their own legal and human rights such as the right to decide over their own bodies and refuse sexual intercourse, and consequently the goals of gender equality will be undermined.

Moreover, with an increasing number of children taken out of school and a breakdown in the knowledge transfer between generations, the impact of HIV/AIDS can be expected to last beyond the current generation. In addition, this will probably exert negative effects on agricultural pro-

duction as children are gradually given greater and greater responsibility for providing agricultural labour. This could result in agricultural practices that are less efficient and of lower quality.

In the final part of this chapter we saw that Malawi's informal sector is a key sector for employment and income generation for a large part of the population. There is also an indication that it is often possible to make a sustainable living from this activity. Moreover, since almost two thirds of the participants in the informal sector send something back to their home villages to support their parents and relatives, the benefits from the informal sector also appear to benefit the rural areas.

Informal sector participants are generally marginalized, and HIV/AIDS makes them even more so. In addition, women are particularly disadvantaged in the informal sector. This in turn leads to a greater exposure to health risks such as contracting HIV infection.

The macroeconomic impact of HIV/AIDS

CHAPTER 3

This chapter examines how HIV/AIDS affects economic growth in Malawi. Although Malawi's future economic growth is of great interest, it should be emphasized that GDP per capita might not be a good measurement of living standards in the context of a full blown AIDS epidemic; it does not capture changes in income distribution and poverty, and it does not say anything about the physical or mental wellbeing of the population. Moreover, it could actually increase because the poorer half of the population dies (see also Chapter 12 for pitfalls in measuring the impact of HIV/AIDS with conventional GDP). Nevertheless, GDP per capita is an important indicator for the impact of HIV/AIDS on average income, and it matters to those surviving the epidemic as well as determining the resources available to government for public expenditure.

The first section briefly reviews previous analyses of HIV/AIDS and GDP growth, with a focus on Malawi. In the second section, macroeconomic data is presented and interpreted in the light of mechanisms through which HIV/AIDS is known to affect the economy. The focus is on the entire economy; the impact of HIV/AIDS on specific sectors such as agriculture is discussed in the following two chapters.⁵⁹ And in the third section, a simple model is used to simulate different scenarios for GDP per capita up to the year 2015; a tentative discussion about long-run consequences after 2015 is left for Chapter 12. There is no attempt to develop yet another model that incorporates the role of HIV/AIDS. In high prevalence countries HIV/AIDS should be treated as an intrinsic element of the economy, making modelling difficult even in the best of circumstances (McPherson, 2003).

⁵⁹ Appendix 1 gives a brief description of the structure the Malawian economy.

3.1 Studies of the impact on economic growth

There are numerous studies in existence on the impact of HIV/AIDS on economic growth.⁶⁰ Nonetheless, only a few studies deal explicitly with Malawi. Two of them, Cuddington and Hancock (1994a, 1994b), are out-of-date in this context. They predict that HIV/AIDS might reduce per-capita GDP growth, but the impact is likely to be modest. At the most, per-capita GDP will be 3 per cent lower by 2010 than it would have been without HIV/AIDS. This result is in line with most analyses from the 1990s.

In the Cuddington and Hancock models, AIDS affects growth through three channels. First, it reduces the size of the labour force because of premature death. Second, workers' efficiency declines because of bad health and loss of cumulative work experience. Third, saving declines because of increased health expenditure. The final impact is determined by the decline in labour productivity and whether the capital-labour ratio increases or decreases. It has become clear over time that models developed along these lines tended to underestimate the impact of HIV/AIDS; important mechanisms were missing, and they failed to predict the rapid spread of the epidemic (Nattrass, 2002; Casale, 2005).

Two recent studies are Haacker (2002) and Andersson (2005). The analysis by Haacker (2002) also produces a modest, but somewhat larger, negative impact of HIV/AIDS over the next 10 to 15 years. When he models Malawi's economy as open to international trade and capital flows, it leads to 4.8 per cent lower per capita GDP compared to the no-HIV/AIDS scenario, though when he assumes that Malawi is a closed economy the HIV/AIDS scenario results in 1.5 per cent higher GDP per capita. Andersson (2005), on the other hand, is in line with several studies that challenge the predictions from the 1990s. She finds that, without government intervention, HIV/AIDS will cause GDP per capita to shrink. On average it will be about 4 per cent lower by 2020 than it was in 2000, but some households may experience an income decline of over 20 per cent.

One study that supports Andersson's results on income distribution is Salinas and Hacker (2006). They simulate the impact of HIV/AIDS on poverty in four Sub-Saharan countries, not Malawi, using recent survey data. They find that that even if HIV/AIDS does not reduce per capita income, poverty may very well increase. This is likely to happen in countries with many people living near the poverty line, such as Malawi.

⁶⁰ For reviews of studies on the macroeconomics of HIV/AIDS, see Barnett and Whiteside (2002), Nattrass (2002), Haacker (2004) and Casale (2005).

Two other recent studies, Bell et al. (2004) and Young (2005), both on South Africa, differ markedly from the older type. Bell et al. (2004) find that the South African economy is likely to collapse in the future due to a sharp contraction in the stock of human capital caused by AIDS, an aspect not captured well in most earlier studies. Young (2005), however, finds that the epidemic will be an economic boon for the survivors. In his model, there is a decline in fertility due to increasing real wages and fear of infection, and this outweighs the negative effects of the fall in human capital.

Yet another effect is emphasised by Lorentzen et al. (2005) and Kalemli-Ozcan (2006); the impact of adult mortality on the time horizon people use when planning for the future. They find empirical support for the hypothesis that the mortality of young adults influences fertility; families have more children when the uncertainty of survival of their offspring increases. In addition, Lorentzen et al. (2005) show that adult mortality affects economic growth by reducing both physical capital accumulation and enrolment rates to secondary education. Hence they argue that AIDS, by increasing adult mortality, has strong negative impact on growth in per capita income by increasing fertility and reducing investments.

3.2 HIV/AIDS and economic growth: assessing Malawi's experience

In this section we use descriptive analysis to discuss how HIV/AIDS might have affected economic growth in Malawi. A straightforward way of looking at economic growth is to start with a so called *production function* which shows how changes in production, that is GDP, result from changes in productivity and inputs of production factors i.e. physical and human capital and labour supply.⁶¹ An understanding of how they are determined, and their roles in the growth process, is essential when discussing HIV/AIDS and the future development of Malawi.⁶²

3.2.1 The evolution of GDP

The production function explains how the dependent variable, GDP, is determined. However, it is convenient to formulate it as GDP per capita or output per worker (GDP divided by the labour force). To give a picture of economic growth in Malawi, Figure 4 thus shows these two variables over the period 1960–2004. There are three clearly discernible periods in the GDP per capita series: positive growth between 1964 and 1979, a

⁶¹ In order to be correct, we use a version of the Solow model. See Weil (2005) for an excellent description of theories of economic growth.

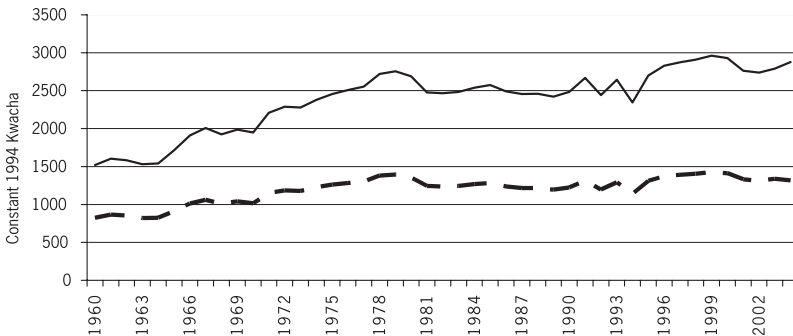
⁶² Although agriculture is by far the largest sector in Malawi, as described in Appendix 1, it is not treated explicitly in this section. Chapter 4 discusses HIV/AIDS and agriculture.

steep decline in 1980 and then 15 years without growth and finally, a level shift upwards around 1995. Output per worker follows a similar pattern, although there are more pronounced shifts.

The growth period, 1964–1979, was characterised by macroeconomic stability and policies that aimed at enhancing agricultural exports. Although successful in generating growth, this policy did not create a general expansion in the Malawi economy because it favoured estate agriculture over smallholder agriculture. One consequence was that a large part of the population was left out of the development process (Pryor, 1990, pp. 124–25).

In the late 1970s and early 1980s, a series of external shocks hit Malawi's economy, initialising the second period, 1980–1994. These shocks included a fall in export prices, a rise in import prices (such as the oil price), a dramatic increase in transport costs for foreign trade due to the war in Mozambique, and drought. On top of this, Malawi had to host more than 750 000 Mozambican refugees from the mid-1980s.

Figure 4: GDP per capita and output per worker 1960–2004 (in 1994 prices)



Output per worker —, GDP per capita — —

Note: Output per worker is GDP measured in constant 1994 prices, divided by the labour force. The source of the data is World Development Indicators (World Bank, 2005).

In the early 1990s, Malawi was hit by two severe droughts and a deterioration of the terms of trade. Moreover, due to donor concerns about overspending, lack of human rights and poor governance in relation to the elections of 1994, balance of payments support was suspended. All this resulted in a severe crisis: GDP dropped by about ten per cent in 1994. Hence, annual GDP growth was only zero per cent over 1992–1995. The third period (1995 to today) was initiated in 1994 by the end of the war in Mozambique and the election of a democratic government, the first in the history of Malawi. The new government embarked on a wide-ranging structural adjustment pro-

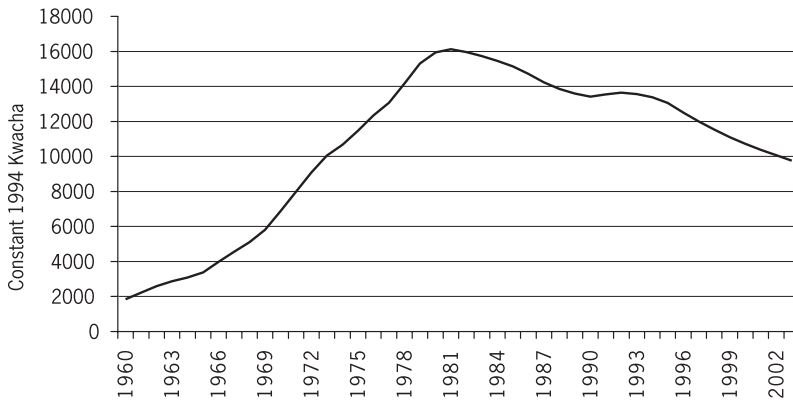
gram with the support of the World Bank, the IMF, and several donors. Although fraught with problems, the implementation of the structural adjustment was initially fairly satisfactory and GDP growth rose to 5.5 percent over the period 1996 to 1999. However, economic growth has slowed down since then and averaged only 1.5 per cent 2000–2005 (Reserve Bank of Malawi, various issues).

There is no clearly discernible relationship between the evolution of GDP and the spread of the pandemic. This is evident from estimates of HIV prevalence, as well as for AIDS deaths. The first recording of HIV prevalence is from 1985 when the infection rate was 2.5 per cent among ANC attendants in Blantyre. Prevalence then grew rapidly and for all ANC attendants it peaked at 24.1 per cent in 1999, a period during which GDP per capita was first stagnant and then increased sharply. After that prevalence declined and stabilised at about 19 per cent, while per capita GDP decreased somewhat (NAC, 2004b). The reason for the lack of correlation is probably that many other factors influence GDP and that the relationship is complex. It could be, as McPherson (2003) argues, that the spread of HIV/AIDS sets off a spiral of negative economic growth when it reaches a critical level, but before this happens the impact is not very strong. Nonetheless, HIV/AIDS should already have had a visible impact on several of the determinants of GDP.

3.2.2 Capital stock and productivity

Figures 5 and 6 below show the development of the capital stock and productivity. Capital, which traditionally is viewed as the most important determinant of economic growth, is depicted in Figure 5 in the form of the capital-labour ratio (capital stock divided by labour force). HIV/AIDS is usually assumed to affect both capital formation (by reducing saving and investment), and labour force growth (by increasing mortality) so its impact can change the ratio either way.

The capital-labour ratio seems to correspond quite well to growth-rate episodes up until the mid-1990s – it grew continuously during the period up to 1979, declined during the following 10 years, and then stayed constant up to 1994. However, after 1994, the decline continued, even though economic growth increased. Nevertheless overall, capital accumulation appears to have played an important role in Malawi's growth process; the period of rapid growth of the 1960s and 1970s is associated with an increasing capital-labour ratio, while the slow growth of the 1980s and 1990s is associated with a decreasing capital-labour ratio.

Figure 5: Capital-labour ratio, 1960–2003

Sources: Nehru and Dhareshwar (1993), Bosworth and Collins (2004), and the authors' own calculations using data from World Development Indicators (World Bank, 2005) and Reserve Bank of Malawi (2005).

Although capital formation is important for economic growth, productivity, defined as total factor productivity (TFP), explains most of the difference in income between rich and poor countries (see Weil, 2005). We measure TFP as the part of the growth rate that cannot be explained by capital accumulation or labour force growth. It is simply calculated as the change in output divided by the change in a weighted average of the two inputs, capital and labour.⁶³ TFP should be viewed as a general measure of productivity including social, demographic and political factors as well as changes in technology. Moreover, in our calculations, human capital in the form of health and education is also captured by TFP. Accordingly, many of the economic consequences of HIV/AIDS should show up in the form of a declining TFP.

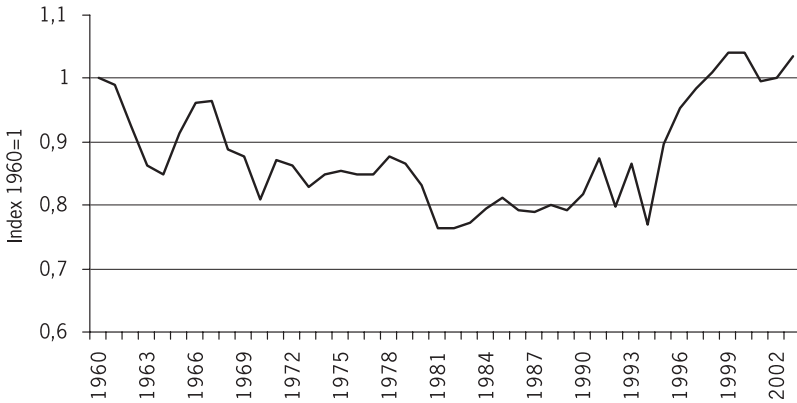
Figure 6 below depicts the evolution of TFP. Since the level of TFP is not defined, 1960 is set to unity for convenience. The most notable thing about Malawi's TFP is that there has hardly been any growth over the last 40 years; in fact, TFP was at the same level in 2000 as in 1960. Moreover, neither was there any growth in TFP during the years of rapid capital accumulation. In other words, TFP was not higher in 1979 than in the beginning of the 1960s. It is thus evident that changes in output per

⁶³ The formula used to calculate TFP is $TFP = (Y/L)/(K/L)^{0.35}$, where we assume a Cobb-Douglas production function with constant returns to scale. The overall pattern of TFP is not sensitive to realistic changes of the technology parameter, set to 0.35. For example, changing this to 0.5 hardly alters TFP. The functional form does not seem to matter much for the pattern of TFP either. Durevall (2002) reports TFP up to the year 2000 estimated with Data Envelope Analysis. Even though this approach does not impose any functional form or parameter values, the result is practically the same.

worker reported in Figure 6 were largely due to changes in the capital-labour ratio. This implies that economic growth has primarily been driven by investments, a feature of the Malawi economy also noted by the World Bank (1997a).

Figure 6 also shows that TFP increased rapidly between 1995 and 1999. Although there is uncertainty about the actual size of the upward shift, it constitutes a change in Malawi's growth pattern. Since it occurred during a period when the number of annual AIDS deaths rose from about 30 000 to over 60 000 and there were about 90 000 new HIV infections per year, factors other than HIV/AIDS seem to have dominated the course of TFP during the 1990s.

Figure 6: Total factor productivity growth 1960–2003 (1960=1)



Source: The authors' own calculations. The formula used is $TFP = (Y/L)/(K/L)^{0.35}$. All variables were standardised to unity in 1960.

3.2.3 Capital accumulation

The next step is to examine potential determinants of capital accumulation, labour supply and TFP, and relate these to the epidemic. In this section we evaluate different forces driving capital formation. We then examine the development of the labour force and the demographic transition in Section 3.2.4, human capital formation in Section 3.2.5 and market liberalisation in Section 3.2.6.

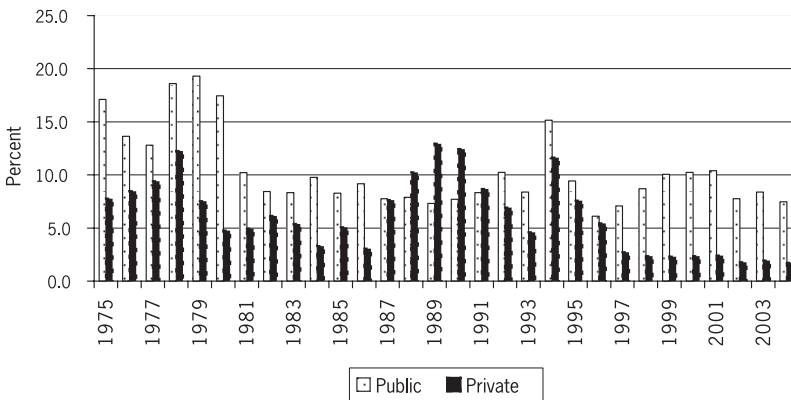
There are several mechanisms whereby HIV/AIDS can affect capital accumulation, both through its effect on the saving rate and by directly reducing the investment rate. One effect comes from increased adult mortality, which reduces the probability of survival and the expected pay-off from saving and investment. Another is the effect from families exposed

to HIV/AIDS who have to deplete their savings as income declines and expenditure increases, as described in Section 2.2.2. Then there is the private sector, where HIV/AIDS reduces future investment by increasing the cost of production and decreasing current and expected profits, and the public sector, where it adversely affects the resources available for public investment. Moreover, HIV/AIDS is likely to reduce foreign direct investments, since it raises costs for training staff, etc.

Figure 7 depicts investment in per cent of GDP over the period for which consistent data is available, 1975–2004. Since the government plays an important role in the Malawian economy, we distinguish between public and private sector investment. On average public investment was clearly larger than private investment, as well as being less volatile, at least in the period 1980–2004.

In Malawi the availability of foreign aid, in particular disbursements of project aid, to a large extent determines variations in public investment (Mangani, 2004), while private sector investment is more likely to respond to HIV/AIDS. As Figure 7 shows, private investment was low during most of the 1980s but rose at the end of the decade. It dipped in 1991–93 and then peaked at about 12 per cent in 1994. After 1994 the investment rate began to decline, and by 2004 it was only 1.7 per cent.

Figure 7: Private and public sector investments 1975–2004 (per cent of GDP)



Note: The calculations were based on gross domestic fixed investment.

Source: World Bank Africa Database (2004) and Reserve Bank of Malawi (2005).

It is not straightforward to explain private sector investment levels using the spread of HIV/AIDS. Both prevalence and the annual number of AIDS deaths, which is probably the variable that would best capture the impact

of the epidemic on investment, grow rapidly from about 1990 until 1999 (NAC, 2004), while private investment first rises and then falls during this period. Nonetheless, other factors also play an important role. For example expectations and increased profit opportunities related to the ending of apartheid in South Africa in 1990, and the war in Mozambique soon after, probably explain the rise in investments around 1990. In addition, the first democratic election in 1994 most likely explains the increase in 1994, while high real interest rates contributed to low investments rates after this. Nonetheless, the extremely low private sector investment rates observed during the last eight years are certainly consistent with widespread HIV/AIDS.

As reported in the previous chapter, HIV/AIDS is likely to influence the saving rate of households by altering the allocation between consumption and saving. Various factors, such as increased expenditure on health and funerals, lower disposable income and reduced life expectancy may all contribute to reduced saving. On the other hand, there are factors that may counteract this. Forward-looking individuals may actually increase their saving because of expected future expenditures on HIV/AIDS. Moreover, changes in income distribution can raise the amount of saving if those well off have a higher saving-to-income ratio. Currently, there are no studies on how HIV/AIDS affects total household saving in Malawi or elsewhere (Nattrass, 2002; Mangani 2004). In spite of this, it seems reasonable to assume that the epidemic reduces household saving on an aggregate level in an economy such as Malawi, where HIV/AIDS is so widespread that almost every household is affected directly or indirectly.

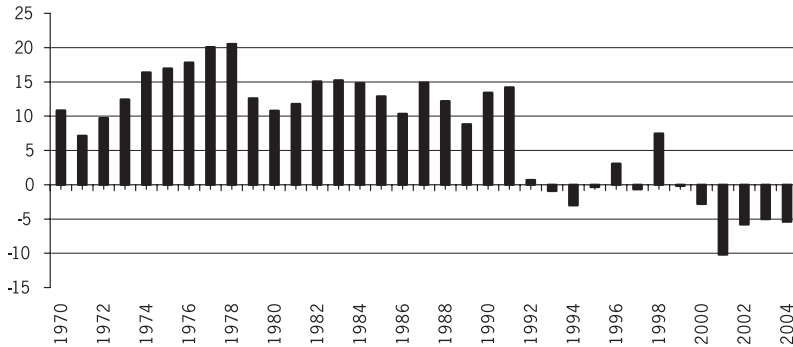
There is also reason to expect private companies to save less. When the epidemic results in lower profits, retained earnings are likely to decline, and thus saving. However, there are offsetting effects: labour shortages and/or rising real wages may create a desire to raise capital-labour ratios, a coping strategy on the part of the companies. This would require investments in physical capital and thus increased saving, since investment is mainly financed with retained earnings in Sub-Saharan Africa (Bigsten et al. 1999). In Malawi, dividends currently constitute about 60 per cent of net profits, which is very high (Mangana, 2004). This is related to the low rate of investment and shows that there is scope to increase retained earnings and private investment.

Figure 8 depicts gross domestic saving as a share of GDP for the period 1970 to 2003.⁶⁴ Overall, the saving ratio is low. However, it seems to have

⁶⁴ The data on saving varies somewhat depending on the source. Those in Figure 7 are from the World Development Indicators (World Bank, 2005). According to data reported in Annual Economic Report (2005), domestic saving was small but positive during 2000 and 2001.

evolved in accordance with investment: it was high in the 1970s, declined in the 1980s, and dropped significantly at the beginning of the 1990s. Hence, changes in domestic saving are likely to have contributed to the variations observed in capital formation.

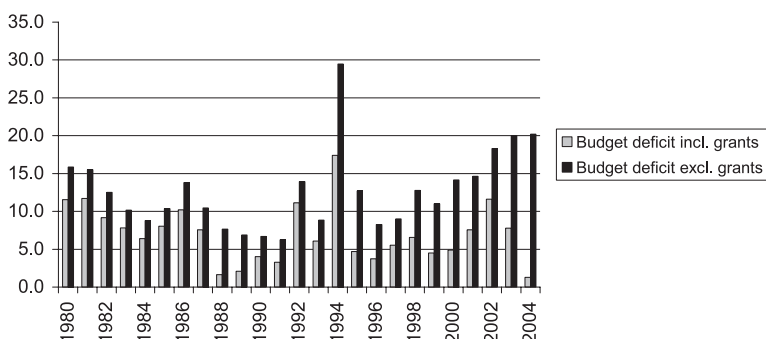
Figure 8: Gross domestic savings as a share of GDP, 1970–2004 (in per cent)



Source: World Development Indicators (World Bank, 2005) and Annual Economic Report (2005).

What is most striking about Figure 8 is the sharp decline in 1992 to close to zero per cent and the further decline to negative values in 2000. This is reflected in a rise in household consumption as a share of GDP during the 1990s, which indicates that the decline in domestic saving at least is consistent with the spread of the pandemic. Nevertheless, according to the World Bank (1997a), large budget deficits explain the low rates of gross domestic saving in Malawi during the 1980s and the 1990s. The World Bank further claims that the decline in 1992 was due to a shift towards increased domestic financing of the deficit, which crowded out private sector saving. In other words, the government borrowed money from the public and then spent it on consumption.

Malawi's long history of government overspending is depicted by Figure 9, which shows fiscal deficits, with and without grants, from 1980/81 to 2004/05. There was an increase in the deficit in 1992 coinciding with the decline in domestic saving, and the deficits remained high during the rest of the decade. The spike in 1994 is due to excessive public spending before the first democratic elections.

Figure 9: Fiscal deficits as a share of GDP 1980–2004 (in per cent)

Note: 1980 is for the fiscal year 1980/81, and so on.

Source: World Bank Africa Database (2004) for 1988–2001 and IMF (2005) for 2002–2004.

The negative saving rates during the period 2000–2004 can probably be explained by public sector borrowing which increased rapidly during this period (see Section 7.2 and Whitworth, 2004). Public sector borrowing is mainly financed by government Treasury Bills, which had an average annual real return of 20 per cent during this period while bank deposits paid only 9 per cent.⁶⁵ Hence, Treasury Bills were attractive to investors. As a result, private sector savings were channelled to the public sector, creating the negative domestic saving rates.

3.2.3.1 Capital inflows – FDI and foreign aid

In an open economy, funds can be sourced from the international capital market, or there might be capital inflows or transfers from abroad. Hence, in a country like Malawi FDI and foreign aid can be expected to influence investment. In fact, one of the purposes of foreign aid is to reduce, or remove, the so-called *savings gap* by providing finance for investment.

Malawi receives small amounts of FDI. On average it received about one per cent of GDP per year between 2000 and 2003, however the amounts were even smaller in the 1990s (0.5 per cent during the period 1990–1999) (World Bank, 2005). Hence, there is no evidence that the epidemic is reducing FDI so far. Since FDI has grown somewhat in recent years, its level does not explain the decline in investments.

Foreign aid is a more important inflow. During the 1980s, official development assistance rose rapidly, it peaked at USD 578 million in 1992 and has since then hovered between USD 400 million and USD 500 mil-

⁶⁵ The interest rates are from the International Financial Statistics database of the IMF. Real interest rates were calculated as the nominal rate minus inflation.

lion per year (World Bank Africa Database, 2004; IMF, 2005). Evidently the period of large inflows, 1992–2003, coincided with the period of low domestic saving. Hence, foreign aid does not seem to have been used to enhance productive capacity in the form of investments during the last 15 years. IMF (2001) also draws this conclusion.

3.2.3.2 *The impact of foreign debt*

Net capital inflows are influenced by the size of the foreign debt, debt service and by debt forgiveness programmes such as the HIPC (Heavily Indebted Poor Countries) initiative. Table 7 reports indicators of the debt situation for selected years since 1970. It shows the rapid and continuous growth of Malawi's total foreign debt during the period 1970–2004: it was only USD 135 million in 1970, rose to USD 1 558 million in 1990 and by 2004 it reached USD 3 400 million. Recent estimates from the World Bank (2006) indicate that the debt had been reduced somewhat by the end of 2005.

Table 7: Foreign debt and debt service

	1970	1980	1990	1995	2000	2004
Debt in current million USD	135	830	1558	2239	2706	3418
Debt service in million USD	6	87	133	118	63	60
Debt service in % of GNI	2.3	7.7	7.2	8.7	3.7	3.2
Debt service in % of total debt	4.7	10.5	8.5	5.3	2.3	1.8

Source: World Bank Development Indicators (World Bank, 2005).

The table also shows that debt service rose substantially during the 1970s and 1980s. It was only USD 6 million in 1970 but had risen to USD 133 million by 1990, in per cent of GNI it rose from 2.26 per cent to 7.22 per cent over the same period. However, during the latter half of the 1990s and the first years of the 2000s, the debt burden began to diminish. In 2004, Malawi paid USD 60 million in debt service, which should be compared to USD 133 million in 1990, and debt service in per cent of GNI was only 3.21 per cent.

The reduction in debt service is due to debt cancellation, in particular the enhancement of the HIPC Initiative in 2000 which made Malawi eligible for HIPC debt relief. The plan was to reduce Malawi's debt service by USD 45 million per year (IMF and World Bank, 2000). This turned out to

be too little and external debt sustainability continued to be a serious concern, so in September 2006 Malawi received a topping up under the HIPC Initiative (IMF, 2005; World Bank 2006). Moreover, it reached the HIPC completion point, which means that the debt reduction is irrevocable, and subsequently became eligible for debt relief under the recent Multilateral Debt Relief Initiative.

It is planned that, taken together, the HIPC and the Multilateral Debt Relief Initiative will reduce debt service to an average of USD 5 million per year between 2006 and 2025 (World Bank, 2006). One result will be debt sustainability, but the final impact on the Malawi economy will depend on how official assistance develops in the future. In 2004 gross official assistance amounted to 16.2 per cent of GDP, so a fairly small reduction in foreign aid could remove the beneficial effects of the debt relief (IMF, 2006a).

A large foreign debt is generally believed to hamper economic growth, partly through its effect on investments. Nonetheless, it is difficult to believe that external debt exercised a stronger negative effect on private investments after Malawi was granted debt relief under HIPC in 2001 than in the 1990s, since the debt service was much lower. Hence, there is no clear negative link between the evolution of the private sector investment rate and debt service during the last 15 years, leaving HIV/AIDS to play a potentially significant role.

3.2.4 Labour supply and the demographic transition⁶⁶

Since HIV/AIDS mainly affects the working-age population, it has a strong impact on the labour force. The direct effect is that the labour force becomes smaller than what it would have been without the epidemic. According to ILO (2004) about 850 000 members of the Malawi labour force had been lost in 2005, and by 2015 approximately two million working-age people will have died of AIDS. Although the estimate for 2015 may become smaller if Malawi's target for the rollout of ART is achieved, the numbers show a massive loss of workers caused by the epidemic.

In simple economic models, a decrease in population growth leads to a higher level of income per capita and higher wages because there is more capital per worker. Nonetheless, empirically there does not seem to be a relationship between population growth in general and GDP per capita growth (Bloom and Williamson, 1998). However, an epidemic that mainly affects people in the work force, leaving the others relatively unaffected

⁶⁶ See Section 1.9 for details of HIV/AIDS and demographic changes in Malawi.

may lead to changes in the demographic structure. And changes in the demographic structure exert a strong impact on economic growth (Bloom and Williamson, 1998).

Malawi entered into the second phase of the demographic transition some time in the 1960s, a period during which death rates decline while birth rates continue to be high. A characteristic of the second phase is that the number of children grows faster than the number of adults, which is reflected in an increasing dependency ratio (defined as the population aged 0–14 and 65+ divided by those aged 15–64). The dependency ratio in Malawi increased from 0.93 in 1965 to 1.00 in 1985. It then began to decline and reached 0.91 in 1995. However, it has now risen to 1.01, indicating that there is one dependent for every person of working age (UN Population Division, 2005). These numbers are uncertain, and according to NSO (1998; 2005b) the dependency ratio was 1.1 already in 1998 and stayed at that level until 2004, while it was 1.03 according to the most recent Welfare Monitoring Survey (NSO, 2005b). Nonetheless, it is very high by international standards and has not declined since the mid-1990s, as would have been the case if the demographic transition had proceeded as expected.

The high dependency burden affects per capita GDP negatively in various ways: there is the direct effect, where income is distributed to those who do not work, and there are indirect effects such that some parents with many children do less market work. The increase in the dependency ratio should thus have affected GDP growth through TFP, but again there is no visible relationship – although the stagnation of TFP since mid-1990s coincides with the increase in dependency ratio.

The future evolution of the dependency ratio depends to a large extent on fertility. According to UN projections, which incorporate HIV/AIDS and ART, it will stay around 1.00 until 2015 if fertility remains constant and decline to about 0.9 if fertility declines from 6 to 4.8, which is the most optimistic scenario. This means that in Malawi high dependency ratios will most probably continue to affect per capita income growth negatively in a short to medium-term perspective (as will be discussed in Chapter 12, there is reason to believe that the dependency ratio will improve again in the longer term).

Although population projections made by the UN Population Division, and other agencies, integrate HIV/AIDS they do not take many potential behavioural changes into account (Bulatao, 2006). One of these is the link between adult mortality, fertility and the dependency ratio that goes via real wages, emphasised by Young (2005). Fertility depends on several factors as described in Section 1.9.2, but changes in real wages also influence

fertility and can thus be important for population dynamics. The reason is that higher wages, particularly for women, tend to reduce the number of children each household prefers to have. This in turn influences the dependency ratio, and future income. The development of average real wages depends on how the supply of skilled workers is affected relative to unskilled workers, and on how the capital stock per worker evolves.

We do not have wage data to show what is happening, but indicators point towards lower real wages. For instance, prevalence is higher for well-educated according to the DHS 2004 (NSO and ORC MACRO, 2005). And the HIV Sentinel Surveillance 2003 shows that prevalence among pregnant women is higher for well-educated women and those who are married with professionals than others (Table 15 and 16 in NAC, 2004b, see also the discussion in Section 1.2).

HIV/AIDS-related morbidity and death is also likely to decrease the efficiency of the labour force in other ways, and thereby exercise a negative effect on wages. For instance as we discussed in Chapter 2, even those who are not infected have to reallocate their time from productive activities in order to participate in funerals, take care of sick people, etc. And beyond the measurable, the emotional state of workers is also affected by the number of deaths and ill people in their surroundings, which according to anecdotal evidence has a substantial impact on working morale and productivity.

The impact on real wages also depends on how demand for labour reacts to HIV/AIDS. Since there might be an overall decrease in consumption in the economy, the demand for labour might decline. Dorward and Mwale (2006) analyse the impact of HIV/AIDS on labour supply and demand in rural Malawi. They find that morbidity and mortality among skilled workers probably lead to a reduction in demand for both on-farm labour and for unskilled labour that provide goods and services within the community. This reduction in the demand for unskilled labour is likely to exceed the reduction in supply, leading to a decline in unskilled wages in rural areas.

There is thus a risk that real wages decrease, and that this reduces the decline in fertility. Moreover if, as argued by Kalemli-Ozcan (2006), the increase in adult mortality raises fertility among women in general, the dependency ratio might even worsen in the medium run.

3.2.5 Human capital formation

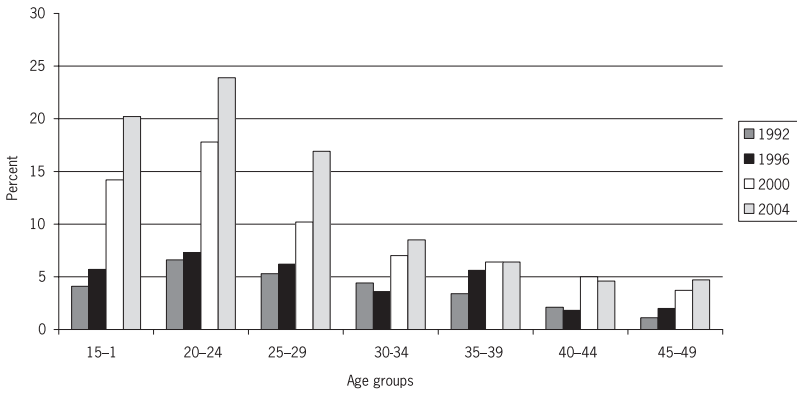
Human capital refers to the quality of workers. It is usually divided into health, or physical working capacity, and education. HIV and AIDS influence both types of human capital. Although it is difficult to measure human

capital, there are indicators that provide an idea of how they evolve over time. In this sub-section, we report on some of these indicators.

HIV/AIDS affects the health of workers directly. In 2003, about 60 000 Malawian adults passed away due to AIDS and practically all had prolonged periods of illness before death (NAC, 2004a). Moreover, there are about 850 000 HIV positive adults and a portion of them are in bad health. Furthermore, since HIV/AIDS weakens the immune system, many contract other diseases and these may spread among the general population. Deteriorating health reduces labour productivity, which shows up in slower TFP growth in our model. Although we do not have an overall measure of the decline in health, or how it has affected the stock of human capital, there is no doubt that the impact of the epidemic has been substantial.

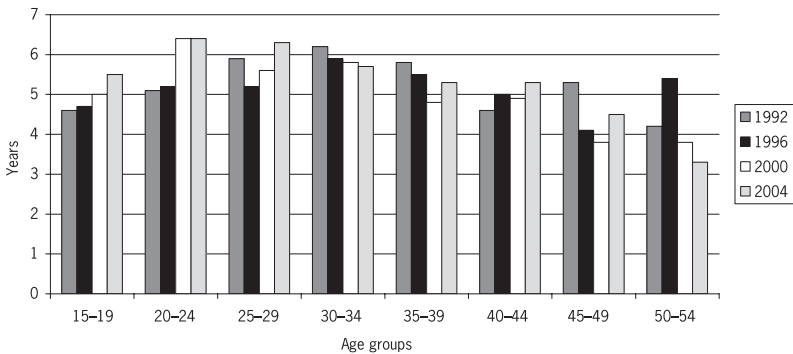
The most common approach to measuring human capital is to ignore health and use data on schooling alone, although it is not clear how important this variable is for economic growth. It is the stock of knowledge that is of interest, so it is not sufficient to look at school enrolment. Hence, an effort has been made to construct data sets that show how the actual level of education in the working-age population has changed over time (Barro and Lee 2000; Bosworth and Collins, 2003). Although these data sets are used in many empirical studies on economic growth, they are inadequate for evaluating the impact of HIV/AIDS. This is because only age-specific death rates are used for calculating the measurements of educational attainment: age-specific death rates for different educational levels are not available. Consequently, if AIDS-related death rates have increased more for well-educated people than for the overall population, the data underestimates the negative impact on human capital. Hence, instead we report selected data on educational attainment from four DHSs, carried out in 1992, 1996, 2000 and 2004.

Figure 10 shows the percentage of females in different age groups that have gone to secondary school or university at four different points in time. It illustrates one important trend: there was a rapid expansion of the educational system in the 1990s, and many more of those below 30 had secondary school in 2004 than in 1992. This improvement is, to a large extent, due to the introduction of free primary education in 1994. A similar improvement can be observed for males and for primary school. Hence, there has been educational progress, which should be reflected in an increasing stock of human capital.

Figure 10: Age-groups of females that have secondary or higher education

Source: Demographic and Health Surveys (NSO and ORC Macro, 1994; 1997; 2000; 2005).

A somewhat less rosy picture is provided by Figure 11. It reports the median years of schooling for males at different age groups. As in the former figure, the level of education increases sharply for the youngest age-groups between 1992 and 2004. However, for the age-groups 30-34, 35-39, 45-49 and 50-54 the median years of schooling decline, while there is a small increase in the 40-44 group. This is consistent with a higher death rate among well-educated middle-aged men and indicates that AIDS might be affecting human capital negatively. Nonetheless, it could also be a reflection of deterioration of both supply and demand for schooling during the 1980s, when Malawi suffered from an economic crisis.

Figure 11: Median years of schooling, males

Source: Demographic and Health Surveys (NSO and ORC Macro, 1994; 1997; 2000; 2005).

Even if it is difficult to pinpoint the impact of HIV/AIDS on education, it is easy to see one implication related to achievements since 1994. Since younger age groups are now much better educated than the older ones, this improvement might be eroded during the next decade by the current high death rates among relatively young people. This is particularly serious for the female population, since this group has much higher prevalence in the age group 15–29 (see Figure 2 in Section 1.9.1).

In the long term, the epidemic also has repercussions on human capital formation through another channel, the intergenerational transfer of human capital. In Malawi, where the majority of the labour force works in subsistence farming, the middle generation's role in the knowledge transfer of farming practices is probably as important as formal education. Mtika (2003) explores how transfers of this sort of knowledge, which he calls “embodied capital”, are affected by HIV/AIDS in Malawi. The term embodied capital is defined as “the allocation of time and other resources (including monetary transfers) to current and future biological, social and economic reproduction, for the purpose of ensuring dynastic fitness and continuity”.

Mtika concludes that prime age adults are crucial for intergenerational (between parents and children) and generational (between siblings) resource transfers, and the magnitude of such transfers are in turn dependent on the health status of the individual. Hence, the long run impact on the productivity of human capital is likely to be much greater than it appears if educational attainment alone is considered. Bell et al, (2004) make a similar argument in their study of South Africa, emphasising that the intergenerational effect will continue long after the epidemic has peaked.

To sum up, there is every reason to believe that the overall impact of HIV/AIDS on human capital is strongly negative but it is difficult, with the data available, to determine how this has affected TFP and economic growth. Moreover, the issue of HIV/AIDS and the quality of education has not been addressed here since there is very little information available. (Some other relevant aspects of schooling are discussed in Chapter 9, which looks at repetition rates, orphans, etc.)

3.2.6 The impact of market deregulation on productivity

The data we have reported on human capital, both in the form of health and education, indicates that there was some improvement in educational attainment during the latter half of the 1990s, but hardly any improvement in health. There is thus no reason to believe that the rise in TFP, which took place in the mid-1990s, was due to an increase in human capital.

The direct, mechanistic, explanation for the increase in TFP is the decline in the capital stock as the result of a low investment rate. One question is then why production could be maintained with a relatively smaller capital stock. It could be that the minor investment boom in 1994 upgraded part of the capital stock while another part was not replaced, possibly because it became unproductive due to increased competition following the removal of trade barriers at the beginning of the 1990s. Another, probably more important, explanation is that the swift progress in the liberalisation of both domestic and international trade that took place during this period led to major structural changes.

The process of trade liberalisation started in 1988 when exchange controls were relaxed somewhat and the maximum import tariff was reduced from 70 per cent to 45 per cent. In 1991–1993, there was another round of liberalisation with a reduction in the coverage of non-tariff import controls and streamlining of import taxes. During the period 1994 to 1999, the process speeded up and all import and export licensing requirements were abolished except for certain goods related to health, security or environment. Also, the maximum tariff was reduced to 25 percent.

There was also a rapid deregulation of the agricultural sector during the 1990s, by 1996 marketing liberalisation of smallholder crops and inputs was complete, and prices of all crops except maize were market determined (Chirwa, 1998). This meant that policies favouring the estates were terminated and smallholders moved quickly into cash crop production, in particular burley tobacco. As a result, there was a rapid expansion and diversification of smallholder production (World Bank, 1997a).

Trade liberalisation seems to have induced two substantial changes in Malawi's economic structure that are likely to have affected TFP during the 1990s. Over the period 1960–1992, industry's share of GDP grew continuously from well below 10 per cent to 21 per cent. However with the intensification of trade liberalisation, a decline began and by 2004 its share was only 11 per cent. Obviously, the Malawi industrial sector was not ready for the increase in foreign competition. At the same time, smallholder agriculture expanded, while large scale farming stagnated; the share of small scale agriculture rose from slightly over 20 per cent at the beginning of the 1990s to about 30 per cent in 1999 (Annual Economic Report, various issues).

It seems reasonable that these structural changes affected the course of TFP during the 1990s and that they swamped the negative effects of HIV/AIDS. From this also follows that the increase in TFP was a one-time event. Hence, although we have not been able to determine the impact of HIV/AIDS on economic growth, the prospects for future TFP growth are

not good, as indicated by the roughly constant TFP observed from 1998 to 2003, and the extremely low current investment rate.

3.3 Scenarios for per capita GDP 2005–2015

In this section, we use the data reported above and projections on demographic variables to illustrate various paths that GDP per capita might follow during the period 2005–2015.

Although these paths are scenarios, not predictions of the future, they provide some interesting information. For example, the simulations constitute benchmarks of future economic growth that can be used when discussing major structural and behavioural changes related to HIV/AIDS. Moreover, economic growth during the next ten years influences the amount of resources that are available for health care and the chances of meeting the Millennium Development Goals. A review discussion of the direct effects of HIV/AIDS on the possibilities of achieving the Millennium Development Goals can be found in Appendix 3.

In the analysis, future growth rates are determined by the past history of some variables and reasonable assumptions about the values of some parameters. However, it is important to note that the future impact of HIV/AIDS on income per capita is determined by factors such as people's coping mechanisms, the quality of institutions, and social capital – among other elements. Here we assume these factors will remain more or less constant up to 2015. Chapter 12 discusses scenarios for responses to HIV/AIDS after 2015. Moreover, policy changes that might be implemented in line with Malawi's new poverty reduction strategy, Malawi Growth and Development Strategy (GOM, 2005b) are not accounted for as this would require a much more elaborate model.

The diverging results in many of the previous macroeconomic studies are mainly due to assumptions about the relative strengths of different mechanisms (Barnett and Whiteside, 2002, Nattrass, 2002, Casale, 2005). Since we have little knowledge about exactly how HIV/AIDS affects economic growth in Malawi, we make no attempt to model these and assume that the epidemic has already led to significant changes in the Malawi economy. This means that we cannot look at scenarios with and without HIV/AIDS but only the future growth rates under different, more or less realistic, assumptions.

To calculate the scenarios, we used the same function as in the previous section (see Footnote 63). Data on population and labour force growth comes from the UN Revision of World Population Prospects 2004. In these projections, the direct impact of HIV/AIDS on mortality and fertility, and

treatment with antiretroviral therapy, are incorporated explicitly. This was done by first using estimates of HIV prevalence provided by UNAIDS to obtain the past dynamics of the epidemic in each country. The rate of recruitment of new individuals into the high-risk group was then projected to decline by half every thirty years from 2005 and onwards, where the assumption of reduced transmission risk was based on expected changes in behaviour patterns and increases in access to treatment for people infected. The coverage of ART was projected to reach between 40 percent and 85 per cent by 2015, depending on the level of current coverage (see also Section 1.6).⁶⁷

There are three parameters in our model that have a major impact on the outcomes, the investment ratio, TFP-growth and fertility. We report results from simulations with combinations of these parameters, when they are as favourable as possible and then the worst possible combination.

In the best-case scenario, gross capital formation is 25 per cent of GDP. This is very high, but it was achieved in the 1970s and in 1994. According to the World Bank (1997a) this is the investment ratio required for achieving six per cent growth and a reduction in poverty. TFP-growth is assumed to be 3.5 per cent. This is high compared to Malawi's past experience and by international standards. A calculation of average TFP-growth in 83 countries for the periods 1980–89 and 1990–99 showed that only China and Ireland had growth rates exceeding 3.5 per cent (see also Bosworth and Collins, 2003).

In the worst-case scenario we assume that the investment ratio is ten per cent and TFP-growth is zero. The values for the investment ratio and TFP growth correspond roughly to those observed for the period 2000–2004. The assumption of a ten per cent investment ratio is slightly pessimistic since recent low levels of investment can be partly explained by high real interest rates. However, there might be a strong HIV/AIDS component that will keep investments low in the future (see McPherson, 2003, for a general discussion). The assumption of zero TFP growth might, on the other hand, be too optimistic. TFP captures a range of factors affected by HIV/AIDS and there is the possibility of a sharp decline in TFP, as indicated by the discussion in Chapter 12.

Total fertility is assumed to either follow the low variant in UN Population Prospects, which means that it will decline from 6.1 in 2000 to 4.8 during the period 2010–2015, or continue at the same level as in 2000. In Young's (2005) study on AIDS in South Africa, it is the decline in fertility

⁶⁷ See UN Population Division (2005) Vol. III for a detailed description of the assumptions used to model HIV/AIDS.

that generates his prediction of future high per-capita GDP growth. The economics behind the assumption of no decline in fertility is that the increase in adult mortality induces some families to have more children and that real wages do not increase substantially.

Table 8 reports the results in the form of indices for GDP per capita over the period 2000–2015. The year 2000 is set to unity for ease of comparison. In the pessimistic scenario with constant fertility, per capita GDP shrinks by 17 percent to 2015. If we assume that there is a decline in fertility, the negative impact is reduced to minus 12 per cent. Alas, recent data on GDP per capita indicates that the worst-case scenario is currently the most realistic; the actual index for 2005 is 0.93 and the simulated level is 0.92.

In the best-case scenario with low fertility, GDP per capita increases by 90 per cent between 2000 and 2015. Although this appears to be a substantial increase, it implies that Malawi will only have 20 per cent higher per capita GDP in 2015 than that of Zambia in 2005, when using purchasing power parity to convert the GDPs to US dollars. When the US dollar exchange rate in 2000 is used instead, Malawi will have 25 per cent lower per capita GDP in 2015 than Zambia had in 2005 (World Bank, 2006; IMF, 2006b). Hence, even the best-case scenario is insufficient to have a marked impact on poverty.

The level of fertility mainly affects the evolution of per capita income through its impact on the dependency ratio. In the constant fertility case, the dependency ratio remains at about 1.00 during the entire period, while it declines from 1.00 to 0.9 in the low fertility case. Since the growth-enhancing effect of HIV/AIDS in Young (2005) comes from the decrease in fertility, it is interesting to speculate about what would happen if fertility drops sharply to, let us say, 3.5 children per woman. Although we have not made such calculations, a rough estimate based on Table 8 is that we can add about five to ten percentage points to the 2015 values in each case. Hence, even in the case of a sharp drop in fertility, per capita income is unlikely to grow sufficiently to make Malawi much better off than Zambia is today.

3.4 Summary

This chapter has examined how HIV/AIDS affects macroeconomic variables. Since the epidemic took off in the middle of the 1980s there have been major changes in economic policy and exogenous shocks such as droughts, which have impacted on the economy as well. It is not an easy task to disentangle the role of all these factors, and hence we have only been able to indicate the likely consequences of HIV/AIDS.

Table 8: Indices for GDP per capita 2000–2015

Year	Worst-case scenario		Best-case scenario	
	Constant Fertility	Low Fertility	Constant Fertility	Low Fertility
2000	1.00	1.00	1.00	1.00
2005	0.92	0.92	1.15	1.15
2010	0.87	0.89	1.43	1.46
2015	0.83	0.88	1.81	1.91

Note: In the best-case scenario: gross fixed capital formation is 25 per cent of GDP and TFP growth is 3.5 per cent. In the worst-case scenario: gross fixed capital formation is 10 per cent and TFP growth is zero. Low fertility means a decline from 6.1 to 4.8. The annual rate of depreciation of the capital stock is 4 per cent. GDP per capita is set at 1 for 2000 in order to facilitate comparison with other years.

Data indicates that the spread of HIV/AIDS has coincided with low economic growth or stagnation, and several micro and case studies convincingly show the potential for devastating effects. In spite of this, there is no easily detected relation between HIV/AIDS and overall economic performance. A few studies attempt to quantify the macroeconomic impact of the epidemic on the Malawi economy, but only Andersson (2005) finds that it is strongly negative. The study uses simulations to obtain this result, which makes it highly tentative. Studies on other countries, particularly South Africa, have produced highly diverging results though most of the recent ones indicate that HIV/AIDS reduces growth substantially. Nonetheless, it is clear that income distribution and poverty are likely to deteriorate even when GDP growth remains unaffected by HIV/AIDS.

Macroeconomic performance during recent years has been disappointing, and GDP growth has not kept up with population growth. This is due to slow productivity growth and very low private sector investment rates. Slow productivity growth is what can be expected in a country with high HIV prevalence, where workers are ill or absent from work and a wealth of knowledge and cumulated work experience is lost. Moreover, low investment rates are also a logical consequence of HIV/AIDS as saving rates decline when family members fall ill and reduced life expectancy increases consumption at the expense of investment.

Simple simulations over the period 2000–2015 show that in the best of cases, that is, with 3.5 per cent productivity growth, an investment ratio of 25 per cent of GDP and declining fertility, income per capita will be about 90 per cent higher in 2015 than today. Because of its past dismal macr-

oeconomic performance, this would increase Malawi's per-capita GDP to roughly the same level as Zambia in 2005.

Nonetheless, the scenario with zero productivity growth and ten per cent investment ratio seems more realistic, at least when actual and simulated values are compared up to 2005. If this trend continues, GDP per capita will shrink by over 15 per cent until 2015. Since the decline in income is unlikely to be shared equally among the population, some groups such as the urban poor, will experience a much larger loss.

The demographic structure explains a sizeable part of this outcome. If total fertility, as a result of HIV/AIDS, drops by more than the predicted decline, i.e., from 6.1 to 4.8 children per woman, GDP per capita increases several percentage points in all scenarios. However, the drop in fertility by itself cannot radically alter the path of GDP per capita in Malawi within the next couple of decades, as it does in the analysis on South Africa by Young (2005).

Impact on the real economy: Agriculture

CHAPTER 4

4.1 The agriculture sector

This section discusses how HIV/AIDS affects the agriculture sector (small-scale agriculture and commercial agriculture, including fisheries) which together with the manufacturing sector (see Chapter 5) make up the major part of the private sector in Malawi (for a description of the structure of the Malawian economy see Appendix 1).

Agriculture is the backbone of the Malawian economy and shapes the livelihoods of more than 80 per cent of the population (see Appendix 1). In 2004, agriculture contributed close to 40 per cent of GDP and accounted for 90 per cent of Malawi's export earnings. Tobacco is by far the most important export commodity. Agriculture also supplies more than 65 per cent of the manufacturing sector's raw material requirements (Ministry of Agriculture, 2005).

The agricultural sector is divided into two main sub-sectors, a large-scale commercial agriculture sector which includes fisheries and forestry, and a smallholder sector. In 2004, the share of commercial agriculture in GDP was close to nine per cent and the share of small-scale agriculture was about 30 per cent. The most important crops in large-scale farming are tobacco, tea, sugar and coffee, while smallholder product include maize, cassava, sweet potatoes, groundnuts and tobacco.⁶⁸

The total area cultivated for the past five years has been on average about 2.7 million hectares, of which about one million is held in some 35

⁶⁸ The repeal of the Special Crops Act in 1995 made it possible for smallholder farmers to grow high value cash crops such as burley tobacco. This increased tobacco production among smallholders tremendously. Currently, about 15 per cent of all agricultural households, about 350 000 households, grow tobacco. Almost 93 per cent of tobacco producers grow burley tobacco, while the remaining 7 per cent grow other types (Statistical Yearbook, 2005).

000 estates with farm sizes ranging between 10 ha and 500 ha. Smallholders with average farm sizes of about 1 ha cultivate the remaining 1.7 million ha, allocated between 2.4 million farm families. However, inequalities with regard to landholding sizes are substantial and about three per cent of all households, some 75 000, are landless (Government of Malawi and World Bank, 2006). Furthermore, as many as 56 per cent of all smallholders have farm sizes of less than 1 ha, and some 30 per cent cultivate less than 0.5 ha (Bollinger et al., 2000; Gladwin et al., 2001; Statistical Yearbook, 2005).⁶⁹

Despite the size and importance of the agriculture sector food insecurity, famine and malnutrition are major concerns. This is because Malawian agriculture mostly depends on a single (unimodal) rainfall, which is characterised by marked year-to-year fluctuations in combination with recurrent drought. In addition, the total irrigated area is only about 28 000 ha, compared to a potential of up to 500 000 ha (MOA, 2005).

It is widely accepted that the agriculture sector is greatly affected by HIV/AIDS and that it will be so for many years to come. This is also recognised by the Government that has identified HIV/AIDS as one of four key development issues underlying the low productivity and profitability of Malawi's agriculture (MOA, 2005).⁷⁰ Moreover, the Government has formulated an HIV/AIDS policy and strategy for the agriculture sector for the period 2003–2008 (MOA, 2003).

Nevertheless, it is not clear exactly how HIV/AIDS affects agriculture and understanding the impact of the epidemic remains a challenge. According to Gillespie (1988), the sensitivity of agriculture to the epidemic is due to AIDS-related labour losses, which in turn depends on various factors: the seasonality of the demand for labour (see e.g. Government of Malawi and World Bank, 2006), the degree of specialisation by gender and age, the interdependence of labour inputs, economies of scale in labour and the substitutability of labour-saving technologies. All of these aspects are relevant to the Malawian agriculture sector.

Agricultural production is also affected by the loss of knowledge and weakened institutions, these affect both smallholder and commercial agriculture (FAO, 2005; GOM, 2002). They influence the level of production, relative costs of inputs, farming systems and technological and institutional changes (IFPRI, 2002; Bota et al., 2001). An illustrative example of the impact on knowledge and institutions is the acute shortage of agricultural

⁶⁹ Section 4.2.2 and 4.2.3 discuss the impact of HIV/AIDS on land in more detail.

⁷⁰ The remaining three issues are: (i) low irrigation development and poor water management, (ii) weak extension services, and (iii) inadequate markets (MOA, 2005).

extension officers in the Ministry of Agriculture. Out of a total of 2 500 agriculture extension sections, 48 per cent had no staff to provide services to farming communities or undertake agricultural data collection in early 2000 – some of the main responsibilities of this professional group (MOA, 2003; Bryceson et al., 2004). Hence, there was a need for 3 000 new employees to fill all the established posts in the Ministry (GOM, 2005). This situation was caused both by high levels of attrition, mostly due to staff members' deaths from AIDS, and by slow recruitment of agricultural extension officers. One result of the lack of staff was that in 2004 only 13 per cent of agricultural households received advice from an extension officer on how to use starter packs (Statistical Yearbook, 2005). See Chapter 6 for further information on the impact of AIDS on the public sector.

4.2 Smallholder agriculture

Subsistence agriculture is the main source of income for the rural poor, accounting for about 63 per cent of income (GOM, 2002).⁷¹ In the rural areas, more women (94 per cent) are engaged in subsistence farming than men (77 per cent) (NSO, 1998). Smallholder agriculture is largely based on the production of maize. This is the dominant staple food crop, accounting for 70 per cent of farmed land (National Economic Council, 2001).⁷² Of the cash crops, tobacco is the most important for smallholders at all levels of income. However, the proportion of smallholders cultivating tobacco increases with wealth; about 18 per cent of the smallholders in the highest quintile while only 11 per cent in the lowest quintile grow tobacco (Government of Malawi and World Bank, 2006). Value added in small-scale agriculture varies tremendously from year to year, and although there was a rapid expansion in the mid-1990s when value added was doubled, its long-run growth has been disappointing. It grew by 4.3 per cent 1981–1995, which was far below population growth in rural areas. Its recent performance has been even worse: value added shrank by 0.6 per cent between 2000 and 2005 (Reserve Bank of Malawi, various issues; Statistical Yearbook, 2005; World Bank, 1997a).

Smallholder agriculture is characterized by intensive use of labour; many workers still use hand-held hoes as the main source of power. There is limited access to productive assets such as land, and many smallholders do not have enough income to buy proper inputs for production (Ellis et

⁷¹ The major source of cash income for Malawian households, however, was wage income which contributed about 13 per cent of income for the rural poor (GOM, 2002).

⁷² Maize accounts for roughly 65 per cent of the calorific intake in the countryside.

al., 2003; Bryceson and Fonseca, 2005). Moreover, there are large seasonal variations in demand, and many hands are needed in production during planting and harvesting seasons. In such an environment it seems logical that losses of labour from HIV/AIDS have a considerable negative impact on production, at least in the short to medium run. For instance, some fields cannot be worked, there is less weeding labour, goods cannot be transported to markets and farmers do not have enough food to feed their families, who then become malnourished (Pinder, 2004; Shah et al., 2002; Ngwira et al., 2001).

4.2.1 Changes in cropping patterns

A common view is that the dominant method for coping with AIDS-related labour shortages at the micro level is to switch from labour-intensive to less labour-intensive crops. Particular focus has been put on shifts from maize to roots and tubers and on reduction in labour-intensive cash crops such as tobacco, Irish potatoes, groundnuts and rice (Shah et al., 2002; Bota et al., 2001; Bollinger et al., 2000). Hence, HIV/AIDS is expected to bring about important changes in farming systems where high-value crops are replaced by low-value crops, and maize is replaced by the less nutritious cassava. Since losses of assets such as livestock and cash to buy inputs are often substantial among households affected by AIDS, we should also expect changes in cropping patterns in favour of crops which require little draught power and purchased inputs (improved seeds, fertilizers, etc.).

The empirical evidence for the change in cropping pattern comes from micro-level and case studies (Mather et al., 2005). However, recent research using nationally representative samples has questioned the concept of a homogeneously affected household. Responses to prime-age deaths seem to vary substantially across households, and there are alternative ways of coping. In a study on Eastern and Southern African countries, including Malawi, Mather et al. (2004) fail to find a systematic shift towards less labour-intensive crops: households affected by prime-age deaths did not, on average, cultivate less remunerative crops than non-affected households. The countries included in the study were Kenya, Malawi, Mozambique, Rwanda and Zambia.

In addition, although HIV/AIDS might have played a role in the increase of cassava production in Malawi, it seems more likely that the major cause was the liberalization of agricultural markets in the 1990s which altered relative costs and prices (Jayne et al., 2005).

4.2.2 Land left fallow

For smallholders in Sub-Saharan countries, a common coping mechanism is to cultivate only a portion of their land or to leave it fallow when

a family member falls ill or dies, especially if this occurs just before the agricultural season begins. This is because of too little labour within the household and/or the inability to procure farm inputs.

According to Shah et al. (2002), the strategy of leaving land fallow is primarily resorted to by poor households in Malawi. Better-off households are often able to hire wage labourers (*ganyu*) (see Section 2.2.1) to take care of their agricultural operations. Moreover, as a result of a combination of responses by households affected by prime-age mortality, such as households relinquishing part of the land or a generally high labour-to-land ratio, the pressure for agricultural land will result in land being left fallow to a very small extent and only as a short-term solution. One of the few situations under which land would be left fallow for successive seasons is if all rural-based members of a family had died and the children had moved elsewhere (Mbaya, 2002).

HIV/AIDS also has the potential to increase activity on the land market. This is the result of households trying to derive benefits from their landholdings when they are no longer able to cultivate the land. Anecdotal evidence suggests that sales of land have been observed as a coping strategy in households with prolonged distress and few available economic resources. Renting out land is resorted to when the distress is perceived to be short-term. Another response to the impact of HIV/AIDS is to allow relatives to use the land temporarily or to rent out a part of the family's landholdings.

4.2.3 Triple impact of gender relations, land and HIV/AIDS

One of the indirect costs of HIV/AIDS is that it has the potential to negatively impact on the quality (due to less time and fewer resources to work the land) and quantity of land held by those affected, as well as on the ability of those affected to access and retain land.⁷³ In Malawi, rights and access to land are interwoven with issues related to gender and inheritance systems as well as with HIV/AIDS.

In Malawi's Land Act (1965), three tenure systems are recognised: customary, freehold and leasehold. Customary land accounts for 70 to 80 per cent of the total land area. The inheritance systems operating in Malawi have significant bearing on the ability to access and retain customary land. This is particularly true for poor and vulnerable groups in the communities, such as widows/ers, divorced women, youths and orphans (Mbaya, 2002; FAO, 2004).

⁷³ It should be noted here that land distribution in Malawi is unequal. Particularly the poor are constrained in terms of land. About 81 per cent of the poorest 10 per cent of the households have landholdings of less than 0.5 hectare. In contrast, 64 per cent of the richest 10 per cent cultivate more than 1 hectare (GOM, 2000; NSO, 1998).

The inheritance of customary land is not catered for under statutory law and land was traditionally allocated by chiefs. However, this is no longer automatically the case since family heads have increasingly taken over the allocation role. This tendency in turn threatens the security of tenure and livelihoods for residents on customary land who may be subject to ad hoc procedures of land allocation. Such processes have also led to an increasing number of land disputes over land allocation. Women and orphans are likely to be particularly disadvantaged in this process and under the prevailing inheritance patterns, for reasons that will be made clear below.

The above situation also creates opportunities for increased access to land for the relatively better off (Mbaya, 2002). This is supported by the Government of Malawi and World Bank (2006) study which finds that the size of an average landholding increases with household wealth. Yet, the relationship is not very strong. Landholdings at the bottom wealth quintile are 0.9 ha on average compared to 1.1 hectares in the richest quintile. However, it must also be remembered that the poor tend to have larger families. Hence, the relationship between wealth and land per capita is stronger. Smallholders in the poorest quintile have per capita land holding size of 0.17 hectares which increases to 0.53 hectares per capita for households in the richest quintile. Moreover, a large number of households are experiencing diminishing holding sizes as a result of reallocation of land to relatives and children. However, it is not yet possible to say whether this development is affected by the epidemic.

Malawi has two customary systems of marriage and inheritance, the matrilineal and the patrilineal systems. Patrilineal systems are mostly practiced in the northern region of Malawi and in the far south, while matrilineal systems are more common in central and southern Malawi (Shah et al., 2002). According to the traditional patrilineal systems of inheritance (both rural and urban-based), widows are not guaranteed continued access to the landholdings that they enjoyed prior to the death of their spouses. Rather, the widows are expected to move to their maternal home following the death of their husband. However, recently this traditional system has been challenged, leading to land disputes.

Thus, under the patrilineal system, widowed or divorced women may be vulnerable because their access to land is through their husbands. The death of the husband may even result in dissolving and/or relocating the household (Gillespie and Kadiyala, 2005; Ngwira et al., 2001). According to Barnett et al. (2004), in the advent of an increasing number of adult deaths due to HIV/AIDS, women in many cases lose their direct access to land and the possibility to convert the land to other forms of productive

capital.⁷⁴ In general, the laws dealing with women's and vulnerable groups' rights to property inheritance need to be strengthened (UNDP, 2005).⁷⁵

Under matrilineal systems women are in general in a better position compared with patrilineal systems as they can call upon their relatives living close-by for assistance. If a woman is widowed, she and her children continue to live in the marital home and have access to the land. However, despite the name of this system, men are the primary decision-makers and a woman's maternal uncle decides how land is distributed. Moreover, similar to the patrilineal system, a widower in a matrilineal system should according to tradition return to his birth place following the death of his wife, while their children stay with the wife's family.

Nonetheless, indirect costs and effects of HIV/AIDS on land use patterns may also manifest themselves differently depending on the situation. On the one hand, in areas of high land pressure, members of extended families may be forced to share the same piece of land, which affects their ability to make productive use of the landholdings. This is generally the case in parts of southern Malawi where population density is high as is the labour to land ratio, or alternatively average landholding per household is small. Under these conditions, other people can substitute for the prolonged illness of one or several members of a household. Accordingly, a prime-age adult death has little effect on the total land use. On the other hand, in areas where the land to labour ratio is low, the effects of long illness associated with HIV/AIDS on land use are more apparent and may affect the quality of land as households, for instance, increasingly rely on child labour.

It has been suggested that efficient land rental markets might enhance the welfare of households affected by AIDS by maintaining their asset base and generating a new income source while others make productive use of the land (Jayne et al., 2004). Hopefully the new Land Act currently being discussed by the Malawi Government will be able to achieve this goal. This Act will, among other things, provide a new legal framework for land reforms and the administration of land matters that can assist in formalising the security of tenure of customary land (Chirwa, 2004).

⁷⁴ In addition to the fact that women face access constraints to land, they may also lose access to other resources when their husbands die. For example, due to cultural norms, agricultural extension workers are hesitant to visit female farmers in the absence of male relatives (Ngwira et al. 2003). Widows may also lose access to judiciary and financial services because of gender-imposed constraints that inhibit a woman from doing certain things (Barnett et al. 2004). Together, these constraints undermine female economic security and enterprise. Evidence also show that widows in Malawi are ten times more likely to experience property dispossession than widowers (Ngwira et al., 2003).

⁷⁵ The Wills and Inheritance Act does, for instance, not reflect changed realities due to AIDS deaths and the ascendancy of nuclear families (Ngwira et al., 2001; GOM, 1994, Chapter 10:02). Nor does the Act mention gender, which may undermine women's legal rights to land.

4.2.4 Income and production losses

When reviewing the effects of HIV/AIDS on income levels of smallholder households, some studies showed that many affected households have roughly the same aggregate income level as the unaffected (e.g. Jayne et al., 2005). This result can partly be explained by the fact that affected households do not uniformly have less labour than non-affected households. This in turn is because affected households have more household members to start with and thus run a larger risk of experiencing prime-age deaths.

Yet another reason is that households manage to attract new members or employ workers that replace the lost ones. This is not strange since in aggregate there is no shortage of workers; population growth is rapid in Malawi even though AIDS has increased the death rates significantly, and there is a large pool of under-employed workers in the urban informal sector.

Another important aspect is that many Malawian smallholder households have very small farms, particularly compared to those in neighbouring countries such as Mozambique and Zambia. In Malawi, the 25 per cent of the smallholders with the smallest farms have, on average, 0.08 ha land per family member which means that they are virtually landless (Jayne, et al., 2005). And the 50 per cent smallest farms have on average 0.15 ha per family member. Hence, for many of these households land is the major constraint, not labour. However, there are large regional differences in land-labour ratios; they are much lower in Southern Region, which is densely populated, than in Northern Region, as already mentioned in Section 4.2.3.

Moreover, Mather et al. (2004) examined how a prime-age adult death impacted the agricultural production of affected households compared to non-affected households by measuring mean crop income differences across five countries. They found that mean crop incomes are lower for affected than for non-affected households across four of the countries examined, the exception being Zambia. The difference in income was very large for households that had experienced the death of the head of household. In the case of Malawi, these households earned MK 17 500 (USD 170) compared to MK 29 400 (USD 280) in a non-affected household. However, households that had lost other prime-age adults had somewhat higher income than non-affected households. Since this group constituted almost 50 per cent of the affected households over the study period, 1990–2002, these findings emphasize that the impact of HIV/AIDS to a large extent is determined by who in the family is lost to AIDS.

However, a decrease in agricultural production is not caused by chronic illness alone. Another likely explanation is that initial loss of income reduces future purchases of seeds and fertilisers as well as unfavourable weather con-

ditions over past years. In addition, rural households that are badly affected by HIV/AIDS and that are consequently not able to make fully productive use of their land also tend to be food-insecure (Mbaya, 2002). In a study by Pinder (2004), it was found that 41 per cent of rural smallholder households in Malawi are food-insecure, with 30 per cent of these being female-headed.⁷⁶

Further evidence of the effects of HIV/AIDS on the income of some groups of smallholder households is reported in Table 9. It shows the percentage difference in crop production in Malawi, Zambia and Zimbabwe according to whether there was at least one 'active adult' in the household or not. The table is based on a large amount of data from household surveys collected during emergency food security assessments in August and December 2002 by national Vulnerability Assessment Committees (SADC, 2003). A household in Malawi without an active adult has 51 per cent lower cash crop income than a household that has at least one active adult. It is also evident from the results that the impact on cash crop incomes is much larger than on tuber production. This is probably due to the knowledge required to cultivate tobacco, which often is not passed on to children or elderly. However, since 23 per cent of the male-headed households grow tobacco compared to 10 per cent of the female-headed households, the man's death is often sufficient for the household to stop cultivating tobacco (Statistical Yearbook, 2005; Shah et al., 2002).

Table 9: Difference in crop production for households with no active adult (in per cent)

	Cash crop income	Tuber production (kg)	Cereal production (kg)
Malawi	-51	-26	-53
Zambia	-85	-69	-57
Zimbabwe	-77	-	-24

Source: SADC (2003).

4.3 Commercial agriculture

HIV/AIDS has serious consequences for the commercial agricultural sector. It affects operations directly by reducing workers' health, thus lowering labour productivity. Moreover, HIV/AIDS leads to increased absenteeism

⁷⁶ The effect of HIV/AIDS on food security of affected households is recognised as one of the main impacts of HIV/AIDS by a growing body of literature (e.g., Gillespie and Kadiyala, 2005).

because of illness or attendance at funerals (Parry, 2000). There is anecdotal evidence that funerals lead to particularly large losses of workdays on commercial farms, since workers are closely linked to people living in the surrounding areas. Indirect costs are also incurred in recruiting replacements for deceased employees.

There are reasons to believe that commercial farms suffer more than many other industries from HIV/AIDS in the sense that prevalence tends to be high among farm workers (e.g., Nwanyanwu et al., 1997). This is because the estates have high seasonal demands for labour, which make men and women leave their home villages and families for work. Unfortunately, few estates provide married quarters so married estate workers often work unaccompanied by their spouses (Ngwira et al. 2001). Hence, it is common that men buy sex while women working on the estates sometimes sell sex in order to supplement their incomes or obtain favours from men they work with. Estate workers are thus vulnerable to HIV/AIDS (GOM, 2004).⁷⁷

We have not found any study that addresses the consequences of HIV/AIDS on commercial agriculture as a sector. However, Jones (1996) evaluated the costs associated with workers who were HIV positive and with those who died of AIDS on a tea estate in Malawi. His results showed that the greatest impact of HIV/AIDS on costs and profits was the loss of skilled workers. This finding highlights the key role skilled workers may have even in low skilled labour-intensive production processes.

4.3.1 Fisheries

Fisheries is an important industry sub-sector within commercial agriculture; it employs over 50 000 fishermen and another 300 000 people in fish processing and marketing (GOM, 2005c). It is generally believed that many of the fishermen have a number of non-regular partners, commercial and non-commercial, and thus are very susceptible to HIV/AIDS-infection. This stems from the fact that fishermen usually leave their original homes and families for as long as time permits to catch and sell fish, and that their cash earnings can support a number of temporary sexual partners. Furthermore, their partners as well as their wives may be engaged in other sexual relationships (GOM, 2004; Simon-Meyer, 2002; Hemrich and Schneider, 1997).

Women in Law in Southern Africa (WLSA) carried out a study on the fisheries industry in Nkhota-kota along Lake Malawi from a woman's

⁷⁷ There are many workers on estate farms. The tea industry, the largest employer in the private sector, hires about 170 000 workers in the peak season in Thyolo District (Jones, 1996).

perspective. As already discussed in Section 1.7.4, the study found that ‘fish-for-sex’ transactions were common, especially during the low fishing season. In these transactions, women trade sex to be given the ‘favour’ of buying fish in fish markets. Since the use of condoms is rare in the transactional sex industry, and since most fishermen have several ‘girlfriends’, the markets are key channels for HIV transmission. Their mere existence leaves a large number of women extremely vulnerable to HIV infection (White et al., 2004).

4.4 Summary

In this chapter the impact of HIV/AIDS on agriculture has been studied in some detail. It was found that smallholder agriculture suffers from the impact of the epidemic both because it is labour intensive and because loss of income reduces purchases of seeds and fertilisers. It is the poorest 50 per cent of the households that lose their head or spouse that suffer substantial income losses. However, it should also be kept in mind that the impact of a prime-age death varies substantially between households depending on their available responses and whom in the family is lost. In sum, the findings in the section on smallholder agriculture indicate that households affected by HIV/AIDS experience a decline in agricultural production as compared to non-affected households. As a consequence, they tend to be less food secure. Food insecurity in turn worsens nutrition and increases vulnerability to infections, which speeds the progression of HIV infection to AIDS.

This chapter also shows that changes in the traditional administration of customary land is one driving force behind the impoverishment of smallholder households, as this may threaten the livelihood security for vulnerable residents of customary land after experiencing an AIDS-death of a prime-age adult. The current lack of a common system on the customary land market for a more equal land distribution is a factor contributing to this development.

Another issue discussed in this chapter is the dispossession of property of widows and orphans. Although not directly due to the HIV/AIDS epidemic, this is becoming more prevalent under the same. Given that poverty incidence usually rises as the amount of land owned or operated by poor rural households decline, this process is likely to negatively influence poverty and the livelihoods of smallholders in the long run. Moreover once land and livestock are sold, the recovery potential of these households is severely diminished with deepened poverty as a final result.

Commercial agriculture, farming and fishing are also likely to suffer due to substantially increased costs since workers tend to be particularly

at risk for HIV infection. However, analyses of estate farms indicate that the loss of skilled workers affects them the most since farm workers are easier to replace.

Summing up, the impact of HIV/AIDS on the agricultural sector is repeatedly indicated as being a major detriment to production by depleting the sector of labour and human capital. Even though this is visible in villages and on farms, the effects of HIV/AIDS are hard to isolate from other factors at the aggregate level. One explanation could be that the number of adults per unit of land is increasing in spite of the epidemic, so in many cases it might be possible to replace lost workers. However, there is a paucity of good data, and so far most research has focussed on the impact of HIV/AIDS in a small number of villages.

Impact on the real economy:

Manufacturing

5.1 The manufacturing sector

The manufacturing sector is a source of employment for about two per cent of the economically active population (aged ten or older), but its contribution to GDP is as large as about ten per cent (Statistical Yearbook, 2005). However, the sector’s share of the economy, as well as level of production, has declined steadily since the early 1990s, when it was about 17 per cent of GDP (see Appendix 3).

Table 10 illustrates the recent performance of the manufacturing sector. It reports the index of industrial production for the two major sub-sectors ‘Food, Beverages and Tobacco’ and ‘Clothing, Footwear and Textiles’, as well as the index for all consumer goods for selected years between 1992 and 2004. The downward trend is clearly visible: the first and second columns show that production declined by about 50 over the twelve-year period in both sub-sectors, and the third column shows that the index for all consumer goods went from 100 in 1992 to 48 in 2004.

Table 10: Indexes of manufactured goods (selected years)

Year	Food, Beverages and Tobacco	Clothing, Footwear and Textiles	Total Consumer Goods
1992	100	100	100
1995	98	57	88
2000	48	78	63
2004	47	52	48

Note: 1992 is the base year, set at 100.
Source: Statistical Yearbook (various issues).

The manufacturing sector in Malawi faces a number of constraints, partly due to the fact that Malawi is a landlocked country. Some of the major problems experienced include high transportation costs, high costs for imported inputs and utility interruptions. In addition, the sector is very much dependent on agriculture as a source of raw materials and is a provider of foreign exchange for the import of inputs and components (GOM, 2002).

Although HIV prevalence increased over the period during which manufacturing production decreased, there is no evidence of a causal effect. The decrease is partly explained by the fact that several manufacturing companies closed down. One example is the local engineering firm Brown and Clapperton Group, which employed about 500 people throughout the country.⁷⁸ In fact, the sharp decline is probably due to the combined effect of market liberalisation, increased competition from imported goods, and the constraints mentioned earlier (Madziakapita, 2003). Nevertheless, there is no doubt that the epidemic further adds to the negative development of the manufacturing sector by, for example, increasing costs of production. However, there is no research that provides information about how great the effect of HIV/AIDS has been on the manufacturing sector.

The impact of HIV/AIDS on the manufacturing sector is determined by a number of interrelated factors such as changes in demand, availability of inputs as well as the individual characteristics of the firms. For instance, manufacturing firms' production is more or less intensive as concerns labour, physical and human capital and is accordingly more or less exposed to the impact of HIV/AIDS. Labour-intensive firms, on the one hand, are primarily faced with problems of high labour turnover and increased medical and other labour benefit expenses. Physical and human capital-intensive companies, on the other hand, typically rely more on the experience and knowledge of a few key personnel (Isaksen et al., 2002).

In most regions of the world, companies have been slow to identify the threat to profits posed by HIV/AIDS. Today, however, several Malawian and multinational companies are trying to reduce future costs. One example of this is the government-owned Electricity Supply Corporation of Malawi (ESCOM) which has been implementing an incidence-based corporate HIV/AIDS policy since 2002 (ESCOM, 2002). ESCOM is currently distributing free ARVs to its employees and their closest dependants (ESCOM 2002). Unfortunately, there is as yet no available research on the efficiency of this programme.

⁷⁸ They closed their operations based in Blantyre around the year 1999/2000.

Some governments also support preventive actions by private sector companies with tax breaks; others require that HIV prevention programmes be part of the tenders for government business opportunities (Cockcroft, 2002). The Government of Malawi does not give tax breaks to companies, however it cooperates with the business sector through the the Malawian Business Coalition against AIDS (MBCA).

There is a paucity of information on how common HIV prevention intervention is among Malawian companies. However, the MBCA is an independent trust with the aim of mobilising and empowering the business community to take effective action on HIV/AIDS in the workplace, and outside, by providing services to company members.⁷⁹ The MBCA was started in 2003 with government support and had about 50 members by early 2005. It is supposed to function as an umbrella organization providing grants and technical guidance to companies.

5.2 HIV/AIDS-related costs to companies

The main channels through which HIV/AIDS affects the private sector is through its impact on companies, and its most immediate impact is probably on the costs of production but profits, investment and employment are also affected.⁸⁰ Apart from labour and capital intensity several factors determine a firm's vulnerability, the most important being the employees' susceptibility to contracting the disease, their skill level, the structure of employee benefit schemes and how easily employees can be replaced (UNDP 2005; Whiteside and O'Grady, 2002).

The size of the costs incurred due to HIV/AIDS varies greatly across different companies. Companies in labour-intensive industries such as transport firms and sugar estates are seriously affected by HIV/AIDS when many infected workers, not on ART, are in the later stages of the disease.

A study of tea estate workers in Kenya showed that the productivity of HIV-infected workers began to decline three years before termination and that it was about 85 per cent compared to healthy workers during the final year. The same study argued that firms that rely heavily on skilled workers may be more vulnerable than labour-intensive firms and that many other costs due to HIV/AIDS are equally, or more, important than the direct effect of morbidity of workers on labour productivity. Some of these are illness and death of colleagues, increased workloads and potential stigma

⁷⁹ The MBCA, for example, offers capacity building programmes for Chief Executives and Human Resources Managers, workplace policy development and implementation, workplace training, etc.

⁸⁰ See UN (2004) for a review of the impact of HIV/AIDS on companies. Here we focus on the formal sector companies. Chapter 2 provides some information about informal sector companies.

and discrimination, which can all contribute to undermining the working morale and consequently reduce labour productivity.

In addition, depending on the particular firm, there are direct (out of pocket) costs, which typically include death and funeral benefits, medical costs, recruitment and training, as well as indirect costs such as absenteeism, reduced performance and compassionate leave. All of these costs are significantly raised as the disease kills more members of the workforce.⁸¹

5.2.1 Progression of HIV/AIDS in the workforce

As indicated in Chapter 1, one of the differences between HIV/AIDS and most other infectious diseases is the long period between infection and the onset of symptoms. This is illustrated in Table 11, which is based on the assumption that the company stays in business and retains the employee in its workforce. This means that the company maintains a liability for these costs and becomes responsible for a stream of future costs from the moment of infection.

As the table shows, a company is not likely to incur any major costs caused by HIV/AIDS until several years after an employee is infected.⁸² The overall impact of these costs is an increase in labour costs and a decline in labour productivity, making it more expensive for a company to produce a given quantity. Consequently, it is incidental infections rather than prevalent ones that should be of primary concern to a company. Still, nearly all early work calculated the current costs of prevalent infections (Rosen et al., 2000).

5.3 Basic strategies for mitigating short- and long-term consequences

When a company recognises the threat posed by HIV to its employees, it may use three basic strategies for mitigating short and long-term consequences: (1) try to prevent new infections, (2) avoid or reduce the costs associated with existing and future infections, and/or (3) provide treatment and support for infected employees to extend their productive working lives and thereby delay the costs of infection, the so-called incidence-based approach (Rosen et al., 2000).

5.3.1 HIV prevention

When the first strategy, HIV prevention, is used many companies implement a HIV prevention programme that includes AIDS education among

⁸¹ Most direct costs can be measured using information on human resources and financial data that large companies routinely collect. Relevant data on indirect costs is more difficult to obtain.

⁸² Symptoms can begin at any time after infection. However, the five-year estimate in Table 11 seems too short as a reasonable average for the duration of the latency period in Africa.

Table 11: Progression of HIV/AIDS in the workforce and timing of HIV/AIDS-related costs

Timeline	Progression of HIV/AIDS in the workforce	Economic impact on the company
Year 0	Employee becomes infected	No costs at this stage
Year 1–5	Morbidity begins	Morbidity-related costs increases (e.g., sick leave, lower productivity and payouts from medical aid schemes).
Year 6–7	Employee leaves workforce (death or resignation)	Payout from benefits costs are incurred (e.g., death and pension benefits, funeral expenses and overtime wages due to vacant positions), and loss of staff morale and knowledge.
Year 7 or 8	Company recruits and trains a replacement employee	Replacement costs are incurred (e.g., recruitment, training and lower productivity of new employee).

Source: Based on Rosen et al. (2000) and Simon et al. (2000).

employees and their families, the distribution of condoms and treatment of STIs, etc. A critical part of a successful HIV/AIDS program is also the involvement of top management. There does not seem to be any reliable information on how successful these interventions are (Simon et al., 2000).

5.3.2 Cost avoidance

The second strategy, cost avoidance, is commonly referred to as the ‘burden shift’ in the literature. This is because the companies limit their costs by shifting the burden of HIV-related costs over to governments, households and to some extent to other companies. Of all those affected by the epidemic, private companies are the ones most flexible in containing and avoiding these costs which is a rational response from profit-maximising businesses.⁸³ Companies avoid costs by reducing benefits available to infected workers, outsourcing production activities with workers in high risk groups, shifting from labour-intensive to capital-intensive production technologies or avoiding hiring new employees who are infected or are thought to belong to high-risk groups. This last strategy could even

⁸³ In some cases, governments are accepting the burden of AIDS. In others, the government itself shifts the burden onto households or back onto the private sector. See Rosen and Simon (2002) for examples.

develop into compulsory HIV tests for new recruits. In Zimbabwe, for instance, there is anecdotal evidence of illegal pre-employment testing (Collins, 1997). Rosen and Simon (2002) argue that ‘burden-shifting’ is becoming more common, and others have reached similar conclusions. Gillespie and Kadiyala (2005), for example, state that private sector firms systematically avoid the economic burden of AIDS because they are able to do so.⁸⁴

5.3.3 Treatment for employees

Finally, we consider one possible outcome when companies choose the third strategy, i.e. providing treatment for employees. In a study by Rosen et al. (2000), the authors calculate the benefits to companies using the incidence-based approach. In this study, the hypothetical company changes the progression of the disease by extending the average time from HIV infection to death for employees by one, three, or an additional five years, through treatment and care interventions.⁸⁵ Their results indicate that there are large-scale costs to be saved by companies that invest in prolonging their employees’ lives. The present value of the future cost of a new HIV infection would fall by nine per cent if employees’ average life expectancy could be extended for one year, by 25 per cent for three years, and by 38 per cent for five more years.⁸⁶ However, since only direct costs are included in these calculations, not indirect costs, the gains to companies are likely to be even higher. Some of the costs that have been omitted from these calculations are, for example, funeral leave and expenses that can be quite considerable, as described in Chapter 2.

5.4 Assessments of costs to Malawi companies

Despite the potentially devastating impact of HIV/AIDS on companies, there is little quantitative information available on the effects of the disease on companies’ productivity and profitability. Companies have un-

⁸⁴ In general, the structure of costs is the same for the private and the public sectors, although benefits related to illness and death vary greatly between different worker categories. Moreover, as stressed by Barnett and Whiteside (2002:303), the public sector is more vulnerable to the economic impact of HIV/AIDS than the private sector (see also Chapter 4).

⁸⁵ These calculations are based on the three costs that studies in five countries (including Malawi) have found to be among the largest HIV-related costs faced by companies: benefit claims, absenteeism and recruitment and training.

⁸⁶ Although the evidence on the health impacts of health interventions, such as providing ART to employees, is unclear and at times contradictory, it is obvious that some steps can be taken to extend the average number of productive years between HIV infection and death. The rationale for companies to make such investments and interventions is that it pushes the costs associated with HIV further into the future, thus causing them to be discounted more heavily (Rosen et al., 2000).

dertaken studies in Malawi and elsewhere, however results are not made public (UN, 2004).⁸⁷ Nonetheless, a handful of quantitative assessments have been published, including some studies on Malawi.⁸⁸

In the study by Jones (1996) at the Makandi Tea Estate in Malawi, as already mentioned in Section 4.3, a marked increase in worker mortality from 1991 to 1995 was found, which was largely attributable to AIDS. Still, the annual cost of HIV/AIDS in the fiscal year 1995/96 was only 1.1 per cent of total expenditure and 3.4 per cent of gross profit. The reason for this was that the company was able to limit costs in the short run by adjusting its employees' contracts and benefits. The largest costs attributable to HIV were the costs for the provision of medical services to employees and their dependants (38 per cent), followed by death-in-service benefits (32 per cent). The author concludes that the extent to which Makandi will incur higher costs depends on corporate policy with respect to employee welfare. However, the most significant effect of HIV/AIDS in the long run would be the extent to which the cumulative loss of senior staff reduced efficiency and productivity; the availability of unskilled workers did not seem to be a major problem.

In another study from Malawi, a formal cost-benefit analysis of the impact of HIV/AIDS was applied to the firm Brown and Clapperton Limited. The results also showed little effect on operating profit, but the future impact was projected to be significant given the large number of employees potentially infected with HIV. Recruitment and training costs were also expected to increase in the long term, when it would become harder to recruit skilled people (Jones, 1996b).

The studies from Malawi presented above have a common conclusion that the costs of HIV remained low, even though there was a marked increase in absenteeism and mortality. Similar conclusions have been found in studies from other countries. Two examples are a three-company study in Zambia by Smith and Whiteside (1995) and a five-company study in Botswana which found that HIV costs were relatively low (with an average of 0.7 per cent of the total wage bill) (Greener, 1997).

In the case of Malawi, it is likely that costs have been kept down because of a low level of formal sector labour demand since the mid-1990s; for example, manufacturing production was halved between 1995 and 2005. However, a recent survey of studies on Sub-Saharan firms concluded that many firms face substantial cost increases due to HIV/AIDS

⁸⁷ These assessments are not complicated, but they do require a large amount of data which can only be obtained from the companies themselves. This is usually difficult (Simon et al., 2000).

⁸⁸ There are some limitations in these studies. Different methodologies and scarcity of data make their conclusions difficult to compare.

and that even their viability is threatened (UN, 2004). Since the impact of HIV/AIDS varies so much across companies and only a few case studies of Malawian businesses exist, it is important to carry out studies on large samples of firms. Only then can an overall assessment be made of how Malawian businesses are coping with HIV/AIDS, and what measures policymakers should implement to mitigate negative consequences

5.5 Summary

In this chapter we have discussed that the manufacturing sector in Malawi has contracted sharply during the last ten years. It is not easy to say how much of this development is due to HIV/AIDS, trade liberalisation, an unstable macroeconomic environment or the political and regional environment. Although there is a dearth of empirical studies, it is quite clear that production costs have increased due to HIV/AIDS, and that both domestic and foreign direct investment have been affected negatively (see Chapter 3).

There are a limited number of studies on the impact of HIV/AIDS on individual private sector firms. Many firms seem to manage to shift the cost burden by adjusting employee contracts and benefits. However, some assume an increased responsibility for the health of their employees, pushed by the costs related to the HIV/AIDS epidemic.

To address the problem of companies lacking commitment to shoulder their part of the burden of the epidemic in a society, governments around the world can, and do, constrain the actions of private companies through regulations. Despite this fact, governments cannot demand too much of the private sector, because of the threat that this might lead to bankruptcies, relocations, cutbacks or an increased transition to capital-intensive production. Consequently, businesses should not be expected to bear all the costs of HIV/AIDS among their employees. This is especially the case since a successful private sector is crucial for economic growth in a country. Hence, even though prevention of new HIV infections and caring for those infected are shared responsibilities, the primary responsibility continues to fall on governments and households.

Although still not very common, there are companies in Malawi that have clearly formulated HIV/AIDS policies. ESCOM implemented their own HIV/AIDS policy as early as 2002, and is currently distributing free ARVs to its employees and their closest dependants. This might be a sign of hope for the future and a sign of the increased commitment of the private sector to cushion the impact of HIV/AIDS.

Impact on the real economy:

Natural resources and the environment

CHAPTER 6

Malawi's economy is extremely dependent on its natural resources since agriculture, fishery and forestry constitute close to 40 percent of GDP (see Table 1a in Appendix 1), and there are strong linkages between these and manufacturing production. This implies that the natural resources of the country are crucial to both the employment and livelihoods of the majority of Malawians.

6.1 Loss of human capacity

Although research on the mechanisms through which HIV/AIDS affects the environment is only in its infancy, the HIV/AIDS epidemic most likely undermines the sustainable use of several natural resources (Hammarskjöld, 2003). The impact of the epidemic arises from two main causes: the loss of human capacity for natural resource management and changes in the use of land and natural resources.

One of the consequences of the HIV/AIDS epidemic is that farming households have less human and financial resources to work the land. Since many people are trapped in a state of perpetual food insecurity – partly due to the effects of the epidemic – they are likely to focus on short-term gains and spend less time on activities such as soil conservation activities, that is work which has a long-term impact on sustainable agricultural production. This is further exacerbated by the epidemic's effect on adult mortality, which induces households to change their priorities and reduce the importance of the long-run perspective (Lorentzen, et al., 2005). As a consequence, the epidemic constitutes a direct threat to sustainable use of natural resources and consequently impairs the prospects for both short and long-term economic growth.

6.2 Changes in use of land and natural resources

Evidence from Malawi shows that programmes such as land conservation and soil management need close monitoring by extension workers for successful implementation (GOM/UNDP, 2002). This may be especially true with the advent of a generalised AIDS epidemic when the death of prime age adults threatens transfer of knowledge about farming from generation to generation. Even if an increase in outreach of government services to rural areas would be desirable, the opposite is happening in Malawi. As we will show in Chapters 7 to 11, the epidemic depletes the human resource base in the public sector and recent evidence from Malawi shows that AIDS poses an obstacle to outreach by the Ministry of Agriculture's extension workers (see Section 4.1) as well as to the implementation of the forestry environmental awareness campaign (GOM, 2005b).

Loss of topsoil is the most serious environmental problem in Malawi, and has been for a long period of time. Even if the amounts of data that exist on soil losses are scanty, there are indications of increasing soil erosion; many districts have a rate of soil loss well above the rate of soil formation (Ministry of Mines, Natural Resources and Environment, 2002).

One of the main causes of soil erosion is deforestation. According to the GOM (2005), the rapid exploitation of forests in the country indicates that Malawi's forestry resources are currently dwindling. This development could possibly be attributed to the positive relationship between the dependency on forest resources and poverty that has been observed among low-income households in Malawi (Fisher et al., 2005). Barany et al. (2005) conducted a study on the interaction between HIV/AIDS, livelihoods and forest resources.⁸⁹ They found evidence that woodlands and forests act as a safety net for households affected by HIV/AIDS when they are food insecure. For instance, households that had experienced a prime age adult death were five times more likely to show increased collection of firewood than unaffected households in the last five years. These findings indicate that the epidemic, through its adverse effect on poverty reduction, has the potential to increase deforestation in Malawi.

Barany et al. (2005) also report that according to traditional healers there has been an increase in the number of people collecting and selling medicinal plants over the last five years. Many plant species are already overexploited. If this tendency continues, it is possible that, in the long run, the epidemic will alter the flora of the country and reduce the access to traditional medicines.

⁸⁹ The data were collected in three different sites: Chimaliro, Ndaje and Nkula.

6.3 Water and sanitation

The loss of human resources also affects access to potable water supplies and safe sanitation facilities, which are basic requirements for a healthy labour force (GOM, 2005). Maintenance and repair, and replacement of pumps when they are worn out, have been major issues for water supply in Malawi (Durevall, 2002). In principle, the Ministry of Water Development (MoWD) owns the water pumps in the rural areas and the ministry is responsible for taking care of them. However, according to senior officers at the MoWD, lack of human resource capacity, partly due to the results of AIDS, is one obstacle to this service provision (GOM/UNDP, 2002). For example, the MoWD had to cut down on training on maintenance of water pumps in rural areas. In the medium run, this may have implications for water access and households may have to accept inferior water quality. This in turn could imply that people may reduce their working capacity and risk their health (Hammar skjöld, 2003).

6.4 Summary

The environment is also likely to suffer because of HIV/AIDS, as it undermines the sustainable use of natural resources. A direct consequence of the epidemic is the loss of human capacity, which generates changes in the use of land and natural resource management. This is probably spurring land erosion, one of the most serious environmental problems in Malawi. An indirect consequence of HIV/AIDS is reduced life expectancy, which is likely to induce short-term advantage behaviour patterns which also constitute a direct threat to the sustainable use of natural resources. This in turn may adversely affect the potential of the agricultural sector, and other sectors such as tourism that have direct bearing on the environment, as well as the prospect of both medium and long-term economic growth.

Impact on the public sector:

Human resources, expenditure, revenue

CHAPTER 7

This chapter explores how the public sector has been affected by HIV/AIDS. The impact on this sector is crucial for public service delivery and, consequently, for the ability of the government to create enabling conditions for economic growth and poverty alleviation. The first part of the chapter discusses the epidemic's impact on human resources. We describe the mechanisms through which the human resource base is currently being depleted in Malawi, and discuss the general impact of AIDS on public sector delivery. In the second part of the chapter we turn to the financial resources. We analyse the effect of the epidemic on government revenue and expenditure.

7.1 Human resources

In general, research on the impact of HIV/AIDS on the public sector is sparse (Barnett & Whiteside, 2002:299). However, in 2002, the Government of Malawi (GOM) and the United Nations Development Programme (UNDP) published one of the most comprehensive reports to date on the impact of HIV/AIDS on human resources in the public sector (GOM/UNDP, 2002).⁹⁰ Researchers analysed human resource data from 1990 to 2000 in five public sector organisations in Malawi including: the Ministry of Health (MOH); the Ministry of Education and Vocational Training (MoE); the Ministry of Agriculture (MOA); the Ministry of Water Development (MoWD), and the Malawi Police Service (MPS). Since these organisations together constitute 79 per cent of all the established posts in the public sector, the report gives a reliable picture of the general implications of HIV/AIDS for the public sector in Malawi.

⁹⁰ Section 7.1 draws upon evidence presented in this study unless otherwise indicated.

The public sector primarily provides services, and therefore human resources is the most important factor for efficient public service delivery. In general, there are several mechanisms through which HIV/AIDS erodes human capital. The epidemic causes a general increase in both mortality and morbidity of public servants. Mortality in turn increases attrition levels⁹¹ and leads to high vacancy rates.⁹² At the same time as mortality rates increase, morbidity (of the employee or family members) causes an increase in absenteeism. Both the increase in absenteeism and the increase in the number of vacant positions result in a greater workload for the employees who are left within the organisation. Ultimately, the epidemic has an adverse impact on productivity, financial resources and service provision. In the following sections, we will discuss each of the mechanisms through which HIV/AIDS erodes human capital in the public sector.

7.1.1 Attrition

One important finding of the public sector study is that there was a rising trend in attrition in all the organisations reviewed. Table 12 shows that the level of attrition varied between the different ministries. On average, it reached 2.3 per cent during the period 1990–2000 i.e. for every 1 000 public servants, 23 left the ministry every year. Approximately fifty per cent of all cases of attrition were caused by death, followed by resignation and retirement.

The expected death rate for the population has been calculated to be approximately 11 deaths per 1 000 people aged between 15 and 49 years old (GOM/UNDP, 2002). Hence, as indicated in Table 12, the average mortality rate for all ministries (except for the MoE) is higher than for the average population. Out of the total number of deaths (8 105), GOM/UNDP (2002) estimates indicate that at least 799 are likely to be AIDS-related, and the highest percentage of AIDS-related deaths was seen in the MoWD, MOA and MPs. However, these numbers are uncertain, and are likely to be far too low; NAC (2004) for instance estimates that AIDS is currently responsible for three out of four deaths among adults aged 15–49.⁹³

⁹¹ Attrition refers to the organisational loss of labour. The definition of the attrition rate that will be referred to in the following is number of workers that left the organisation per 100 workers employed in the organisation.

⁹² Vacancy is defined as the number of personnel missing from the authorised staff positions that are necessary in order to achieve organisational objectives.

⁹³ Since the cause of death was not reported, the authors assumed proxies based on established adult mortality trends in order to determine the extent of HIV/AIDS-related mortality. Furthermore, in certain instances when HIV/AIDS-related causes and symptoms were reported as the death cause in the age group 25–40 years, it was assumed that the reason for death was AIDS.

Table 12: Summary statistics of mortality and attrition rates by Ministry, for the period 1990–2000

Minis-try	Total number of staff in posts, year 2000	Average attrition rate	Average mortality rate	Percentage of attrition caused by death
MoWD	517	15%	5.9%	45%
MoA	7 275	4.8%	2.1%	51%
MoH	15 622	2.2% ^(b)	1.3%	58%
MPS	6 497	6.1%	2.8%	46%
MoE^(a)	62 234	1.6%	0.7%	45%
Total	92 145	2.3% ^(c)	2.6%	

Notes: ^(a) Based on data on qualified teachers and support staff only; ^(b) Based on data from 1996–2000; ^(c) Excluding MoH.

Source: GoM/UNDP (2002).

7.1.2 Mortality rates

When mortality rates are broken down by gender and age, deaths are high among both men and women in the 25–45 age groups. In accordance with national HIV prevalence data (see Chapter 1), female deaths peak earlier (in the 20–29 age group) than male deaths which suddenly rise in the age group 25–34.

One consequence of the age distribution of death rates is that the pool of employees who are ready to take up senior positions is shrinking, which in turn implies that young staff with little experience are prematurely promoted. In the long run, this will have serious implications for the future leadership and quality of management of the public sector. On the one hand, the fact that women die earlier than men may reduce the likelihood of women being able to reach management positions. On the other hand, it is possible that women who survive have a higher chance of reaching the managerial level, since the turnover of older men (who often hold management positions) is likely to increase.

Standardised mortality ratios (SMRs) show the extent to which one group is affected by deaths compared to the average population, which has an average standard mortality rate of 100.⁹⁴ All ministries except for the

⁹⁴ A Standardised Mortality Ratio (SMR) is defined as the ratio of the number of deaths observed in a sub population to the number that would be expected if the sub population had the same specific rates as the standard population, multiplied by 100. Hence, the average standard mortality rate is 100. A figure over 100 is worse than the national average and a figure less than a 100 is better.

MoE had higher SMRs than the average population, which possibly can be explained by the fact that many MoE employees work in rural areas where the HIV/AIDS prevalence rate is lower compared to urban areas. With a SMR of 980, non-professional workers of the MoWD had almost ten times higher mortality rates than the average population. Other occupations hit by death were Technical Officers (552) and Technical Assistants (319) in the MoWD. The high mortality rates for these professionals are probably related to the fact that they often work away from home, which increases their likelihood of engaging in high-risk sexual behaviour. Extremely high SMRs were also found among professionals at the Department of Animal Health and Industry (457), at the MOA, and among Clinical Officers (393) in the MOH.

7.1.3 Vacancy rates and workload

The public sector operates under extremely high vacancy levels, and public servants cannot easily be replaced. This, in turn, makes the sector vulnerable to the impact of HIV/AIDS as increasing attrition is likely to cause service disruptions in the government units affected. The high number of vacant positions is due to various reasons. Examples include lack of government funds, an inflexible recruitment and promotion system, unavailability of skilled workers, market competition (from the private sector and from overseas), and high attrition (DHRMD/UNDP, 2003).

Even if the high vacancy rates cannot be attributed to HIV/AIDS alone, death-related attrition due to AIDS has undoubtedly worsened an already strained situation. In the MOA, for instance, a direct relationship between high standardised mortality ratios and vacancy levels was noted.

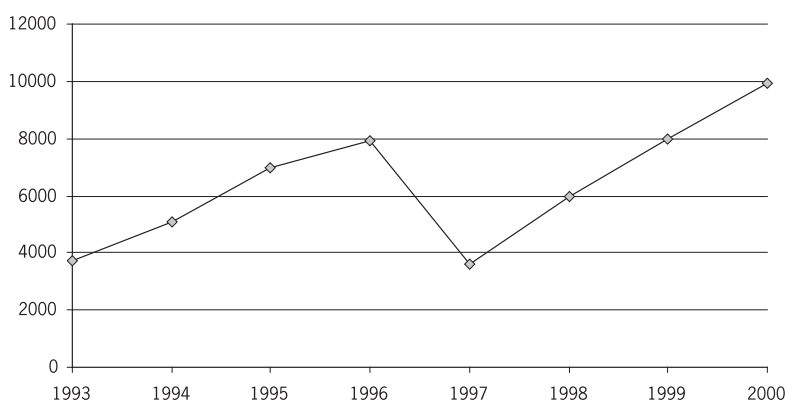
Vacancy rates provide an indication of the areas in which there are shortages of critical skills and where there is an urgent need for human resources. An assessment of ten public organisations revealed that vacancy levels for professional positions were higher than for support functions, the rates shown were 36 per cent and 30 per cent, respectively. Hence, primarily highly skilled public servants are lacking. Furthermore, a large proportion of vacancies were found among the operational and middle level cadres compared to management level. The latter is primarily due to the incentive structure in the public sector; middle level managers earn substantially less than managers. According to vacancy rates, the following areas were identified as in critical need of human resources: planning, monitoring and evaluation, policy analysis and coordination, specialized occupational fields in the core services of each ministry, information technology or management information systems and HIV/AIDS coordination (DHRMD/UNDP 2003). Judging from this

list, vacancy rates are particularly high in positions that need to be filled with professionals.

7.1.4 Absenteeism and morbidity

Absenteeism and morbidity are in general not recorded within the public sector and records of the amount of sick leave are not available.⁹⁵ However, data on time lost due to morbidity within the MPS has been collected by the Police Hospital and is shown in Figure 12. According to the GOM/UNDP report, the sudden fall in 1997 was attributed to a change in information management system rather than to a real drop. Taking this explanation into consideration, the data reveals an increasing trend of morbidity over time. This is in line with other reports from public officials throughout the public sector. The three major reasons for absenteeism were: personal illness, funeral attendance and caring for sick people. This further illustrates that HIV/AIDS is a major determinant of absenteeism.

Figure 12: Time lost due to morbidity in Malawi Police Services, 1993–2000



Source: GoM/UNDP (2002).

7.1.5 Impact on service delivery

The high vacancy levels and the increasing tendency towards absenteeism leave the remaining workers with an ever-increasing workload. Some of the strategies that have been developed in order to handle the situation are: reallocation of duties to remaining staff, re-hiring of retired officers,

⁹⁵ This is because frequently sick leave policy is not implemented. Instead, public servants are paid on humanitarian grounds as long as they have a permanent post, even if they are absent due to illness.

higher dependency on expatriate staff and volunteers and increasingly contracting out activities to the private sector.⁹⁶

Although staff are trying to deal with the situation, human capacity constraints are eventually likely to affect both the quantity and quality of service delivery. Table 13 gives some illustrative examples of how the output of the MoA and MoWD has been affected by the erosion of human capital.

Table 13: Examples of impact on service delivery of the MoA and MoWD

	MoA	MoWD
Examples of impact on service delivery due to human capacity constraints	• Insufficient staff to cover the farmers • Reduced quality of service when generalists have to act as specialists • Poor monitoring and supervision of programme implementation • Poor or insufficient collection of agricultural statistics • Inadequate technology development and dissemination	• Implementation of new projects fails • Unable to train rural communities in water system maintenance • Fail to collect hydrological data due to lack of transport, staff and funding • Delay in programme implementation

Source: GoM/UNDP 2002.

If other factors are held constant, it is likely that the adverse impact on service delivery will increase more and more with every employee who dies. This is because it is easier to cover up for the initial co-workers lost, but when an increasing amount of experience and institutional memory is lost, the marginal costs of losing one more worker increases substantially.

7.1.6 Recruitment of new staff

It is difficult to estimate the impact of HIV/AIDS on personnel costs in the public sector. However, they are bound to be great and, as stressed by Barnett and Whiteside (2002, p. 303), they are probably higher than in the private sector. This is because the government offers generous employment benefits by national standards and because of the employment

⁹⁶ In the MoA, it was reported that low-level staff needed to act in higher positions without being offered training. This, in turn, created distrust and poor teamwork as well as inefficient service delivery within the organisation.

practices of the public sector.⁹⁷ Moreover, the process of adjustment to the HIV/AIDS environment is likely to be much slower in the public sector, both for political reasons and because the impact of lower productivity is not so visible; it does not result in lower profits.

An illustration of one of the challenges facing the public sector that cannot be solved relatively easily is the recruitment of new staff.

In Malawi, the recruitment system is highly centralised around the Department of Human Resource Management and Development (DHRMD). This, as well as the fact that most government employees are permanent employees which means that they cannot be replaced until they die or retire, causes delays in the recruitment procedures. For instance, before the Ministry of Health can formally employ a person three Government bodies, the Health Service Commission, DHRMD and Ministry of Finance, must give their approval. This can take well over six months. The slow recruitment procedures have been highlighted as a factor that contributed to the human resource crisis in the health sector, which will be elaborated upon in Chapter 8.

Since the recruitment process is so long, it is common that new employees start working before the formal decision is taken and that they either are paid with other recurrent expenditure (ORT), as they are not on Government's payroll, or work without pay. In addition, the process of removing staff that have resigned or passed away from Government's payroll can also take several months.

With low rates of attrition, these delays might not be very costly. However, as stated above, HIV/AIDS has increased attrition tremendously, making the centralized recruitment system a weak spot that generates inefficiencies. In addition, it renders the determination of the number of employees in the Malawi Civil Service at any point in time very difficult.

7.1.7. Adjusting to a new reality

As discussed above the AIDS epidemic has major consequences for the internal efficiency the public sector. At the same time as this is happening within public sector institutions, the environment in which these organisations are embedded is changing due to AIDS. The epidemic creates an increasing need for new and innovative solutions to a myriad of emerging issues such as orphans and the provision of ART.

Hence, the epidemic hits the public sector both on the supply side (internally) and the demand side (externally). To give a concrete example of what this situation implies for a public sector organisation, Table 14 (see p.

⁹⁷ Since the information on employment benefits varies substantially between different organizations both in the private and public sector, a systematic comparison between the two sectors was beyond the scope of this study.

133) provides information on both the internal and external implications and responses to HIV/AIDS for the Ministry of Agriculture.

The first row illustrates issues and responses to HIV and AIDS that have to be dealt with internally in the organisation. The second row shows examples of external challenges and responses that the employees of the Ministry are facing while working with their clients in the communities.

7.2 Government revenue and expenditure

7.2.1 Revenue

HIV/AIDS influences government revenue in at least three ways. Firstly, it affects the tax base negatively by reducing economic growth and that reduces tax revenue for a given tax rate. Secondly, it undermines revenue collection through its impact on the work effort and efficiency of public employees. And thirdly, it is likely to generate significant increases in foreign assistance.

The epidemic has no doubt exerted a harmful effect on the tax base in Malawi, but it is not easily detected in the data on tax revenue. This is because there is not a strong link between tax revenue and GDP, the most straightforward measure of the tax base. In fact, Mangani (2004) fails to find any relationship between the two variables for the period 1970–2003. One possible explanation for this according to the author is that the measurement of GDP might be incorrect. However, it seems likely that changes in efforts to collect taxes and tax reforms may also have played an important role.

Table 15 (p. 134) provides data on various sources of government revenue in per cent of GDP for selected years over the period 1993/94 to 2004/05. Government revenue, i.e. tax and non-tax revenue rose from about 17 per cent in the 1990s to 20 per cent in 2002/03 and to 25 per cent in 2004/05. The main source of this increase was tax revenue, which went from about 14 per cent of GDP in the mid-1990s to over 20 per cent in 2004/05. This increase was driven by improved tax collection from individuals and on goods and services. However, all tax collection did not increase: tax income from companies declined from about three percent to two per cent due to a reduction in the tax rate, low profits and the closures of several manufacturing firms. Tax collection on international trade also decreased, mainly as a result of reductions in import tariffs.

Table 14: Implications and responses to HIV/AIDS within the Ministry of Agriculture

	HIV	AIDS
Internal challenges to the organisation	Prevention of infection among MoA employees <i>Examples from the MoA:</i> Employees in the field (who are away from their spouses) engage in high-risk sexual behaviour. <i>Responses:</i> • Identify susceptible occupational groups • Implement policies to avoid transmission of HIV e.g. construct houses for the spouses in the field	High morbidity and premature deaths and retirements in the MoA <i>Examples from the MoA:</i> High HIV/AIDS-related attrition rates and high vacancy levels among all occupational categories cause loss of institutional memory <i>Responses:</i> • Put information management systems in place • Conduct institutional human resource audits, identify key workers with special skills • Target capacity building where mortality is high
	Prevention of infection in the community <i>Examples from the MoA:</i> Male farmers waiting outside tobacco markets in busy urban areas engage in risky sexual behaviour <i>Responses:</i> • Expand HIV/AIDS communication to rural communities	HIV/AIDS affects core activities <i>Examples from the MoA:</i> Changes the demography of farming population, implies that grandparents, women and children take productive roles without adequate knowledge of farming <i>Responses:</i> • Target training on children, women and elderly who take productive roles • Develop resource support systems and labour exchange systems at the community level

Sources: Adapted model from Barnett and Whiteside (2002), GoM/UNDP (2002) and Malindi (2005).

Table 15: Government revenue in per cent of GDP, selected years

	1993/94	1996/97	1999/00	2002/03	2004/05*
Revenue and Grants	21.0	21.9	24.1	26.7	37.4
Revenue	17.6	16.4	17.2	20.0	25.1
Grants	3.4	5.5	6.9	6.7	12.3
Tax revenue	14.6	15.5	15.6	17.0	22.0
Income and profits	5.5	6.9	7.2	7.6	9.0
Companies	2.7	3.5	2.8	2.0	2.1
Individuals	2.8	2.2	3.4	4.4	5.6
Goods and services	6.7	5.3	6.4	6.5	7.2
Int. trade taxes	2.9	3.7	2.4	1.8	2.3
Non-tax revenue	2.3	0.9	1.6	3.0	3.1

* Estimated

Sources: IMF (2001), IMF (2005), IMF (2006a) and Annual Economic Report (2005).

The main explanation for this increase in tax revenue is the establishment in 1998 of the Malawi Revenue Authority, a government agency that was formed to improve the functions previously carried out by the Departments of Customs and Excise, and Income Tax. It operates on a commercial basis and its employees work under much better conditions than those in the Malawi Civil Service.

It is worth noting that the Malawi Revenue Authority was formed in the midst of the pandemic. Hence, it is an illustration of the fact that although the negative impact of HIV/AIDS on efficiency in the public sector is substantial, government institutions can become more efficient with adequate political will and a proper incentive structure. This shows that there is considerable scope within the public sector for mitigating the negative effects of HIV/AIDS on the supply of services by improving management and administrative capacity.

According to IMF (2005), the efficiency of the Revenue Authority can still be enhanced further. Thus, it is possible that improved tax collection will be maintained in the near future (for example during the next five

years), in spite of HIV/AIDS. However, it is not easy to predict the evolution of domestic government revenue over the next ten to fifteen years. This will depend on economic growth and the stability of Malawian society in general where factors such as the political climate, public finance management, corruption and availability of sufficiently well educated people are vital.

7.2.1.1 Foreign aid

Table 15 above also provides information about foreign aid, i.e. grants in relation to GDP. Since Malawi is an aid-dependent country, a large share of government revenue is grants: during the 1990s, grants made up about 25 per cent of total government revenue. In the fiscal year 2004/05, its share reached 36 per cent. This shows that donors, to a large extent, determine the evolution of government income.

Donors' willingness to provide foreign aid, put simply, depends on whether Malawi has a programme with the IMF, and on how much support that is mobilised to fight HIV/AIDS. One illustration of the former is how changes in Malawi's recent relations with the IMF impacted on resource inflows. In 2000, the IMF approved a three-year Poverty Reduction and Growth Facility, but it was soon declared off track due to fiscal slippages. However, after the elections in 2004, the new Government requested a Staff Monitored Programme and in August 2005 a three-year Poverty Reduction and Growth Facility arrangement was put in place. As is evident from Table 15, net inflows of foreign aid increased significantly during the period when the Staff Monitored Programme was in place. The recent increase in foreign aid is also due to the initiation of new programmes to increase health expenditure: two of the most important being the health sector-wide approach, (Health swap), a pooling of resources from various donors that will help to recruit and retain health workers and fund existing and new programmes, and the Malawi Global Fund which supports the prevention and treatment of HIV/AIDS, malaria and tuberculosis.⁹⁸

About USD 200 million is committed through the Health swap over the period 2005–2010, and the Global Fund has approved funding of USD 62 million. This amounts to 3.6 per cent of GDP for the fiscal year 2005/06. In total, grants as a share of GDP are projected to increase from 6.7 per

⁹⁸ A Sector Wide Approach (swa) is a type of aid modality that could be defined as a development cooperation in which (i) All significant public funding for a sector supports a single sector policy and expenditure programme; (ii) Under Government leadership; (iii) With common approaches adopted across the sector by all funding parties; and (iv) A progression towards relying on government procedures to disburse and account for all public expenditure, however funded.

cent in 2002/03 to 14.0 per cent in 2004/05, 18.9 per cent in 2005/06, and 14.3 per cent in 2006/07 according to the IMF (2005). Hence, HIV/AIDS, in combination with economic policies that keep Malawi's current IMF programme on track, have the potential to generate substantial resource inflows on a continuous basis for several years.

7.2.2 HIV/AIDS-related expenditure

There is little doubt that HIV/AIDS has increased the need for public expenditure. However, variations in actual public expenditure during the 1990s and up to the fiscal year 2003/04 were driven by a combination of external shocks such as droughts, changes the availability of budget support, interest payments on both foreign and domestic debt, and attempts to comply with IMF's conditionality. On top of this, inadequate public finance management must be added. As a result, it is difficult to detect the impact of the epidemic on the level of public expenditure.

It is easy to find evidence of the lack of control over expenditure, indicating that public expenditure has probably varied more because of governance-related administrative inefficiencies than because of HIV/AIDS. For instance, there have been serious differences between approved budgets and actual expenditure during almost every year since 1980, and even revised budget ceilings have regularly been overrun (Durevall and Erlandsson, 2004). Furthermore, performance appears even worse when allocations (votes) or line items are compared: differences between budgeted expenditure and outcome have often been considerable (IMF, 2004). The role of governance was amply demonstrated when control over expenditure improved significantly directly after the change of government in 2004, and the outcome proved to be in line with the original budget for the fiscal year 2004/05.

On the other hand, a closer look at expenditure reveals many sources of increased costs due to HIV/AIDS. First, there are the medical costs, including ART and associated costs. Second, there are the costs of fighting HIV/AIDS both externally and within the public sector through, for example, workplace programmes. Third, there are personnel costs because of absenteeism, sick leave, funeral attendance, costs of funerals, medical benefits, death gratuities, training costs for the replacement of deceased workers and difficulties in controlling the number of ghost workers because of high death rates (GOM/UNDP, 2002; Haacker, 2004b).

It is complicated to estimate the magnitude of the indirect costs of HIV/AIDS, and beyond the scope of this study to attempt to do it. However, the GOM/UNDP (2002) report (previously referred to in Section 7.1) provides some estimates which have been included in Table 16. These

estimates are based on the assumption that approximately ten per cent of professional deaths are HIV/AIDS-related. As previously stressed, this assumption significantly underestimates the true number of deaths due to AIDS. Consequently, the costs presented in the following should be regarded as minimum values. The costs reported in Table 16 are in year 2000 prices.

Table 16: Estimated personnel costs for HIV/AIDS in the five public organisations (in millions) 1990–2000 (a)

Cost items ^(b)	Amount in MK
Funeral costs	9.6–36.5
Death benefits to surviving family members	36
Estimated cost for funeral-related absenteeism	4.4
Estimated cost for morbidity-related absenteeism ^(c)	7.1
Total	57.4–84

(a) Includes the five ministries surveyed, i.e. 79 per cent of the total public sector.

(b) Training and recruitment costs and medical costs could not be estimated and are hence not included in the table.

(c) Assuming AIDS-related death is preceded by 65 days of absenteeism and that HIV/AIDS-infected people are likely to be absent 15 days per year due to illness.

As Table 16 indicates, the total cost for the five public sector organisations included in the study amounted to between MK 57.4–84 million (USD 1 229 thousand – USD 1 787 thousand) during the ten-year period.⁹⁹ Extrapolation of this number to the entire public sector gives a total estimated cost of MK 73–106 million (USD 1 553 thousand – USD 2 255 thousand) or an annual expenditure of MK 6.6–9.6 million (USD 140 thousand – USD 204 thousand). However, it should be kept in mind that these estimates only take into account absenteeism due to the death and morbidity of civil servants. In reality, the time lost due to funeral attendance and morbidity is substantially higher, since public servants also attend funerals of relatives and take care of sick family members who do not work in the public sector. In addition, the cost of decreasing levels of productivity due to grief etc. is likely to be high.

As demonstrated above, HIV/AIDS-related costs lay a substantial burden on public finances at ministry level. Although these costs are difficult

⁹⁹ The following conversions into USD are based on the historical exchange rate for the period 30 August 2002 to 31 August 2000, which was USD/MK 0.02127 (Source: www.oanda.com, 2005–10–22).

to track in the budget, they have to be paid. Hence, it is reasonable to suspect that operational budgets are gradually being diverted from public service delivery to cover the HIV/AIDS costs.

Data on expenditure for the development of sector workplace policy and programmes for HIV/AIDS are available from Budget Documents. During the fiscal years 2003/04 and 2004/05, Other Recurrent Expenditures (ORT) on HIV/AIDS intervention amounted to 0.3 and 0.4 per cent of total ORT. In the budget for 2005/06, they were increased to 0.9 per cent. However, it is noteworthy that HIV/AIDS programmes do not yet appear to have been implemented in all government bodies: in 2004/05, about ten per cent had no HIV/AIDS expenditure at all.

There is also clearly defined HIV/AIDS-related expenditure in the Development Budget, and in the 2005/06 Budget there is an allocation (vote) to the Department of Nutrition, HIV and AIDS, which includes the National AIDS Commission. Table 17 reports these expenditures as well as ORT on HIV/AIDS programmes.

Total HIV/AIDS related expenditure make up about ten per cent of all expenditure. This is much more than envisaged in the Malawi Poverty Reduction Strategy Paper (PRSP), where only about two per cent the total PRSP costing was planned for allocation to HIV/AIDS in 2004/05 (GOM, 2002). This is probably due to a greater increase in official assistance for HIV/AIDS than expected when designing the PRSP.

The bulk of the expenditure is financed by grants, while domestically financed expenditure only amounts to a quarter of a percent of total expenditure. Of course, HIV/AIDS generates many other types of public expenditure not covered by Table 17. Moreover, the small share financed locally is also to some extent a reflection of the fact that a substantial part of the budget is tied to interest payments on foreign and domestic debts. During the first half of this decade, they amounted to 20 to 25 per cent of total government expenditure, and seven to ten per cent of GDP (IMF, 2006a).

7.3 Summary

This chapter has illustrated the impact of the HIV/AIDS on the public sector in Malawi. What emerges from the first part of the chapter is the fact that the epidemic hits the public sector both on the supply side (internally) and the demand side (externally).

On the supply side, the epidemic attacks the public sector in the same way it attacks an individual, by making the whole system ill. The epidemic primarily exacerbates already existing problems. Although we have clear

Table 17: Approved allocations for HIV/AIDS-related expenditure (in million kwacha, MK)

	Budget Allocation 2004/05	Budget Allocation 2005/06
Development Part 1 (donor projects)	5 496 800 000	5 165 581 000
Development Part 2 (locally financed)	220 000 000	130 000 000
Total development HIV/AIDS	5 716 800 000	5 295 581 000
ORT HIV/AIDS	110 820 000	155 886 000
Dept. of Nutrition, HIV and AIDS (Recurrent Budget)	-	33 303 000 ^(a)
Total HIV/AIDS in % of Total Expenditure	12.60	9.00
Locally financed HIV/AIDS in % of Total Expenditure	0.36	0.24

Note: (a) Includes ORT programme for HIV/AIDS Services.

Source: GoM (2005b).

evidence that HIV/AIDS has an adverse impact on public sector delivery, it is sometimes difficult to disentangle where the routine problems of a malfunctioning public sector end and where the impact of AIDS starts (Badcock-Walters, 2005). However, there is no doubt that the government's capacity to deliver is undermined by HIV/AIDS, especially through the depletion of the human resource base.

In order to mitigate the impact on the supply side, the disease needs to be addressed internally with a systematic response throughout all organisations in the public sector. The HIV/AIDS programmes that each ministry is obliged to develop and implement are examples of such a response. Another key challenge in addressing AIDS in the public sector is to make the disease visible. In this context, systematic collection of updated data is crucial.

The impact of HIV/AIDS on the demand for public services is diverse and to a great extent sector-specific. What is seen in all ministries, though, is that the lack of human and financial capacity has a negative effect on already existing public services. At the same time, there is an increasing need for new and innovative solutions to emerging issues related to AIDS, and these are often specific for each sector.

As far as government expenditure and revenue are concerned, there is little evidence that government revenue will decrease in the near future. National income and domestic tax revenue will be lower than in a no-AIDS scenario, but this is likely to be compensated for if the increased

efficiency of tax collection in recent years continues. In addition, HIV/AIDS has the potential to generate large resource inflows from international donors. On the expenditure side, however, the HIV/AIDS epidemic has an unambiguously adverse impact. We have primarily shown its impact at ministry level in terms of increased personnel costs. Since HIV/AIDS-related expenditure is normally not budgeted for, the increase in personnel costs implies that scarce resources are diverted from service delivery. On an aggregate national level it is difficult to trace the impact of HIV/AIDS, since the variations in public expenditure due to other sources have swamped the impact of the epidemic, but it is obvious that a number of cost items related to prevention, treatment and care have been increasing in the wake of the epidemic.

In sum, the public sector needs to adapt its plans to the reality of HIV/AIDS at all levels of the organisation, both internally and externally. As such, the epidemic triggers change. Although the picture looks dark, it should be remembered that HIV/AIDS also creates an opportunity to do things differently and to change procedures already malfunctioning before the advent of HIV/AIDS.

Impact on the public sector: Health

CHAPTER 8

In a country with high HIV/AIDS infection rates such as Malawi, the health sector is strategically important since it is the primary agent for monitoring the epidemic and treating HIV/AIDS-infected people. AIDS changes the reality for health care workers as they are faced with an increasing numbers of patients, new types of treatment methods and sick and dying colleagues. In this section, we will study the impact of HIV/AIDS on the supply of, as well as the demand for, health care in Malawi.

8.1 Implications for the supply of health care

The health care sector is labour intensive – physicians, nurses and other health care workers provide the backbone of health care delivery. In the following sections we will discuss the different components through which the epidemic affects the supply of health in Malawi. We describe developments in attrition, morbidity and absenteeism of health care workers, as well as medical brain drain. These are all crucial determinants for health care supply and eventually the future wellbeing of the Malawian people.

8.1.1 *Indicators as to capacity*

The capacity of the Ministry of Health determines how well it is able to respond to the epidemic. In order to put the Malawian health sector into context, Table 18 gives a comparative overview of selected indicators in some Sub-Saharan countries, all heavily affected by HIV/AIDS.¹⁰⁰

¹⁰⁰ These data exclude the informal health sector (traditional healers and traditional birth attendants), which provides care to a large proportion of the population in the countries selected. In Malawi, for example, the majority of the population uses the informal sector regularly, or solely (GOM 2003).

Table 18: Selected indicators of the quality of health services in countries in Sub-Saharan Africa heavily affected by HIV/AIDS

Countries	Adult (15–49) HIV prevalence rate ^(a)	Total health expenditure as% of GDP	Total per capita health expenditure (in USD) ^(b)	Physicians/ 1 000 000 population	Nurses/ 1 000 000 population	Hospital beds/ 1 000 population
Years	2006	2003	2003	2004	2004	Various years
Botswana	24.1	5.6	232	28.8	241.1	1.2 ^(c)
Lesotho	23.2	5.6	31	5.4	60.1	...
Malawi	14.1	9.3	13	1.1	25.6	1.34
Mozambique	16.1	4.7	12	2.4	20.5	0.9
Namibia	19.6	6.4	99	29.5	168	0.3
South Africa	18.8	8.4	295	69.2	388.0	0.8 ^(c)
Swaziland	33.4	5.8	107	17.6	320.3	0.7
Tanzania	6.4	4.3	12	2.3	36.6	0.9
Uganda	6.7	7.3	18	4.7	5.4	0.9
Zambia	17.0	5.4	21	6.9	113.1	...
Zimbabwe	20.1	7.9	40	5.7	54.2	0.5

Notes: (a) Source: UNAIDS (2006); (b) Average exchange rate (in USD); (c) Data from public hospitals only.

Sources: WHO (2005a; 2005b); Haacker, (2004a).

8.1.2 Status – human resources

Table 18 clearly shows the poor status of the Malawian health sector, in terms of both absolute health expenditure and human resources.¹⁰¹ The most striking feature of the table is Malawi's poor ranking with regards to human resources – the lowest in the region – with as few as 1.1 physicians per 100 000 people. Although this number is extremely low, the situation is not quite as bad as it seems: in addition to physicians there are close to 500 Clinical Officers employed by MOH and Christian Hospital Association of Malawi (CHAM).¹⁰² Clinical Officers are a kind of paramedic who take on many responsibilities that traditionally belong to physicians.

Malawi has an extremely low ratio of skilled to unskilled staff, and one of the greatest challenges to the health sector is the acute lack of skilled personnel. The unequal distribution of health care workers further exacerbates this issue. Even if most people in Malawi live in rural areas, it is estimated that 50 per cent of Malawi's doctors work in the four central hospitals (Kemp et al. 2003). In 2004 the Ministry of Health published a report which described the human resource situation as a deep crisis for the health sector (MOH, 2004).¹⁰³

There are two main reasons for the low level of qualified staff: poor retention of existing staff and insufficient supply of trained workers (Martin-Staple, 2004). Migration of health workers both externally (overseas) and internally (to the private sector and NGOs) has increased during recent years and it is one of the reasons for the high attrition rates of skilled staff.

8.1.3 Brain drain of health care professionals

A forthcoming study on brain drain of physicians and nurses to 16 OECD countries¹⁰⁴ between 1991 and 2004 shows that Malawi is among the world's top 25 countries most affected by brain drain of physicians (Bhargava and Docquier, 2006a). Combining the cross-country data on brain drain with UNAIDS latest prevalence estimates for countries in Sub-Saharan Africa Bhargava and Docquier (2006b) also found a positive relation-

¹⁰¹ Basic public health care services are basically free of charge. However, households pay a large share of the health bill: household out-of-pocket spending is 26 per cent of total health sector expenditure or USD 3.2 per capita (Martin-Staple, 2004).

¹⁰² The main formal health providers in Malawi are: The Ministry of Health and Population (MOH) (60%) and the NGO Christian Hospital Association of Malawi (CHAM) (25%). The private sector is still relatively small (Kemp et al. 2003).

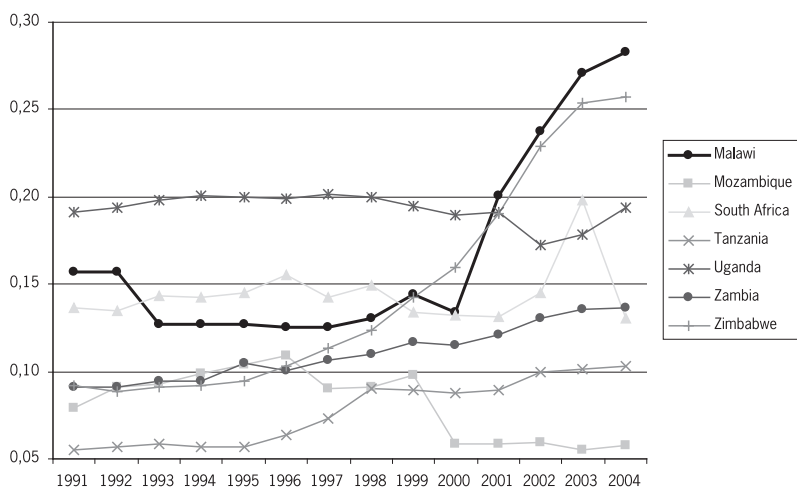
¹⁰³ Apart from the issue of coverage, another emerging issue expressed by partners in the health sector is the severe shortage of drugs (Government of Malawi, 2006).

¹⁰⁴ The study is based on a database that compiles information on foreign born physicians in the 16 most important O.E.C.D recipient countries: Australia, Austria, Belgium, Canada, Denmark, France, Germany, Ireland, Italy, New Zealand, Norway, Portugal, Sweden, Switzerland, United Kingdom, and United States.

ship between HIV/AIDS prevalence and emigration of physicians. In line with this finding, anecdotal evidence from Malawi show that the heavy work load due to AIDS coupled with the perception of the increased risk of becoming infected with HIV or tuberculosis result in some health professional trying to escape from clinical work (Muula and Maseko, 2006).

Figure 13 depicts the total physician emigration rate during the period 1991–2004 for selected countries in Sub-Saharan Africa. The emigration rate is defined as the stock of physicians abroad as percent of physicians trained in the country. As seen in the graph, the exodus of Malawian physicians has increased over the years; in 2004 as many as 28 percent of the doctors who had been trained in Malawi had emigrated.

Figure 13: Physicians' emigration rate for selected Sub-Saharan countries, 1991–2004



Source: Bhargava and Docquier, 2006c.

In addition to the loss of health care workers to emigration many retire prematurely, move to the private sector or switch careers (DFID-Malawi, 2005). In 2003, only 70 of approximately 500 nurses who graduated from government-funded training entered the public health service (Martin-Staple, 2004).

The brain drain of health care workers is costly for the country, both in terms of the loss of its financial investment in each health care worker as well as loss of their skills and knowledge. One recent study, for example, finds that the financial cost for each enrolled nurse-midwife that emigrates from Malawi amounts to between USD 71,081.76 and USD 7.5 million at

bank interest rates of 7 per cent and 25 per cent per annum for 30 years respectively (Muula et al. 2006).¹⁰⁵

In response to the human resource crisis in the health sector, a six-year Emergency Human Resource Programme, aimed at increasing Malawi's staffing to the level of Tanzania, was launched in April 2005. The programme is costed at USD 272 million, and mainly funded by the Government of Malawi, Department for International Development (DFID) and the Global Fund (Palmer, 2006).

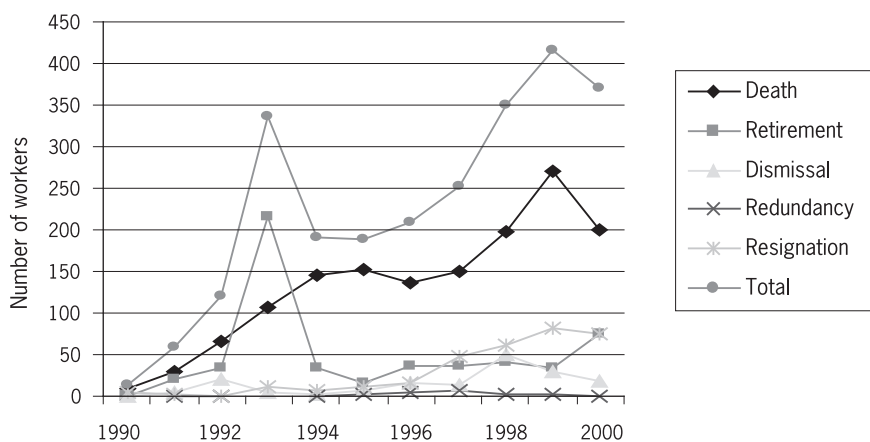
The programme focuses on: (i) improving incentives for the recruitment and retention of Malawian staff through salary increases for eleven selected professional and technical cadres; (ii) external stop-gap recruitment of physicians, and; (iii) a significant expansion of domestic training capacity. Furthermore, this programme has been incorporated into the Sector Wide Approach (swaP) for the health sector in Malawi (DFID-Malawi, 2004), (see Section 7.2.1.1). As part of the Human Resource Programme, a general increase in salaries of health care workers became effective in October 2004, and a 52 per cent top-up of technical staff's salaries was implemented at the beginning of April 2005 (MEJN, 2005). Since these policies are still new, their effects on retention remain uncertain. To date, great progress has been made with regards to external recruitments, and early evaluations show that the top-ups on salaries have had a positive impact on total number of staff. However, there are indications that this policy has not yet been able to stem international migration from the public sector, especially among the highly skilled, and there is still a great loss of registered nurses and junior doctors (Government of Malawi, 2006 and Palmer, 2006).

The strained situation in terms of human resources in combination with the increasing number of patients due to the AIDS epidemic, creates an increased workload for the remaining workers. For instance, Makuti et al. (2004) report that as many as 90 per cent of health care workers said that their workload was increasing, primarily due to HIV/AIDS but also due to high vacancy rates among health staff.

8.1.4 Attrition rates

In Malawi, steadily increasing attrition rates among health workers have been observed over the last 15 years (GOM/UNDP, 2002, and Makuti et al., 2004). Figure 14 shows the causes of attrition identified within the MOH during the years 1990–2000.

¹⁰⁵ The authors do not take into account the potential financial benefit of emigration for migrant families who receive remittances.

Figure 14: General attrition by cause and year for MoH

Source: GoM/UNDP (2002).

More recent data on the reasons for payroll deletion in the MoH is provided in Table 19.

Table 19: MoH payroll deletions 2004 and 2005

Year	Deceased	Resigned	Retired	Absconded	Interdicted	Other	Total
2004	164	67	45	11	30	29	346
2005	214	115	77	37	28	20	491
Total	378	182	122	48	58	49	837

Source: MoH Human Resources Management and Development Section cited Government of Malawi (2006).

Death is the main cause of attrition. It makes up 58 per cent of all cases during the period 1990–2000, and 45 per cent during the years 2004–2005. The number of deaths in the organisation increased particularly after 1996. Apart from mortality, attrition was mainly due to retirement and resignation.¹⁰⁶

As previously mentioned in section 7.1.1, GOM/UNDP (2002) estimates that approximately ten per cent of deaths are likely to be attributable to AIDS. However, these estimates are very uncertain, and data collected during the

¹⁰⁶ Resignation increased from 1996 when the health service was liberalised and many health workers moved from the public to the NGO/private sector (GOM/UNDP, 2002).

period 1996–2002 shows that 80 per cent of the deaths among health workers were caused by HIV/AIDS-related conditions (Makuti et al., 2004). Despite the fact that stigma makes it difficult to stipulate the percentage of deaths caused by AIDS, there is no doubt that in the past ten years HIV/AIDS-related attrition has compounded shortages of health personnel in Malawi.

Most occupational categories among health workers have a higher mortality rate than the average population (GOM/UNDP, 2002). However, research is inconclusive regarding which occupational category that has been most affected by deaths. It seems as if different occupations have been hit at different points in time (Makuti et al., 2004).¹⁰⁷

Even if HIV/AIDS is not mentioned as a direct cause of resignation, there are reports that in many cases the disease is a contributing factor. For instance, 90 per cent of Malawian health workers perceive that they are exposed to a high or very high risk of HIV/AIDS infection (Makuti et al., 2004). One study of midwives in Malawi found that the epidemic was one of the factors which pushed midwives out of the public health sector as the exposure to AIDS was perceived as greater there than in the private health sector. This was due to the fact that the public sector, in contrast to the private sector, did not provide employees with risk allowance, health insurance or post exposure prophylaxis (Skov Ostergaard, 2003).

It is difficult to specify how many new recruits are needed in the future to replace the loss of personnel attributed to HIV/AIDS. Estimates of the total projected loss of health personnel were calculated before the introduction of the Emergency Human Resource Programme.¹⁰⁸ According to these calculations, the loss of health personnel amounts to about 5 500 individuals between the years 2003–2013. Combined with additional staff requirements due to the increased demand, etc. the number of new recruits needed amounts to approximately 14 000. This in turn implies that the intake of medical school students needs to increase by 188 per cent during this ten-year period (Hornby and Ozcan, 2003).¹⁰⁹ The scale-up on provision of ART has an effect in this context. As the number of health

¹⁰⁷ The highest death rates within the MOH during the period 1992 to 2000 were found among Laboratory Technicians, Clinical Officers and Environmental Health Workers. However, data from CHAM and MOH facilities from 1996 revealed that the highest death rates were among clinicians and nurses. This shifted in 1998 when senior administrators were most affected, while recent data from 2002 revealed that the highest mortality rate was among patient assistants (Makuti et al., 2004).

¹⁰⁸ These projections are based on the following assumptions regarding attrition – Public sector: average death rate per year of 1.25 per cent, loss rate through resignation, emigration and retirement of 3.5 per cent for higher level staff and 2.5 per cent for lower level staff. Private sector: Overall attrition rate (due to all causes) 2.5 per cent.

¹⁰⁹ The authors carried out these calculations using the number of students already in training in 2003 as the base year.

care workers on ART increases we can expect that attrition rates decrease, however the demand for health workers also increases (as discussed below) because of the scale-up on ART. It is difficult to discern the net effect of these parallel developments at this point.

8.1.5 Absenteeism

Absenteeism of health care workers has increased during recent years. Although absenteeism is poorly recorded, health care workers report that it has increased because of HIV/AIDS. One study showed that on average, 25 per cent of health care workers had been absent for various lengths of time during the seven-day period before the survey was conducted. Furthermore female health care workers, nurses, and staff in the 25–39 year age bracket were particularly inclined to be absent (Makuti et al., 2004). Another paper found that technicians at laboratory services only worked 44 per cent of the 42 hours they were expected to work per week (Mundy et al., 2003). Evidence indicates that the extent of absenteeism varies with occupational category and confirms that females carry a heavier care burden than men.

The earlier discussion in Section 7.1.4 on the high levels of HIV/AIDS-related absenteeism applies to the health sector as well. One of the primary reasons for being absent (reported in 65 per cent of the cases) is the illness of the individual and of relatives (Makuti et al., 2004). However, there are other excuses for showing up late at work or for early departure. These include funeral attendance, time spent in banks, declining real incomes and the poor conditions of employment (GOM/UNDP, 2002).

In response to the increased workload, coping mechanisms have been developed. The staff members who are not absent have to take on a heavier workload and work longer hours, and part-time workers are brought in. This is likely to have an adverse impact on the quality of health care. According to one report, for example, the situation causes stress and sometimes demoralized behaviours among health workers. (Conticini, 2004).

Although we have seen an increase in the treatment of AIDS patients in Malawi in recent years, there is evidence that the high workload for health care workers may impede the introduction of new treatment methods related to HIV/AIDS. For instance, a study found that personnel who have been trained in VCT did not provide the service because of their excessive workload (Makuti et al., 2004).

8.2 Implications for the demand of health care

In an HIV/AIDS epidemic, people die and become hospitalised at an early age. In Malawi, this implies an increase in the aggregate demand for

health care due to the overall deterioration of health in the population. In addition to this general increase, sero-positive patients require new treatment methods that have to be introduced into an already strained health sector.

8.2.1 The burden of AIDS

Haacker (2004a) provides indicators of the size of the burden that the epidemic poses to the health care system in Sub-Saharan Africa, assuming ART is not available to the general population. Table 20 shows that the share of deaths related to HIV/AIDS will increase substantially in most countries in the near future. In Malawi, the ratio of AIDS-related deaths to total deaths is expected to increase from 45 per cent in 2004 to 58 per cent in 2010. Hence, the demand for health care will increase considerably. It will be extremely difficult to cope with this in the context of a sector lacking skilled personnel.

Adding to these direct effects of HIV/AIDS, the rise in opportunistic diseases among sero-positive people increases the risk of infection with such diseases for sero-negative people, which consequently leads to higher prevalence of opportunistic diseases in the whole population. Despite Malawi having a very successful Tuberculosis (TB) programme, TB case notifications have increased by 500 per cent between 1985 and 2005 to reach approximately 26 000 TB cases annually (MOH, 2006). According to data provided by the MOH a nationwide survey conducted in 2000 concluded that HIV sero-prevalence in TB patients was 77 per cent. Thus, the HIV epidemic has fuelled a TB epidemic, which causes an increased demand for health care among the sero-negative population as well.

8.2.2 Medical ward occupation rate and infrastructure

The increased pressure on the health care system becomes evident when studying the share of medical wards occupied by HIV/AIDS patients. According to the MOH (2001), AIDS-related illness accounted for over 70 per cent of all in-patient admissions. In high prevalence areas and within certain age groups, the number is likely to be even higher. Among 1 225 patients between the age 30 and 40 who were admitted to a hospital in Blantyre in 1999–2000, 80 per cent were HIV-positive. This group further constituted 91 per cent of the patients in the medical ward and 56 per cent of those in surgical wards (Lewis et al., 2003).

Furthermore the epidemic puts pressure on the infrastructure in the health sector. Over a seven-day period in 2003, the average bed occupa-

Table 20: Selected indicators of the impact of HIV/AIDS on the health sector in Sub-Saharan Africa (Per cent except where stated otherwise)

	Mortality, all ages 2004		Mortality, all ages, projected 2010 ^(a)		% of hos- pital beds occupied by HIV patients	Number of AIDS patients/ physician ^(c)
	Total	From AIDS	Total	From AIDS	Various years ^(b)	
Botswana	2.9	2.5	2.9	2.6	60–70	156.7
Lesotho*	1.5	0.6	2.5	1.7		535.2
Malawi*	2.2	1	2.4	1.4	30–80	507.1^(d)
Mozambique	2.1	0.7	2.2	1	30	
Namibia	1.8	1.3	1.9	1.5		72.2
South Africa	2	1.3	2.3	1.6	26–70	38.2
Swaziland*	2	1	3.2	2.4		257
Tanzania	1.7	0.6	1.5	0.5	50–90	214.6
Uganda	1.3	0.3	1.1	0.2	50	
Zambia	2.1	1	1.9	0.9	60–80	239.1
Zimbabwe*	2.2	1.7	3.2	2.7	50–80	177

Notes: * Estimated mortality refers to 2002 rather than 2004, and projections are based on data available in 2002; ^(a) These projected mortality rates are based on the assumption that ART is not available for the general population. However, it should be kept in mind that this is not an adequate assumption today since ART has become available free of charge in most of the countries included in the table; ^(b) Estimates obtained from various web sites and news agencies; ^(c) Estimate by Haacker (2004a) based on the assumption that ten per cent of HIV positive individuals seek the services of a trained physician, ^(d) Clinical Officers are not included.

Source: Haacker (2004a).

cy rate among hospitals in six districts was 119 per cent. Lilongwe Central Hospital had the highest rate, 162 per cent.¹¹⁰ Hence, patients are sharing beds or even sleeping on the floor. As a result, there is increased infection dissemination and a decreased quality of care (Makuti et al., 2004).

As far as we know, there are no studies regarding the extent to which sero-positive patients have crowded out sero-negative patients in Malawi. However, in Kenya, one study revealed that admissions from sero-nega-

¹¹⁰ This survey was conducted in eight MOH and CHAM hospitals located in six different districts: Salima, Machinga, Nsanje, Mulanje, Lilongwe and Rumphu.

tive patients decreased by 18 per cent when the number of HIV-positive patients more than doubled. In addition, the overall mortality rate among patients increased. Hence, sero-negative patients were either crowded out or admitted at a later stage of infection (Floyd and Gilks, 1996).

8.2.3 Staffing requirement for HIV/AIDS-related services

Both the direct and indirect effects of HIV/AIDS on the health sector imply a greater number of patients who require health care. Added to this the health sector needs to expand HIV/AIDS-related services, which has far-reaching implication for the staffing situation. Table 21 reports projected requirement of health care workers for different HIV/AIDS related services during the period 2005–2010.

Table 21: Estimated public health service staffing required for selected HIV/AIDS-related services, 2005–2010

Cadre	ART	VCT	Opportunistic infections	Total required	Current total ^a	Total required/ current total * 100
Physicians	10	-	-	10	139	7%
Nurses	211	167	2813	3191	4717	68%
Clinical officers	221	-	468	689	942	73%
Medical assistants	-	-	500	500	718	70%
Laboratory supervisors, assistants	8	378	-	386	251	154%
Pharmacists, assistants	344	-	-	344	93	370%
Environmental health officers	10	-	-	10	304	3%

Note: (a) The current total does not take into account expected future attrition and emigration rates.

Source: Adapted from Palmer (2006).

As shown in Table 21, the increase in opportunistic diseases related to HIV/AIDS will increase the demand for health personnel substantially, especially for nurses. The categories of employees where the demand will exceed the supply are: pharmacists and assistants and laboratory supervisors and assistants.

In addition, there are indications that health care workers are currently dealing with more complicated conditions due to HIV/AIDS. Evidence from Blantyre shows that HIV-positive medical patients stayed in the hospital on average 0.5 days longer than HIV-negative patients. Of the patients who were never discharged, HIV-positive people on average died two days later compared to HIV-negative patients (Lewis et al., 2003). The fact that HIV/AIDS patients on average stay longer implies that they are more costly. A study from a hospital in Zimbabwe showed that the cost per in-patient stay was twice as high for HIV/AIDS patients compared with other patients, mainly due to their longer stay in hospitals (Hansen et al., 2000).

8.2.4 ART provision

Even if the provision of ART requires additional health care workers, we can expect that the burden of HIV/AIDS in the medium term may decrease somewhat thanks to ART. This is because the number of patients seeking care for opportunistic infections is likely to diminish when sero-positive people become healthier.

In the long term though, the provision of ART implies that the accumulated number of people in need of health care increases as ART is a life-time commitment. Assuming that widespread viral resistance to ARVs does not occur, the extent to which the number of patients will increase depends primarily on two variables: the mortality rate of ART patients and the number of new cases of HIV infections. The future burden of the ART programme on the health sector will depend on how these two variables change.

If the death rate of people on ART continues to be low and the incidence of HIV infection remains at its current level, there will be an explosion of ART patients and consequently the burden on the health sector will increase every year.

As the risk of contracting the disease for a person having unprotected sex with a patient on ART is dramatically lower than if the sex partner is HIV-positive but not receiving ART, the treatment may help to reduce the spread of the epidemic. In a scenario where the number of new infections decrease and mortality rates remain low, the health sector will only temporarily be burdened by the ART programme which over time will reduce in scale.

Yet, we can also envisage a situation in which the successful treatment of infected people encourages high-risk behaviour. If this is the case, and we still assume that mortality rates remain low, it is likely that infection rates will increase substantially and there will be an ever-increasing number of ART patients who will consume an increasing share of country's health resources (Over, 2004).

Given that the ART programme in Malawi has only recently been expanded, at this point it is difficult to say which scenario is more likely.

In order to augment treatment efforts, there are two issues that will probably be in focus – these are human resources and sustainable funding. Even though the human resource crisis is addressed and progress has been made (see Section 8.1.3), human capacity still remains one of the bottlenecks in the health care system. Evidence shows that the lack of human resource capacity has created long waiting lists in high burden centres (Makwiza et al., 2005). The second outstanding issue is sustainable funding. This may be a problem since the programme relies mainly on funding from the GFTAM. The current funding commitment will last until 2008 and, as pointed out by NAC, one of the key challenges for the country will be to secure longer-term financial commitments (NAC, 2005).

8.3 Summary

To sum up this section, we have shown how the epidemic increases the burden on an already strained health sector, especially in terms of human capacity. A high proportion of all admissions are related to HIV/AIDS, and these patients typically stay longer and are consequently more costly than HIV-negative patients. Also, an indirect consequence of the epidemic is that it has fuelled a brutal TB epidemic.

At the same time, data revealed how HIV/AIDS-related mortality and absenteeism undermine the capacity to deliver health care. An enhanced response to the epidemic is particularly constrained by the lack of human capacity. One ray of hope is the current initiatives, including swap and the Emergency Human Resource Programme, which seem to have made substantial progress already. Hopefully these extraordinary measures will stem the constantly increasing attrition and emigration rates among health care workers.

Impact on the public Sector: Education

CHAPTER 9

A well-functioning education sector constitutes an essential prerequisite for economic and social development. Moreover, evidence from the latest DHS survey shows that a higher level of education is positively associated with comprehensive knowledge on HIV/AIDS as well as on how to prevent infection, despite the high HIV/AIDS prevalence rates observed among educated Malawians (see Section 1.2). Hence, the education system is not only one of the primary agents in creating sustainable economic development in the country, but also in combating the epidemic.

Malawi's education system follows an 8-4-4 structure: eight years of primary school, four years of secondary school and four years of university. Because tertiary education capacity is limited in Malawi (only 17 500 students are enrolled) and since data on the impact of HIV/AIDS on tertiary education in Malawi is, as far as we know, non-existent this description of the impact of HIV/AIDS on the education sector will mainly focus on primary and secondary education.¹¹¹

9.1 The demand for education

There are several reasons to expect that the demand for education will decrease in severely affected countries. In general the epidemic's adverse impact on household income may result in a decline in the share of the household budget allocated to children's schooling.¹¹² Furthermore, the opportunity cost of sending a child to school may also increase as demand

¹¹¹ For information on the impact of the epidemic on tertiary education, see e.g. Kelly 2001.

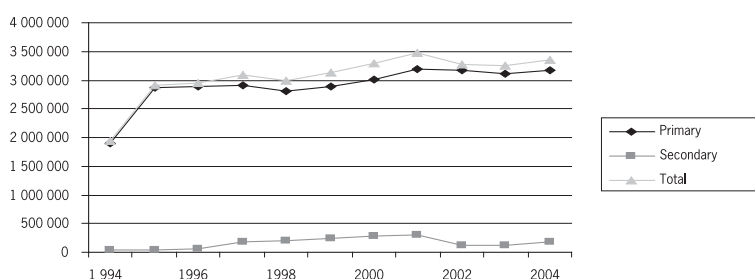
¹¹² In Malawi, primary education is free. However, as many as 83 per cent of parents of children in public primary schools paid for school supplies in 2001 (World Bank, 2004a). Hence, despite free primary education, children are to some extent dependent on their caregivers for the financing of their education.

for child labour and care-giving increases in households affected by HIV/AIDS. Consequently, decreasing enrolment rates, increasing absenteeism and high dropout rates can be expected in countries with a high prevalence of HIV/AIDS. In the first part of this chapter we will explore some of the mechanisms behind the expected decrease in demand for education.

9.1.1 Enrolment rates

As mentioned in Section 2.4.2, one of the likely responses to the impact of AIDS at the household level is to withdraw children from school. However, this development is hard to track down in aggregated data due to many other factors that affect enrolment rates. Also, since primary school is free of charge the impact of AIDS is likely to be stronger on dropout and repetition rates than it is on enrolment. As Figure 15 shows, data from Malawi does not reveal a general decline in enrolment during the last few years. On the contrary, as described in Chapter 3, there has been a rapid overall increase in the number of enrolled pupils in primary school during the past 12 years owing to the introduction of free primary education (FPE) in 1994. There was a steep drop in the number of enrolled children in secondary education in 2002 according to Figure 15, which is based on school census data. However, this is probably due to data problems; it is unlikely that more than half the pupils left school between 2001 and 2002.¹¹³ The 2005 census is probably reliable, and it indicates that there were 180 000 pupils in secondary school, about the same level as in 1997.

Figure 15: Number of enrolled children by educational level, 1992–2004



Source: Statistical Yearbook, NSO (2004).

The high overall enrolment rates in primary school in Malawi show that the education system reaches a substantial number of the poor. In this set-

¹¹³ According to a MoE official, there are great concerns regarding the data on enrolment for secondary school during the period 2002–03.

ting, the expected drop in income in households affected by HIV/AIDS may be of less importance to enrolment. This result is supported by cross-country studies which concluded that the greatest differences between orphan and non-orphan enrolments are generally found in countries with low overall enrolment rates (Ainsworth and Filmer, 2002; Haacker, 2004a).

A more detailed analysis of the correlates of enrolment in Malawi is provided in a recent study by the Government of Malawi and the World Bank. The author ran two different models: one for children between 6–17 years of age and a second one for children between 15–17 years old. The results are presented in Table 22 and Table 23. The tables show the percentage point change in probability of school attendance for different groups of children. For example, a single orphan living with surviving biological parent is 2.7 percentage points less likely to attend school compared to the average child in Malawi, i.e. a child with the mean attendance rate which is set at 0.

Table 22: Probit model¹¹⁴ for children's school attendance (Ages 6–17)

Variables	% point change in probability of attending school
Single orphan living with surviving biological parent	-2.7
Double orphan or a virtual double orphan	-7.9
Non-orphan living with one biological parent	-4.0
Non-orphan not living with any biological parent (foster child)	-8.3
Prime-aged adult chronically ill with AIDS in household	-1.9
Poor household	-5.3
Female-headed household	5.3
Urban	5.7
North region	9.6
Head of family has post primary education	12.7

Source: Government of Malawi and World Bank (2006).

The results from Table 22 show that foster children, double orphans and children residing in poor households are the three groups with substantially lower probability of attending school than the average attendance rate.

¹¹⁴ A probit model is an econometric model that is used when the dependent variable is binary, and thus can only take two values. In this case the values are 1 if a child attends school and 0 if the child does not attend school.

The above table reveals the importance of having biological parents present in the family for school attendance, irrespective of whether or not the child is orphan. The study further reports (not shown in the table) that particularly non-orphan girls living in broken/non-traditional families are more likely to be absent from school: eleven percentage points lower school attendance than non-orphans living with both parents, while the equivalent figure for boys is four percentage points lower (Government of Malawi and World Bank, 2006).

Table 23 shows the school attendance probability for the age group 15–17 years. This group was tested separately because the share of orphaned children increases with age. Consequently, this table shows greater marginal effects. Table 23 reveals that adolescent girls living without their parents (both orphans and non-orphans) have significantly lower probability rates of attending school than the mean attendance rate for girls between 15–17 years old (which is 64 percent).

Table 23: Probit model for children's school attendance (Ages 15–17)

Variables	% point change in probability of attending school	
	Boys	Girls
Single orphan living with surviving biological parent	-4.9	-10.7
Double orphan or a virtual double orphan	-14.7	-22.4
Non-orphan living with one biological parent	-16.1	-14.2
Non-orphan not living with any biological parent (foster child)	-17.0	-42.3
Poor household	-4.6	-5.8
Female-headed household	10.5	12.7
Urban	3.4	10.3
North region	17.3	5.8
Head of family has post primary education	18.6	22.6

Source: Government of Malawi and World Bank (2006).

The relatively small differences between non-orphan and orphan children with regard to school attendance could be explained by the fact that a large number of children regardless of orphan status live in broken families. The Malawi DHS 2004 finds that only 58 per cent of children live with their biological parents (NSO and ORC MACRO, 2005). Several studies also

point to the critical role of extended families and communities when children experience the death of their parents (e.g. Kadzamira et al., 2001; Shah, 2003, Doctor, 2004).

9.1.2 Dropout and repetition rates

There is some concern that HIV/AIDS-related morbidity and mortality among students cause them to dropout. However, this is likely to be a minor problem since 90 per cent of infected newborns die before school age. The relatively small instances of deaths among the school-aged population are also confirmed in a survey which shows mortality rates of 0.09 per cent and 0.12 per cent for primary and secondary students respectively (Bennell, 2005b). However for older students, especially women, HIV/AIDS has had a large impact on mortality rates. DHS data shows that mortality rates for tertiary female students have increased from 3.6 in 1992 to 7.7 in 2004 while the same rates for men are 4.1 and 4.9 (NSO and MACRO, 2005).

The general trend in the data is that primary completion rates (which is the main indicator for the Millennium Development Goal for education, see Appendix 3) have increased by approximately 15 per cent in the last decade. Still, 25 per cent of the pupils repeat each grade in primary school and after eight years at school about 60 per cent of the pupils have dropped out.

As regards dropout rates and repetition rates, the overall internal inefficiency in the education system in Malawi, as well as the continuing effects of the introduction of FPE, make it difficult to disentangle the effect of the epidemic.¹¹⁵

Comparing the latest demographic and health surveys' data on dropout rates, i.e. percentage of students in a given standard in the previous school year who were not attending at the time of the survey, have been decreasing over time. Averaged dropout rates for the first eight years in school decreased from 5.5 per cent in 2000 to 4.2 percent in 2004 for boys and from 6.9 per cent to 4.6 per cent for girls (NSO and ORC MACRO, 2001; 2005). During primary and secondary school girls have a slightly higher dropout rate than boys, but it varies between different standards (NSO and MACRO, 2005). Poor girls from rural areas represent the group most at risk of dropping out before achieving primary completion (World Bank, 2004a).

As far as repetition is concerned, average repetition rates for the first eight years in school increased for both boys and girls. On average 24.5 per cent of the boys repeated in 2000 and this number increased to 24.9 per cent in

¹¹⁵ With the current level of repetition rate in Malawi, the government pays the equivalent of 20 school years to get one student to complete his/her eight years of primary education (World Bank, 2004a).

2004. The equivalent numbers for girls were 23.2 per cent in 2000 and 24.4 per cent in 2004. Repetition and dropout rates are lower in secondary school compared to primary school (NSO and ORC MACRO, 2001; 2005).¹¹⁶

One indicator of repetition rates is students who are overage for their class. Similarly to the findings regarding enrolment, data shows that double orphans, virtual double orphans and pupils who do not live with either parent show a greater probability of being overage for their class. The same holds true for children who live with a prime age-adult who is chronically ill and suffer from AIDS-related symptoms. Yet, students who had experienced the death of a household member were not more likely to be overage for their class (GOM and World Bank, 2006).

There is no data that directly links dropping-out to HIV/AIDS, but 30 per cent of the primary school dropouts indicated that they left because of work. Other important reasons for dropping out of school are high monetary costs, poor health and children's own unwillingness to remain in school (NSO and ORC MACRO, 2003). Double orphans, children with one or two foster parents and children with family members that are ill are more likely to be involved in income-earning activities. Comparing boys and girls, it can be observed that boys are more likely than girls to be involved in paid work, while girls do far more household work than boys (Government of Malawi/World Bank, 2006). Given these findings it is reasonable to suspect that HIV/AIDS indirectly increases dropout and repetition rates by impoverishing families.

9.1.3 Student absenteeism

In addition to the effect on enrolment and dropout rates, HIV/AIDS is likely to cause a higher level of student absenteeism, which disrupts schoolwork. Absenteeism from primary school is generally substantial in Malawi due to the high level of poverty.¹¹⁷ Nonetheless, teachers stress that the situation has been aggravated over the past five years because pupils lack support from home. A survey by Kadzamira et al. (2001) finds that orphans, particularly female paternal orphans and female double orphans, are absent to a higher extent than non-orphans.

Both non-orphans and orphans report similar reasons for being absent from school. Common reasons for absenteeism are illness of the in-

¹¹⁶ The high repetition rates imply that the age span between pupils in the same class is large. This in turn may increase the dissemination of the epidemic because young learners feel the pressure from over-age learners to become involved in sexual relationships at a premature age.

¹¹⁷ During the year 2001, 97 per cent of primary pupils were absent one or more days. On average, absent pupils missed a total of 17 days during the year (NSO and ORC MACRO, 2003; World Bank, 2004a).

dividual, funerals, dirty school clothes, hunger and unwillingness to attend school (World Bank, 2004a). According to Kadzamira et al. (2001), double orphans frequently mentioned that they are absent due to reasons such as sick family member or funeral, which can be directly related to HIV/AIDS.

9.1.4 Demographic impact

One important mechanism behind the expected decrease in the demand for education in countries with high HIV/AIDS prevalence rates is the epidemic's demographic impact. As AIDS related deaths among adults of childbearing age increases, we can expect an overall reduction in the growth rate of the school age population (6–24 years).

It is difficult to determine the degree to which the school-aged population will decrease since it also depends on the impact of AIDS on fertility, which is under dispute by scholars (see discussion in Section 3.2). However, some projections of the school-age population in Malawi, using the no-AIDS scenario as the base case and census data from 1998, show that it will decrease by approximately ten percent by 2014 (Kadzamira et al., 2001).¹¹⁸

9.1.5 Decreasing rate of return on education

The adverse impact of AIDS on the rate of return on education alludes to the fact that as HIV/AIDS decreases life expectancy, the private return on education is reduced. This effect has been observed in cross-country studies with data from Uganda, Zambia and Zimbabwe, which report a positive relationship between life expectancy and the demand for education (Birdsall and Hamoudi, 2004). Nonetheless, in Malawi this effect seems more apparent than real since there are many obstacles, other than the changing rate of return on education, that determine enrolment rate in secondary and tertiary education.

The limited supply of secondary schools and higher education opportunities, as well as tuition fees, comprise major constraints to enrolment. In addition, since the pool of skilled labour in Malawi is extremely small, the expected decreasing return on education might be offset by increasing real wages for skilled labour, which occurs if there is an increase in the death toll of skilled labour due to the epidemic. However, if the death of skilled workers reduces the average level of productivity of the economy as a whole, a decrease in real wages for skilled labour might occur instead (Birdsall and Hamoudi, 2004).

¹¹⁸ These projections were made using the Spectrum Model.

9.2 The supply of education

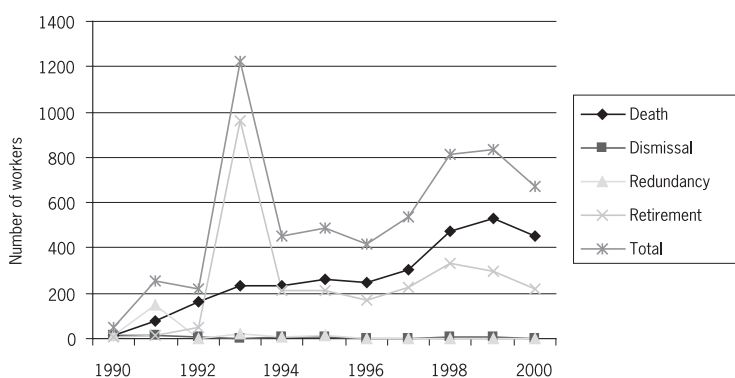
At the same time as the demand for education decreases in the advent of a generalized AIDS epidemic, we can also expect that the supply for education and its quality will be affected by the epidemic. The changes on the supply side are discussed below.

9.2.1 Attrition rates for teachers

It is widely asserted that teachers are particularly vulnerable to HIV/AIDS infection.¹¹⁹ However, primary and secondary teachers in Malawi have lower mortality rates than the average population (GOM/UNDP 2002, Bennel, 2005a).

As in the public sector in general, there has been a significant increase in teacher mortality in recent years. Figure 16 shows that the number of deaths rose from only 47 in 1990 to nearly 700 in 2000. There was a noticeable increase in the number of deaths after 1996, which is likely to be due to the impact of AIDS. Retirements also increased during the period, although AIDS is not the primary explanation for retirement since most of the employees who retired had reached the age of 55. Nonetheless, there are indications of premature retirements among primary school teachers on medical grounds that are partly reflected in the second peak in retirement between 1997 and 2000 (GOM/UNDP, 2002).¹²⁰

Figure 16: Attrition by cause and year in MoE



Source: GoM/UNDP (2002).

¹¹⁹ The rationale for this argument is that teachers often belong to the age group hardest hit by HIV/AIDS and that they are prone to engage in high-risk sexual behaviour because of their relatively high mobility, status and wealth.

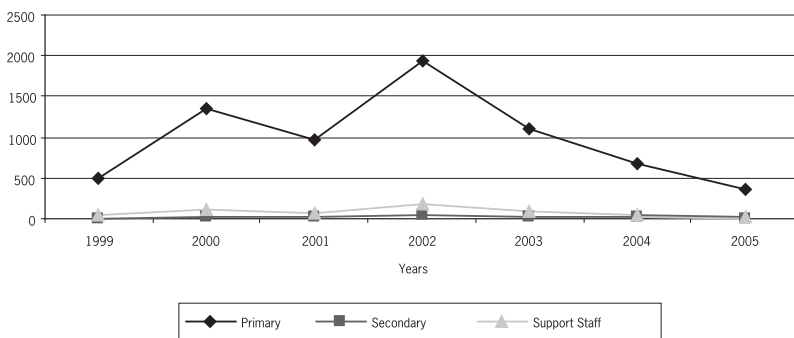
¹²⁰ The first retirement peak in 1993 was caused by the enforcement of the government's retirement policy.

Overall, death made up 45 per cent of the total attrition rate between 1990 and 2000.¹²¹ For temporary teachers, who comprise staff under the age of 50, death accounted for as much as 85–98 per cent of total attrition between 1995 and 2000 (GOM/UNDP, 2002). However, more recent data from 2004 shows substantially lower death rates, Bennell reports that teacher deaths account for 12 percent of total primary school and 9 percent of secondary school teacher turnover (Bennell 2005c). Although the impact of the ART scale-up may have had some impact on teachers' mortality rates in recent years, the difference between the older data from the Government of Malawi and Bennell's finding is somewhat confusing, and shows the need for consistency in data collection in this area.¹²²

Figure 17 presents newly collected data from the period 1999–2005. The data shows that the number of deceased workers and support staff continued to increase between 2000 and 2002. After that it dropped remarkably, but still over 400 teachers died 2004 and 787 teachers suffered prolonged illness. In total, 2.2 percent of the total number of teachers was unable to teach due to HIV/AIDS in 2004 (MoE, 2005). The decline in the last few years is probably due to the scale-up of ART provision. In Botswana it has been shown that actual mortality rates among teachers were six times lower than projected rates thanks to ART (Bennell, 2005a).

As also indicated in the figure, secondary school teachers have a lower mortality rate than primary school teachers.

Figure 17: Number of deceased teachers and support staff by year



Source: Data supplied by MoE.

¹²¹ This number is based on records of qualified teachers and support staff only.

¹²² It is worth mentioning in this context that there is an ongoing debate among scholars about the impact of AIDS on the education sector and in particular on teachers' mortality rates. In this discussion, Bennell argues that the impact of AIDS is overestimated. For interested readers please see Bennell (2006a), Bennell (2006b) and Kinghorn and Kelly (2006).

9.2.2 Attrition for other Ministry of Education staff

Most impact studies on the educational sector focus on teachers and fail to recognise the potential impact of the disease on managers, inspectors, administrators and planning officials (Badcock-Walters and Whiteside, 2000). Bennell (2005a) points out that the mortality rate for this group is often substantially higher than for teachers.

One study from Malawi (Chawani and Kadzamira, 2004) focuses on the effect of the epidemic on the MoE's headquarters, divisional offices and district education offices. The study finds the same trend of increasing levels of attrition in these institutions as among teachers; death accounted for 40 per cent of attrition 1999–2004. Apart from death, retirements and resignation (to seek higher remuneration in the private sector) were the main reasons for attrition. Lower level managers and support staff were hardest hit by death and accounted for 94.4 per cent of premature deaths (under the age of 40). The negative impact of the HIV/AIDS epidemic on educational governance in Malawi is equally severe as the loss of teachers, since this endangers the structures and system through which education is provided.

9.2.3 Morbidity and absenteeism

HIV/AIDS-related morbidity and absenteeism among teachers has been put forward as one of the major burdens on the educational systems in severely infected countries.¹²³ As mentioned in Section 7.1.4 public sector data on absenteeism is non-existent. Nonetheless, the view within the MoE is that absenteeism caused by HIV/AIDS-related morbidity has increased within the organisation (GOM/UNDP, 2002, Chawani and Kadzamira, 2004.).

In the international literature, various estimates of the amount of time likely to be lost due to the morbidity of infected teachers have been put forward. These estimates vary substantially and can, therefore, not be regarded as more than informed guesses. However, it is worth mentioning that they are in most cases substantially higher than those revealed by school surveys in Malawi.

A survey by Kadzamira et al. (2001), for example, concluded that teachers on average were absent no more than three days per term. Female teachers were absent more than male teachers due to the heavier burden of care that lies on women. Furthermore, they found that the vast majority of both students and teachers disagreed with the statement 'our teachers

¹²³ In the Zambian context, it has been estimated that 70 per cent of the total cost of HIV/AIDS in the education sector could be attributed to teacher absenteeism (Grassly et al. 2003).

are often absent from school'. A more recent survey draws similar conclusions regarding the extent of absenteeism. However this study finds that male primary school teachers are absent 4.6 percent of working days, which is more than their female counterparts of 4.5 per cent. Mirroring the results regarding mortality rates, secondary school teachers are absent to a lesser extent and the gender differences are the opposite. Female secondary school teachers are absent 3.4 per cent of school days compared to 2.4 per cent for male teachers (Bennell et al. 2002b cited in Bennell 2005a).

The latter study appears to coincide with a reliable study from Zambia. Head-teachers in Zambia reported that absenteeism is indeed a serious problem. A study showed that 42 per cent of 725 teachers had been absent during the past month. Absenteeism was in 47 per cent of the cases due to illness of the individual or of family members. The median length of absence for illness was two days and the equivalent for funerals was three days (Das et al., 2005).

In Malawi, absenteeism is also primarily caused by illness of the individual or funeral attendance, and there are indications that the increasing number of funerals in particular has decreased the contact hours between teachers and pupils in recent years (Kadzamira et al, 2001). Given the commonly reported reasons for absence, it could be suspected that absenteeism is, in many cases, HIV/AIDS-related.

9.2.4 Service delivery in the education sector

The increasing attrition rate, absenteeism, and morbidity observed in the MoE cause both disruption and deterioration of service delivery. Teachers try to make up for time absent by providing supplementary classes in the evening and/or by putting two classes together into one class, etc (Kadzamira et al., 2001). It is also common that teachers teach subjects for which they do not have formal qualification or that primary school teachers replace secondary school teachers (GOM/UNDP, 2002).

Although these coping mechanisms are in place, absenteeism inevitably leads to disruption in the education provided, which is likely to affect student performance. Evidence from Zambia reveals that an increase in teacher absence by five per cent resulted in a loss of learning achievements by four to eight per cent of average gains during the academic year (Das et al, 2005).

A similar reduction in production due to absenteeism has been observed at the MoE governance level. This has resulted in the delay of some important tasks such as the production of the monthly payroll, various educational statistics etc. In addition, there are indications of increased workload for the remaining employees (Chawani and Kadzamira 2004).

9.3 Changes to educational demand and supply – two scenarios

In order to give an idea of what the findings in 9.1 and 9.2 imply in quantitative terms, Table 24 presents projections of the impact of HIV/AIDS on the future demand and supply of education in Malawi. By 2014, fewer teachers will be required in the AIDS scenario because of the disease's adverse impact on the demand for education. These projections do not take the impact of ART and its potential to reduce the level of mother-to-child transmission into account. However, due to mortality rates among teachers, the number of teachers who need to be trained will be twice as high (6 500) than under normal conditions (3 000) given that overall attrition rates do not change. More recent data based on the estimated need for teachers shows that there was a shortfall of about 8 800 teachers in 2004 (MoE, 2005).

Table 24: Changes to demand and supply of education in two different scenarios from 2000 to 2014 assuming no change in pupil/teacher ratio

	Without AIDS	With AIDS
School population	1 500 000	1 400 000
Total teachers 2000	50 000	50 000
Total teachers 2014	75 600	73 600
Total increase in teachers	25 600	23 600
Teachers required per year	3 000	6 500

Source: World Bank (2004) based on Kadzamira et al. 2001.

9.4 Summary

In Chapter 9 we have explored the diverse mechanisms through which the AIDS epidemic affects the education sector.

On the demand side, we observe that the school-age population is expected to decrease compared to a no-AIDS scenario, due to the increasing death rates of adults of child bearing age. However, the effect of the decreasing rate of return on education seems ambiguous in Malawi. We also discussed that the adverse effects on income and labour supply in households affected by AIDS are likely to cause changes in enrolment rates, dropout rates, repetition rates and student absenteeism. The Free Primary Education reform and lack of adequate data on net enrolment make it

difficult to identify the impact of HIV/AIDS on enrolment. Nevertheless, recent evidence shows that specific groups of children – including double orphans, foster children and children living in poor households – have disproportionately lower attendance rates. Many children, irrespective of whether they are orphans or not, live in broken families and are as likely as orphans to be deprived of education.

Given that enrolment is free, HIV/AIDS probably has its strongest impact on dropout rates, repetition rates and absenteeism. Orphans and other children who do not live with their parents have a greater probability of being overage for their class. Double orphans appear to have a higher risk than non-orphans of dropping out of school, and absenteeism is particularly high among female orphans.

As far as the supply side is concerned, we have shown that death-related attrition is extremely high and has increased substantially for teachers and other Ministry of Education employees. However, we found no support for the general belief that teachers would be more vulnerable to HIV-infection than the average population. Furthermore, we conclude that given the poor data on absenteeism of teachers it is difficult to establish the extent of this problem. Yet, it appears that most absenteeism is HIV/AIDS related.

Impact on the public sector:

Social security

CHAPTER 10

There is a two-way link between economic growth and a country's ability to manage social and economic uncertainty. By providing chronically poor and marginalised individuals with basic protection in the advent of a shock, such as HIV/AIDS, they can avoid degradation of household assets, have a quicker return to productive activity and stay away from further, long-term impoverishment.

This chapter provides a short description of the existing social security system in Malawi, an analysis of the likely impact of AIDS on social security and a discussion about possible responses to the epidemic from the Government's side.

10.1 Social security in the formal sector

The few formal social security programmes that exist in Malawi, such as pension schemes, cover employees in the formal sector exclusively. As reported in Appendix 1 only 13 percent of the Malawians who earn an income are formally employed, hence only a small number of people enjoy the social protection existing in the formal sector. In the absence of public safety nets, most people draw on their savings first, and then on their extended family as a means of protection.

One of the most important employers in the formal sector is the Government. The current pension scheme in the public sector (which is likely to be reformed in the near future) is non-contributory, i.e. civil servants do not contribute to its cost (Martin-Staple, 2004). Instead the pension costs are paid from recurrent expenditure with government revenue. Expenditure on pensions and gratuities amounted to MK 2.1 billion during the fiscal year 2004/05, i.e. 2.3 per cent of total government expenditure.

A civil servant qualifies for retirement under the following conditions: ten years of service and 55 years of age, ten years of service and 45 years of age with Minister's consent, pensionable officer and 20 years of service, medical grounds, public interest, redundancy or abolition of post in office (GOM/UNDP, 2002). Public employees are also entitled to sick leave with pay for six months, as well as death gratuities and coverage for funeral expenditure for surviving family members (*ibid*). Other than the pension scheme, the government introduced a legal ruling on severance pay in November 2004 which covers both private and public sector; however there have been some complications with regard to the implementation of this policy.

For individuals who do not work in the formal sector, social security barely exists. However, several reactive and temporary aid programmes have been implemented in response to crises such as droughts (Haddad and Zeller, 1996). In order to coordinate these short term, ad hoc policies the Government of Malawi introduced a National Safety Net Strategy (NSNS) in 2002. This nationwide programme included four components; Targeted Input Programme (TIP) for capital-constrained poor, Public Work Programme (PWP) for land-constrained poor, Targeted Nutrition Programme (TNP) for malnourished children and mothers and Direct Transfers Programme (DTP) for vulnerable groups such as orphans, the elderly and the chronically ill. According to latest PRSP all interventions except for DTP are active.

The latest PRSP also states that 1.7 million farm families received inputs under TIP and 92 000 benefited from the PWP in 2003/04 (GOM, 2005). Although the National Safety Net Strategy is a sign of progress in the right direction, interventions are still limited, targeting and prioritization are poor and it has been hard to coordinate the positions of donors in this area of development (Government of Malawi and World Bank, 2006).

10.2 Social security in an HIV/AIDS infected environment

HIV/AIDS influences the formal social security programmes in the private and public sector. On the revenue side, the pension scheme in Malawi's public sector is expected to be affected in the same way as government expenditure; since expenditure on pensions is financed by government revenue (see discussion in Section 7.2.1).

On the expenditure side, the number of pensioners is likely to be unchanged initially as the disease mostly affects people younger than the retirement age. However, in the long run a decrease in pension expenditure is expected as fewer people reach the age of retirement. Although

increased mortality results in a decline in the number of recipients of old-age pensions, outlays on medical grounds, death gratuities for surviving dependents, compensation for sick leave and other mortality and morbidity-related lump-sum benefits have already begun to rise (examples stated in Section 7.2.2), and are expected to continue to do so. The benefits that are directly related to AIDS will increase proportionally with HIV prevalence or mortality in the near future. However, the duration of the period of distribution of survivors' pensions will probably be shorter because survivors of HIV/AIDS victims experience a higher probability of infection from their partners (Bonnerjee, 2003). According to Martin-Staple (2004), 50 percent of outlays on pensions and gratuities are channelled to relatives of deceased public servants, who largely die due to the epidemic.¹²⁴

As far as the non-formal modes of social security are concerned, HIV/AIDS exacerbates poverty as we have shown in Chapter 2. We described in section 2.4.1 how households affected by AIDS seek long term support from relatives, neighbours and their communities. In sum, the massive increase in the number of orphans, unsupported elderly, widows and ill individuals puts tremendous stress on the informal social security systems that most Malawians rely on. A likely result of this is increased dependence on the state as a growing number of people qualify for safety net interventions for the poor, direct transfers and nutrition interventions.

10.3 Issues and options ahead

Given the considerable impact of the epidemic on poverty, it is essential for policy makers to think through how best to reach out with social security to poor households affected by AIDS. As mentioned previously there is no current system in place to handle the situation and to date only temporary social protection initiatives have been undertaken to support families and communities suffering from HIV/AIDS.

Some scholars suggest that in the advent of a generalized HIV/AIDS epidemic, the way the government should deal with the social challenges is by introducing universal income replacement programmes (Plamondon et al, 2004). One example of such an intervention is a universal flat-rate pension for the elderly. For instance, evidence from Namibia, South Africa and Botswana demonstrates that the likelihood of an orphan receiv-

¹²⁴ There is some concern that the Government fails to keep track of when employees die and that relatives may continue to receive their pensions. However, since relatives are entitled to a death gratuity worth 60 months pension payments, there is an incentive for some to report the death of the pensioner. Nonetheless, this is an opportunity to exploit the system.

ing appropriate nutrition and education increases substantially upon the receipt of a pension in the household (Bonnerjee, 2003). Advocates for such types of intervention claim that it would mitigate poverty, strengthen intergenerational support, extend coverage to formal and informal sector workers and reduce the administrative burden of identifying a target group in a situation where many people are in need of support.

A recent study by Kakwani and Subbarao (2005) explores in details the implications of such a policy by simulating data from 1998–2001 for 15 African countries, including Malawi. The results indicate that the most prominent solution, in terms of poverty alleviation and cost efficiency, would be to provide a pension for the elderly poor (65 years and older) as opposed to all elderly. In Malawi for instance, the authors' calculations show that targeting a social pension to the elderly poor (65+) with the objective of providing a social pension equal to 70 per cent of the national average poverty threshold, would cost 1.55 percent of GDP and yield a decrease in the national headcount poverty by 3.02 percentage points. Their conclusion for the entire sample is that there is indeed a case for targeted non-contributory social pension for the elderly poor from a poverty reduction perspective if benefit levels are kept low.

As far as Malawi is concerned, the feasibility of such interventions depends on Government priorities. There is an obvious trade-off between social protection and diverting resources towards other economic goals. Given the non-existent economic growth in the country, an increase in public expenditure for social protection would require a cut-back from some other part of government expenditure. This is because, due to the debt situation, as described in Section 3.2.3.2, the scope for an increase in social security is probably limited. However, ongoing debt relief initiatives may increase the space for an increase in pro-poor expenditure such as pensions for the elderly poor.

Impact on the public sector:

Safety, security and access to justice

CHAPTER 11

In the previous sections, we have illustrated the impact of HIV/AIDS on public sector service provision in different areas. In many instances these implications are tangible. However, HIV/AIDS also has an impact on less tangible social and economic institutions of society e.g. the acceptance of government by the public, the security situation etc. This will be discussed briefly in the following chapter.

11.1 Mortality rates in key institutions

One study analysed how AIDS affects 14 Safety, Security and Access to Justice (SSAJ) Institutions in Malawi, covering the Judiciary, the Anti-Corruption Bureau, the Prison Service etc. (ISS/MIM, 2003).¹²⁵ The authors concluded that the staffs of these institutions were particularly vulnerable to AIDS due to a number of factors such as age, urban residence, postings away from home, wealth status etc. In addition, there was a high degree of denial of AIDS among these employees that potentially increased their vulnerability to infection since they may not take the necessary precautions.

The mortality rates within all institutions, except for two, were higher than the average death rates of the population. It was not possible to establish the number of AIDS-related deaths, but 82 per cent of the total

¹²⁵ The following institutions within the Ministry of Home Affairs and Internal Security were included in the study: the Police Service, the Prison Service, the Immigration Department, Ministry of Justice, the Judiciary, the Ministry of Gender and Community Services, the Department of District Administration and Local Government, the Office of the Ombudsman, the Law Commission, the National Juvenile Justice Forum, the Anti-Corruption Bureau, the Malawi Human Rights Commission, and the Malawi National Committee on Community Services.

number of deaths occurred in the age group 30–49 years old.¹²⁶ Furthermore, it seems as if support staff and technical staff were the hardest hit by death.

11.2 Interruptions in service delivery

The study also found that overall the productivity of all institutions had slowed down due to funeral attendance, morbidity etc. Moreover, there was anecdotal evidence that border posts and magistrates courts had to close owing to the lack of key staff, that the majority of the police and prison officers trained in child justice procedures had died or were ill and that the warden/prisoner ratios had increased substantially during the past few years.

These examples illustrate how the HIV/AIDS epidemic poses a significant threat to many of the country's core institutions. In addition, it alludes to the fact that if the few experts that the country has in one area, such as child justice, die of AIDS this can have far reaching consequences for how the government is to deal with this issue in the future. If the fundamental institutions, such as the police force, do not have the capacity to act when they are needed or when the security of prisoners is threatened, there is a risk that the overall domestic security situation of the country will deteriorate.

One survey which investigates how Malawians perceive the development in security in their communities showed that, overall, Malawians have a positive perception of both the police and the courts. Seventy per cent of the people interviewed stated that they believed the police were doing a good job and 88 per cent said the same with regards to the courts. Concerning changes in the security situation of the country, 49 per cent of the respondents indicated they believed crime in their areas of residence had increased in the past three years, whereas 38 per cent believed crime had decreased (Pelser et al. 2003). This shows that it is difficult to say that the security situation has deteriorated because of the impact of the epidemic on the police force and other fundamental institutions that ensure the country's security. However, as will be discussed in Chapter 12, it is possible that a society in which core institutions are constantly placed under pressure due to AIDS and other factors may, at some point, break down.

¹²⁶ Unfortunately, the age structure of the employees was not specified in the study. For this reason, it is not possible to say if the age group (30–49 years) was proportionally harder hit by the epidemic than other age groups.

11.3 Summary

In this chapter we have given a brief account of the impact of the epidemic on institutions, as well as perceptions of security in Malawi. Due to the many factors, apart from AIDS, that have an impact on these institutions it is hard to disentangle the impact of the epidemic. Nevertheless, we expect that the epidemic is affecting these sectors to the same extent as it affects the public sector in general.

Long-term Responses and Consequences

CHAPTER 12

In previous chapters we have presented a tentative analysis of the short and medium-term consequences of the HIV/AIDS epidemic. The uncertainty surrounding many of our conclusions is obvious. This is even truer when it comes to the long-term effects (in this study defined as effects occurring after 2015). For this reason, we have chosen to focus our long-term discussion on an attempt to highlight a number of key mitigating and aggravating factors which may indicate whether the situation is likely to become better or worse after 2015. The analysis concludes with a presentation of two scenarios, ranging from a “disaster scenario” in which vital political, social and economic institutions suffer from a virtual collapse, to a more optimistic scenario in which a number of adjustment mechanisms and behavioural changes lead to a pronounced decline in new infections as well as to a strengthening of public and community-based institutions mobilised to meet the challenge.

12.1 What determines the long-term macroeconomic impact?

For many years, the heading to a section in the widely spread World Bank study “Confronting AIDS” from 1997 could represent the conventional wisdom among economists analysing the long-term macroeconomic impact of HIV/AIDS: “AIDS Has Little Net Macroeconomic Impact”. While acknowledging the dramatic impact on life expectancy and human welfare in the worst affected countries, the World Bank summarised a number of reports that downplayed the macroeconomic effects on indicators such as economic growth and per capita income. The World Bank study observed that while *“...the death of people with higher incomes will reduce average income.....the death of those with lower incomes raises average income, without necessarily improving the lot of any surviving individuals and despite the suffering and economic losses of the families of*

those who died. Further, increased spending on health care and funerals is included in GDP calculations. As a result, per capita GDP may increase." (1997b, p. 33).

One argument often put forward to sustain this rather surprising assessment, supported by a number of studies reaching similar conclusions, was that the countries with high HIV prevalence tended to be characterised by high unemployment. For labour surplus economies it was argued that even a dramatic increase in AIDS deaths may not have a marked effect on the growth of production and income. To quote the World Bank study again: "*Other things being equal, the impact of the AIDS epidemic will be small until the economy begins to grow and is constrained by labour supply rather than by insufficient demand*" (ibid., p. 34).

It has also been pointed out in many studies on long-term impacts of HIV/AIDS that real wages for the surviving population might increase as shortages of labour could develop.

A parallel has sometimes been drawn with the "Black Death" epidemic in Europe in the mid 14th century, which drastically reduced the man/land ratio and was followed by a prolonged period of rising rural wages. There are, however, more differences than similarities between the Black Death and HIV/AIDS. The former was a one-off event: in just a few years, between one-third and one-half of many countries' entire populations were wiped out. The demographic impact was much greater than that of HIV/AIDS – in the short term.¹²⁷

The suddenness of the Black Death disaster made it impossible for people to develop coping strategies. The creeping, long-term nature of HIV/AIDS on the other hand, makes the analysis of how people and institutions adjust to the epidemic a crucial issue.

As yet, we know far too little about socio-economic and cultural adjustment mechanisms to draw any firm conclusions. But as emphasised earlier, evidence indicates that a number of coping strategies are being developed.

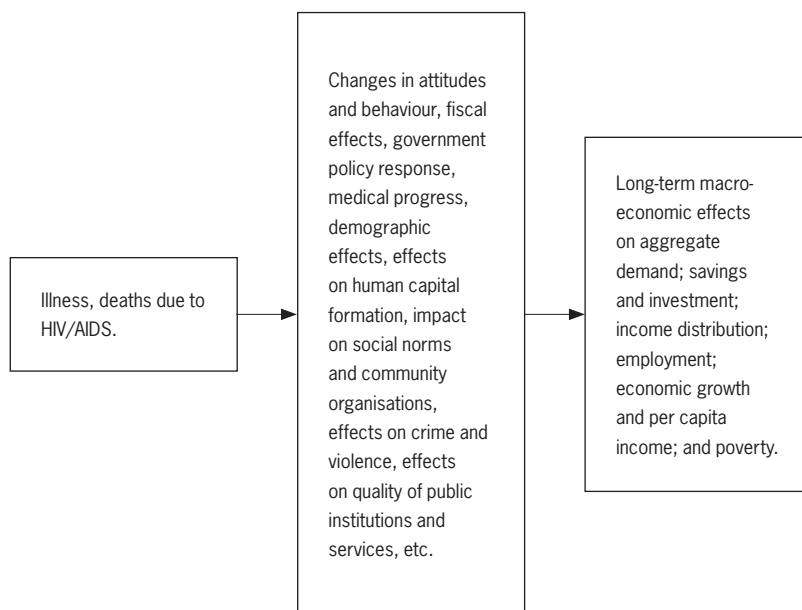
While the positive impact of many adjustment mechanisms must be acknowledged, the macroeconomic impact is likely to be far more serious than indicated in the first wave of macroeconomic studies, some of which were summarised in the 1997 World Bank study. This more pessimistic assessment is also shared by many of the more recent studies (for references, see Chapter 3), including studies made by the World Bank (Bell et. al. 2003) that indicate that the negative impact on economic growth and

¹²⁷ A more relevant comparison as to the demographic impact could perhaps be made between HIV/AIDS and the slave trade (see, for example, Egerö, 2002). Just as AIDS, but in contrast to the Black Death, the slave trade took place over a long period of time and it was – just like HIV/AIDS – selective in the sense that it deprived the worst affected countries of a large part of their most productive age groups.

per capita income is likely to be highly significant for countries with an HIV prevalence of 10–15 per cent and above.

It must, to begin with, once again be stressed that the development of per capita income is a highly misleading indicator of long-term effects on welfare; if the poor are over-represented among the victims of a deadly disease, average income goes up. The links between the impact of HIV/AIDS and income are also extremely difficult to isolate and measure. Conventional long-term projections of population, employment, investment and productivity that do not take adjustment mechanisms and social and political factors into account are likely to miss the most decisive factors determining long-term consequences. In countries with an HIV prevalence of only one or two per cent, it may be legitimate to disregard, in a macroeconomic model, the effects of HIV/AIDS on factors such as social cohesion, the quality of public institutions, changing social and family norms, etc. However, in countries as severely affected as Malawi it is these social, cultural, political and institutional factors that are likely to have the major long-term effect on future macroeconomic developments.

The way we interpret the links between HIV/AIDS and the long-term effects of the disease could be illustrated in the following manner:



In the following section, we will make an attempt to discuss, based on the analysis in preceding chapters, a number of factors which we think will determine the outcome in the right-hand box i.e. long-term macroeconomic and socio-economic consequences without, however, making any attempt to quantify the effects. Given the large number of unknowns we are, indeed, critical of all forecasting which provides a false sense of precision to guesstimates about the long-term effects of HIV/AIDS.

12.2 Mitigating factors

12.2.1 Knowledge is widespread

As emphasised earlier, a number of field studies and surveys have documented the fact that public knowledge of HIV/AIDS, and of how the epidemic is transmitted, is very high in Malawi. This is partly due to Malawi's HIV/AIDS programme, which is described in Appendix 2. However, for most people, AIDS is so present in everyday life that its existence cannot be denied. Although the disease remains subject to many myths and prejudices – and false rumours continue to be spread, for example saying that the use of condoms causes AIDS or impotence – most people have the basic knowledge required to protect themselves. Even in remote rural areas, the overwhelming majority of the population knows that HIV/AIDS is a deadly disease and that it is sexually transmitted. According to one survey (Tawfik 2000, quoted in Kaler 2004(b), p. 289), over 90 per cent of Malawian respondents, male and female, said that they “worried a lot” about contracting the disease.

Various surveys show that respondents vastly overestimate the transmission probabilities of HIV. For example, when asked to estimate the chances of becoming infected from one single act of sexual intercourse with an infected person, over 90 per cent of the respondents in a survey from 2001 answered that infection was certain or highly likely (see Big-nami-Van Assche et. al. 2005). The same survey also showed that people in Malawi who have asked to be tested tend to overestimate the risk that they themselves are infected. While this may, according to some observers, increase the likelihood of high-risk behaviour – “So what, I will die soon anyhow!” – the rising willingness to undergo VCT is highly encouraging.

The implication of these observations is that the first, important stage – a high level of public awareness of the existence of HIV/AIDS, including widespread knowledge about the dangers associated with high-risk sex – has been achieved in Malawi. One key issue for the future will be to translate this knowledge into behavioural change, which is a weak link in the struggle against the epidemic.

12.2.2 Attitudes are changing

If knowledge is the first step in the fight against HIV/AIDS, changes in attitude represent the second and changes in behaviour the third.

To judge from the information received from key informants interviewed during our visits to Malawi and from a number of recent field studies, the fact that basic knowledge about HIV/AIDS has become as widespread as it is today is due to a number of different factors, such as public campaigns and information through public health centres (see also Section 1.3). However a large and growing number of local authorities, chiefs, community-based organisations, faith-based organisations and traditional healers have also been active in spreading the message, as have a number of priests who are more open today than just a few years ago about the cause of death when conducting funerals. Life skills education, including AIDS information, is included in the curriculum of the regular education system. Peer information, not least among youth, has also played an important role (see, for example, Kaler, 2004a) and adolescents in Malawi are today obtaining their information about sex from many different sources (although some of these sources may spread highly inaccurate information).

What Malawi appears to be undergoing is a quite remarkable increase in openness about what has traditionally been taboo: sexual behaviour. This openness – between wife and husband, parents and children, teachers and pupils, colleagues at the workplace and among young people themselves – has its obvious limits, of course, as sexual behaviour is a sensitive issue in Malawi as well as in the rest of the world. In addition, the influence of high-risk initiation ceremonies and traditions remains strong. Nonetheless, the changes that are taking place are a symptom of a possibly substantial shift in attitudes that underpins long-term changes in actual behaviour.

While still a serious problem, stigma and discrimination are likely to be gradually reduced as a consequence of increased knowledge and openness. The increasing number of deaths also serves to reduce stigma; today virtually every adult in the country has a friend or relative who has died from AIDS. According to organisations working with people living with HIV/AIDS, stigmatisation remains a serious problem, however. One positive step towards an improvement could be if more high-level politicians and celebrities revealed in public that they are HIV-positive.

Key to reducing the spread of HIV/AIDS is openness, non-stigmatisation and voluntary counselling and testing (VCT). HIV tests are free of charge in Malawi, but accessibility and transport costs act as obstacles, especially in

remote rural areas. Much remains to be done to expand VCT facilities and ensure that there are no gender-related barriers to access. A highly promising sign is that a large majority of people questioned have expressed that they want to be tested, and that they want to know the results. Also encouraging is the fact that, according to one survey (deGraft Johnson et al., no date), two thirds of men and three quarters of women stated that they preferred to learn of their test results with their partner present.

12.2.3 Sexual behaviour is changing – slowly

As emphasised several times in previous chapters (see in particular Section 1.8), there are clear signs of behavioural change already taking place in Malawi. Condom use is increasing, albeit slowly, but condoms are still both insufficiently available and surrounded by hostile propaganda and negative rumours.¹²⁸

Scattered and sometimes anecdotal evidence indicates that prostitutes have found it more difficult to get customers in recent years. The desperate economic situation of many girls and women may have increased the number of females involved in commercial or transactional sex, but men are said to be getting more cautious, especially when engaging in unprotected sex with “bar girls”.

According to several of our interviewees, both men and women are believed to have reduced their number of sexual partners, but reliable data is not available. Qualitative interviews (see Smith and Watkins, 2004) indicate that women worry more than men about contracting the disease from their husbands/partners, and married women who suspect that their partner is being unfaithful are reported to use divorce as a means of reducing their risk to an increasing extent. According to the same source, men resort to slightly different preventive strategies, such as fewer partners and more careful partner selection including, unfortunately, a search for younger and younger girls. However, some men also proclaim that they have become completely faithful because of their concern about AIDS, often specifically attributed to seeing someone die of AIDS. And as shown in Chapter 1, the median age at which women have sex for the first time has increased slightly in the last few years. Judging from experience from other countries such as Uganda, which have witnessed a decline in HIV prevalence, this is one of the leading indicators signalling behavioural change.

According to survey data and well-informed observers (personal communication with specialists in Malawi), certain traditions which accelerate

¹²⁸ See, for example, Kaler (2004 a).

the spread of the disease – such as widow inheritance, female circumcision and other initiation ceremonies described in previous chapters are being questioned by many community-based organisations and traditional authorities. The generalised knowledge about how HIV is transmitted has also led to an increased awareness of the need to use sterile blades when, for example, male circumcision is carried out.

While it is still too early to draw robust conclusions, it does appear as if HIV prevalence, or at least the number of new infections, has peaked in Malawi. In Lilongwe, HIV prevalence has been decreasing for the last seven years, as it has in Blantyre, although to a somewhat lesser extent (personal communication with NAC). Given the considerable level of knowledge and the changes in attitudes that are clearly visible in Malawi, there is every reason to believe that behavioural change will follow, albeit possibly after a rather long time lag.

12.2.4 Improved cooperation government-civil society to confront the epidemic

The HIV/AIDS disaster may have the positive side effect of bringing people together to confront the disease. While there are also, as will be discussed later on, many symptoms of an erosion of social cohesion and trust in AIDS-stricken communities, many community-based organisations (CBOs) have become stronger as a direct consequence of local campaigns and voluntary work related to HIV/AIDS. Cooperation has also, by and large, been improved between government institutions and CBOs, NGOs and traditional authorities.

In this context, it may also be mentioned that the Malawian society in many respects appears to be better equipped to cope with HIV/AIDS than some of the neighbouring countries. Urbanisation, although accelerating rapidly, is still in its infancy in Malawi and the problems of numerous street children, drugs and violent youth gangs are largely absent. Traditional safety nets, based on the extended family, are under severe strain as a consequence of years of economic hardship aggravated by HIV/AIDS, but community-based organisations based on solidarity and mutual help have not collapsed, rather they are being strengthened in at least parts of the country, although the picture is mixed. In addition, Malawi has, in comparison with many other AIDS-stricken countries in Sub-Saharan Africa, a traditional lack of civil strife and of ethnic or religious conflicts, and a strong sense of national identity.

There are, however, also worrying tendencies related to crime and conflict which will be discussed in Section 12.3.

12.2.5 Prospects for international support are relatively good

The issue of international support to confront HIV/AIDS will be discussed in Chapter 13. Suffice it here to stress that prospects for a continuation of high level international support appear relatively good.

12.2.6 ART and future medical progress

The Malawian government has, as discussed earlier (see Chapter 1), presented highly ambitious plans to scale up its ART programme. The Ministry of Health has made admirable efforts in this area. Provided that international financing is made available and that Malawi's already strained health system can cope with the additional burden, the number of patients having started to receive appropriate treatment is expected to increase dramatically over the next few years: from 46 000 at the beginning of 2006 to 145 000 in 2008 and 245 000 in 2010 (see Section 1.6, Table 4). There are also ambitious plans to scale up prevention efforts related to mother-to-child transmission.

The positive effects of this development are obvious, not only in humanitarian terms. If properly handled, ART will prolong the lives of HIV-positive patients, avoid losses of prime-aged adults and, in addition, greatly reduce the risk of transmission if people living with HIV practice unsafe sex. There is, however, also a danger that HIV-positive patients taking ART engage in more high-risk behaviour, knowing that they are already infected.

It is possible that successful ART, while a heavy burden on the health system in the short term, may prove to release resources in a medium to long-term perspective. As mentioned earlier (see Section 8.2), patients with HIV-related diseases presently occupy around 70 per cent of Malawi's hospital beds, and a very high share of all visits to clinics is connected with HIV/AIDS. If ART facilities are expanded, and medicines keep improving, the number of patients with AIDS or opportunistic infections such as TB may decrease drastically, thereby eventually releasing health care resources.

While optimism as regards the introduction of an effective AIDS vaccine in the foreseeable future is limited, the price of ART drugs is likely to continue to decrease while their quality continuously improves. For example, a new pill that only needs to be taken once a day will soon be introduced (personal communication from HIV researchers at Karolinska Institutet, Stockholm, Sweden). The danger of resistance should also be kept in mind, however.

One long-term implication of the scaling-up of the ART is that the number of HIV-patients living relatively normal lives is likely to increase

substantially by the year 2015. In order to assess the dynamics of the epidemic, HIV incidence (new infections as a share of total population) may be a better indicator than HIV prevalence, as the latter figure includes HIV-positive patients on ART. Another implication is that long-term demographic developments will differ considerably from all projections made before treatment was available.

Among medical advances that may have an impact on the spread of HIV, a number of “women-friendly” preventive techniques should also be mentioned.¹²⁹ Several techniques which women can use without relying on the consent or even knowledge of their male partner are now undergoing thorough clinical trials. For example prophylactic drugs, involving basically the same drugs as those used in HAART treatment, can be taken by the woman who consequently builds up a hostile environment for any virus that enters the bloodstream. Another example is the effort to develop vaginal microbicides against the virus, i.e. chemicals that are placed in the vagina before sexual intercourse which prevent the virus crossing into the body.

12.2.7 Dependency ratios may improve by the year 2015

If we assume an average time lag of 7–10 years between HIV infection and death from AIDS, the impact of AIDS on Malawi’s population and workforce by 2015 could be assessed with some certainty, as the people who will die before 2015 are already infected. In absolute numbers, this would imply the premature death of almost one million people, or close to ten per cent of the present population. The vast majority of these deaths would affect adults in their most productive years.

There are, however, many unknowns. To begin with the envisaged scaling-up of ART may lead to a considerable decline in the number of HIV-positive people who die before 2015. In an optimistic scenario, perhaps over one third of the population currently infected by HIV will be alive ten years from now. With cheaper, improved drugs this figure could become even higher.

Another key factor affecting the labour force ten years from now is fertility, which in Malawi has been falling for a number of years. This tendency is likely to accelerate further, not least because of the impact of HIV/AIDS. Women are substantially over-represented among HIV-positive young adults (15–24); the female/male ratio in this age group is estimated

¹²⁹ Information on these “women-friendly” prevention methods was presented at the HIV/AIDS Conference in Toronto, August 2006. Our summary is largely based on a review article in *The Economist*, August 19th, 2006. However, these methods cannot be expected to be widely used by women living in poverty and gender-based subordination.

to four or five to one. The implication of this grim picture is that large numbers of women are infected very early, and are projected to develop AIDS before the end of their normal childbearing years leading to a substantial decline in birth rates.¹³⁰

Fertility is, however, also dependent on a number of unknowns. Experience from other countries indicates, for example, that high rates of adult mortality are strongly associated with high fertility (see Section 1.9.1, and for example, Kalemli-Ozcan, 2006). It is also well known that the situation of women in general, and of women's education in particular, has a very strong effect on fertility. If large numbers of girls are dropping out of school because of HIV/AIDS in the family, fertility may actually increase.

Despite these caveats and partly contradictory factors determining fertility it is, in our opinion, likely that the dependency ratio (the non-working age population divided by the working age population) will have begun to improve by 2015. The effects on economic growth and per capita income of the changed age structure of the population are also likely to vary depending on the time perspective we use. Thus, while the demographic structure deteriorates drastically in a short-term perspective, as a result of many deaths in the most productive ages, the demographic pyramid may become less unfavourable in a medium-term perspective. The share of old people is decreasing from an already low number, and the combination of large groups of young people moving into adulthood and a declining birth rate will drive down the dependency ratio. When the incidence of HIV/AIDS begins to decline markedly, as it will sooner or later, the proportion of prime-age adults in the total population will rise even further.

The long-term demographic scenario is, in other words, far more encouraging than the short and medium-term outlook, although every demographic forecast is dependent on a number of unknowns. The burden on extended families may ease considerably and a higher proportion of the population are likely to be in their most productive age. Despite the existence of many children infected through mother-to-child transmission (see Section 1.9.2), the HIV prevalence among children is very low, and most of the children who are infected will probably die before the age of five. If the group currently under 15 can learn to avoid the infection, the dependency ratio may be drastically improved by 2015 and for several decades after that.

¹³⁰ This section owes some ideas about effects of AIDS on fertility and dependency ratios to Arndt (2002), whose discussion about these issues in the context of Mozambique is partly applicable to Malawi.

12.3 Aggravating factors

12.3.1 Long-term implications of increased poverty and vulnerability at household level

As repeatedly emphasised in this study, poverty and vulnerability are likely to increase as a direct consequence of HIV/AIDS. Margins are small or non-existent. For the majority of Malawians living in poverty, the short and medium-term effects on families suffering the loss of an adult breadwinner (dying from AIDS or from any other disease) are devastating. Malnutrition, already widespread, is likely to increase in a medium-term perspective making people more vulnerable to all kinds of diseases.

Traditional safety nets, largely based on the extended family, will come under increasing strain in the next decade. In our view, the period up to 2015 is in many respects crucial. If a collapse of family and community-based systems for care and upbringing of the growing number of AIDS orphans in future years can be avoided, the demographic scenario presented earlier brings hope for an easing of the burden on grandparents and other kin in a longer-term perspective. If, on the other hand, a large number of extended families and other safety nets break down under the pressure of poverty aggravated by HIV/AIDS, Malawi will witness a number of worrying social problems – accelerated urbanisation spearheaded by children and adolescents, child prostitution, increased crime and violence and so on – which will have a pronounced effect on macro developments after 2015.

In a narrower economic sense, the long-term macroeconomic consequences of a large number of households and individuals falling deeper and deeper into poverty are likely to be that aggregate demand and employment outside the subsistence sector remain stagnant. Household savings are also likely to remain appallingly low.

As a result of the sale of assets that households affected by HIV/AIDS are forced to resort to in order to cope with additional burdens, a deterioration of the distribution of income and assets is likely to accompany the epidemic. Households with financial resources will purchase the assets – consumer durables, cattle and sometimes even land – that the impoverished households are forced to sell. As a result, the composition of aggregate consumption will undergo certain modifications, possibly in the direction of increased demand for imported “luxury” goods, with a concomitant reduction in demand for labour in Malawi. The “globalisation” of life styles and consumption patterns, not least among youth, may work in the same direction (see further Section 12.3.4 below).

The coping strategies that families will adopt are, as described in previous chapters, of very different kinds. Thus, while adjustment mechanisms

related to norms of sexual behaviour can be expected to mitigate the spread of the disease, others may have the opposite effect. For example, the alarming tendency for women and young girls to engage in transactional sex as a survival strategy and the increase in child labour and trafficking that is already observed are aggravating factors that reduce the chances of halting the spread of the epidemic.

12.3.2 Impact on the public sector

One direct macroeconomic effect of HIV/AIDS is to reduce economic activity, thereby reducing tax revenue compared to a no-AIDS scenario. A second direct effect is the loss of experienced personnel in the public sector due to death-related attrition, leading to a deterioration in the quality of public services in areas such as health, education and in public administration in general. Another effect is to increase the need for public spending on health and social programmes, including support to orphans.

The combined effect of lower tax revenue and increased spending needs may be large fiscal deficits and inflation. The implications on the real economy of serious financial disequilibria are difficult to measure, but they are certainly not positive, and Malawi's recent history shows that it is very difficult to come to grips with budgetary deficits.

The erosion of human resources in key public institutions due to HIV/AIDS is a severe problem in all sectors but health and education are, because of their importance for the formation of human capital, absolutely strategic. Malawi's health system has also suffered from increased pressure because of HIV/AIDS and a massive exodus of health professionals to other countries (mainly the UK). In a short-term perspective, the large number of HIV patients, together with the envisaged scaling-up of ART, will crowd out the treatment of other, non HIV-related diseases. Of direct relevance for the spread of HIV is the fact that resources are very scarce for the treatment of other sexually transmitted infections (when patients seek such treatment, which is often not the case); it is a well-established fact that untreated STIs such as herpes or syphilis increase the risk of transmission per sexual exposure many times over.

In the education system, the combined effect of attrition and deaths among teachers and education managers and increased repetition rates among children and adolescents will slow down human capital formation in the next generation of adults. In addition, the loss of many experienced workers and professionals will reduce the transfer of knowledge and skills from one generation of farmers, workers and professionals to the next.

All these negative implications for the accumulation of human capital will have a long-lasting impact, and primarily affect economic growth in a long-term perspective.

The weakening of key public institutions such as the ministries, the judiciary etc. is, from a long-term development perspective, also alarming. In modern theories of economic growth, the quality of a country's institutions, in a broad sense, has gained paramount importance. Even areas that are often neglected by economists interested in economic growth, such as the police and the judiciary, have a key role to play in this context, especially in periods of crises. We could also mention that two high-ranking police officers in Lilongwe we interviewed expressed serious concern about the impact of HIV/AIDS. According to our interviewees, the rising trend of criminal offences due to poverty and AIDS they described in today's Malawi could be regarded as a serious threat to security, and the serious losses of experienced police officers due to AIDS have aggravated the situation further.

12.3.3 Long-term effects on productivity

As discussed earlier, one immediate effect of HIV/AIDS is to reduce productivity at the workplace, i.e. to increase costs of production and/or lower the quality of the services provided. The mechanisms are manifold: increased absenteeism and attrition, a generalised decline in the health status of the population, disruption of production, the loss of experienced workers and professionals, reduced incentives for investment in training of employees and loss of transfer of knowledge, to name just a few.

Some of these effects may be transitory in the sense that they are directly related to the incidence of illness and death. Others, however, will have a longer-term impact. The reduction of investment in human and physical capital as compared to a no-AIDS scenario will, in particular, affect productivity long after 2015.

The fact that malnutrition affects a large number of children in AIDS-affected families also impairs learning and working capacity, in severe cases for their entire lifetimes with long-lasting effects on the stock of human capital.

12.3.4 Globalisation and international competitiveness. Is Malawi caught in a poverty trap?

Malawi cannot, so far, be regarded as a winner from globalisation. A small, landlocked country with a poor physical infrastructure surrounded by poor neighbours does not attract much international attention. Foreign direct investment remains virtually nil, and the place of Malawi in the international division of labour that is currently under consolidation does not appear very promising. While consumption patterns in the wake of import liberalisation and structural adjustment have become modernised

for a few, the large majority of the population have not experienced many positive effects.

Malawi's export trade is poorly diversified and developed (for data, see Appendix 1) and is – apart from exports of skilled manpower – dominated by tobacco and a handful of other commodities with rather sombre world market prospects. On the import side, Malawi's small industrial base has, as a result of economic stagnation, trade liberalisation and low productivity, been drastically reduced during the past decade. Part of this loss in international competitiveness, which is also affecting agricultural production for exports and for the domestic market, can be attributed to the effects of HIV/AIDS, but the sustained economic crisis is also due to a large number of other factors, including economic mismanagement (the Malawian economy's history of disappointing growth is discussed in Chapter 3).

One indirect effect that may develop into a serious long-term problem is the fact that the high and possibly rising level of aid dependency may create problems related to an overvalued exchange rate. This would further undermine Malawi's international competitiveness. With the present market-based exchange rate regime, the inflow of foreign exchange in the form of foreign aid and loans pushes the *kavacha* upwards, in a manner similar to the effects of what has been termed the “Dutch disease”.¹³¹

This remark is not intended to question the need for international assistance, which we believe is essential under present circumstances as a complement to domestic resources. However, in the absence of a coherent strategy to manage the inflow of foreign exchange and to tackle long-term development problems related to physical infrastructure, access to credit, technological progress and high cost of production, among others, there is a danger that Malawi will become further marginalised in the increasingly globalised economy that is emerging. The struggle against HIV/AIDS is also a struggle against poverty; improved living conditions and employment opportunities must go hand in hand with concerted efforts to confront the epidemic. If one of these struggles is lost, the other will probably go the same way.

12.3.5 Deep-rooted gender inequalities and norms of male dominance

As emphasised earlier, the still high incidence of HIV/AIDS in Malawi can, to a considerable extent, be attributed to strong traditions of male domi-

¹³¹ The expression was originally used to describe the impact on the Dutch economy of the drastic increase in export earnings that followed upon the discovery of natural gas in the North Sea in the 1960s. With strong export revenues from gas, the Dutch *guilder* appreciated against other currencies, exposing Dutch industries and agriculture to more intense competition from abroad. A large inflow of foreign aid can have a similar effect.

nance in the Malawian society. And while certain behavioural changes related to sexual behaviour and the threat of HIV/AIDS may already be observed, the subordination of women in sexual relationships appears extremely resilient to change.

The fight against HIV/AIDS must, in our opinion, be accompanied by an empowerment of women in all spheres of economic and social life, including sexual relations. But we do not expect dramatic changes to occur in a short or medium-term perspective.

12.3.6 Crime and violence

The close connection between crime and poverty is well described in Malawi's PRSP, which notes:

"...insecurity makes it too risky for the poor to accumulate assets or wealth, particularly in a rural setting, as any assets or wealth are likely to be stolen. This undermines the ability of the poor to generate their own incomes and reduce their own poverty..."

Poverty and crime can also be part of a vicious circle – crime reinforces and increases poverty and poverty causes crime. For the ultra-poor, the only means of survival may be stealing food or assets from other poor people. It is therefore important that this cycle is broken."

(quoted by Pelser et. al, 2004, p. 2).

The above quotation is highlighted in a book with the telling title "*Crimes of Need. Results of the Malawi National Crime Victimization Survey*". While this study, being the first of its kind in Malawi, cannot answer the question of whether the crime rate has been increasing or not, it is clear that while violent crime is very rare, property crime is exceedingly common (and, according to police officers interviewed in Lilongwe, on the rise). Thus, over 40 per cent of the almost 3 000 respondents of the survey sample experienced one or more crimes over a 12-month period in 2002–2003. The most prevalent crime was that of crop theft, experienced by 17.2 per cent of respondents. A further 8.5 per cent of the sample had livestock, mainly poultry, stolen from them.¹³²

As indicated in the MPRS, crime and the perceived threat of crime is a severe constraint to poverty reduction and capital accumulation. Many people are already caught in the poverty/crime trap. If poverty and vulnerability continue to increase, the situation may easily become much worse.

Overall poverty reduction is, as always, important. Particular attention must be paid to the situation of AIDS orphans and the danger of rapid

¹³² See also, for example, CARE (May 2004), where the increase in theft and conflicts over assets in local communities is discussed.

urbanisation without a concomitant increase in urban job opportunities for youth entering the labour market. If the battle to provide gainful employment, in agriculture and elsewhere, for youth is lost, there is serious danger that crop and livestock theft will plague the countryside even more in 2015 than today and that urban areas will witness a huge increase in problems related to juvenile crime, begging, child prostitution and perhaps drug trafficking.

The human cost of a general rise in crime and violence would be enormous, and so would the economic cost.

It may also be observed that one particular type of crime and conflict bears a direct relationship to HIV/AIDS, namely the increase in what amounts to open or covert theft of assets from relatives of the deceased. These conflicts also reflect tensions between traditional law and modern legislation as represented by the “Wills and Inheritance Act”. As regards conflicts over farmland, which are sometimes mentioned as a problem in some areas, the new “Land Act” will hopefully make it more difficult to violate the rights of surviving relatives (for a brief discussion of the new Land Act, see Section 4.2.3).

While asset grabbing can affect everybody, the most common situation is when a woman who has lost her husband is stripped of all the household’s assets by the deceased husband’s relatives. Many orphans also stand to lose. These incidents, which are said to have increased drastically in recent years, may appear as a mere transfer of assets – tragic for the victims, but of limited economic importance – but they may be of lasting significance. The increase in the number and gravity of such conflicts over the assets of AIDS victims erodes valuable social capital, with potentially long-lasting effects on trust and cooperation in local communities.

12.4 Two scenarios

We find it impossible to present even a tentative estimate of the development of production and income after 2015 on the basis of the many different, and often conflicting, factors and tendencies that have been discussed in this study. In a medium-term scenario, we are convinced that economic growth, investment, employment, productivity and government revenue will suffer substantially due to HIV/AIDS. The further we look ahead on the time horizon, the more speculative any figures become. Instead of quantitative guesses, we will present two possible scenarios with very different outcomes. What the two scenarios have in common are, however, certain basic assumptions largely taken from the previous analysis of short and medium-term effects.

12.4.1 Disaster scenario after 2015: economic and social collapse

In this scenario, behavioural changes have been insignificant, or even negative, as poverty and inequality have become exacerbated while commercial and transactional sex has increased. In addition, a generalised fatalistic attitude with a short-term life perspective among youth and a declining interest in long-term investments in human capital has gained ground. HIV prevalence has reached over 20 per cent of the adult population, and the health system has become totally unable to cope with the rising number of patients. VCT services as well as ART are available to only a small minority of those in need.

The overall quality of public institutions has eroded further as declining fiscal revenue and considerable fiscal deficits have made it impossible to finance key services while maintaining a minimum of macroeconomic stability. Real wages in both the private and the public sector have decreased, and corruption has been increasing rapidly among government officials at all levels. The population's mood is characterised by dissatisfaction and despair, and an authoritarian regime has been installed to suppress the political opposition and the occasional outbreaks of violence that take place.

Traditional safety nets have suffered from a virtual collapse in some of the worst affected regions, and a growing lawlessness in rural areas has drastically reduced farmers' incentives to keep livestock and invest in better seeds and fertilisers in order to grow higher-yielding crops. The number of AIDS orphans reached one million in 2010, and large numbers of orphans and impoverished children and adolescents, growing up in anxiety and lacking adult role models, are abandoning the education system. Many migrate to urban areas where some of them form criminal youth gangs involved in drugs, theft and robbery. The brain drain among professionals continues. Foreign investors avoid Malawi, and even domestic entrepreneurs prefer to keep their money abroad and, if possible, to invest in businesses outside the country.

As a consequence of accelerated deforestation, largely driven by desperate people cutting down trees in order to sell high-priced firewood, land erosion has destroyed parts of the arable land. In addition, over-fishing and water contamination are spoiling what was once Malawi's flourishing fishing industry. The concept of eco-refugees has gained ground as tens of thousands of impoverished farmers and fishermen are trying to leave the country every year. Relations with neighbouring countries, in particular Mozambique and Zambia, have become strained as a consequence of the uncontrolled flow of migrants from Malawi (and from Zimbabwe), and armed incidents along the borders have triggered a minor arms race in the entire region.

The potential benefits from globalisation, such as foreign direct investment and good access to foreign markets for agricultural exports, have bypassed Malawi while a certain donor fatigue with the entire Southern African region has caused the international community to reduce its aid disbursements to a bare minimum of food relief to the worst affected countries. International mass media also neglect Malawi's plight, especially as a far more important country, South Africa, has begun to suffer from an economic and political crisis partly related to the disastrous development of the HIV/AIDS pandemic there. Malawi is, indeed, caught in a poverty trap.

12.4.2 Optimistic scenario after 2015: HIV prevalence falls and economic recovery is underway

If the mitigating factors discussed earlier are realised, the picture becomes entirely different.

While AIDS continues to take a heavy toll in human suffering even after 2015, the behavioural changes that could be observed as early as 2005 have become firmly consolidated ten years later.

Extra-marital sex, including commercial sex, has become increasingly stigmatised, and after a series of well-published trials in 2009 in which the offenders were sentenced to many years in prison, the old practice of male teachers asking their female students for sexual favours in exchange for better grades has virtually disappeared.

The increased openness about sexual behaviour that could also be observed at the beginning of the 21st century has become further accentuated. Parents can no longer avoid answering their children's questions about sex and HIV/AIDS, and sexual education and information about HIV/AIDS has been established as compulsory in all primary schools as well in all teacher training courses. The Catholic Church has, in view of the crisis, abandoned its previous negative attitude towards the use of condoms, as have the overwhelming majority of the country's traditional authorities.

Conventional gender norms have been challenged, and partly transformed. Men with multiple sex partners are no longer admired by their peers, let alone by their female partners. The universal awareness of HIV/AIDS has also led to a slow and gradual erosion of the traditional subordination of women in sexual relationships. Women have been empowered to gain more control over their own bodies and sexual lives, and the threat of HIV/AIDS has also made men much more cautious. Sexual abuse is legally defined, widely acknowledged and severely punished, and many men have also realised the danger – after all, rape and sexual abuse of women can be deadly for the male perpetrator too.

The economic situation of women has also improved. A plethora of cooperatives among predominantly female smallholders has developed, and micro-credit schemes supported by a number of public and private organisations and foreign NGOs are mushrooming in rural areas.

Malawi's politicians are playing a leading role in the struggle against the disease. The President mentions HIV/AIDS in virtually every public statement, emphasising that the danger is far from over, and all major workplaces have coherent HIV/AIDS programmes in place. Cooperation between government institutions and civil society has improved further, and community-based organisations, often dominated by women, have taken the initiative in launching preventive campaigns and in organising low-cost VCT programmes. Social cohesion has been strengthened as groups of parents, teachers, adolescents, community volunteers, traditional leaders, healers and government health workers have joined forces against the deadly threat.

By 2015 HIV prevalence still remains rather high, around ten per cent, but the rate of new infections is continuously declining, while a high and rising share of people living with HIV receives ART. While no AIDS vaccine has been developed, ART drugs, as well as drugs to treat TB and other opportunistic infections, have become cheaper and more effective as have various prevention techniques particularly designed for women.

Malawi's demographic pyramid has become highly favourable in the sense that the decline in HIV incidence and fewer AIDS deaths among adults, in combination with a continued decline in fertility, has made the working population as a share of the total population higher than ever before. The improvement in the dependency ratio is, according to demographic experts, expected to continue for several decades.

Most countries in Sub-Saharan Africa have also, with a few exceptions, managed to cope with HIV/AIDS without major economic or political crises. A strong regional economic recovery, which gained momentum after 2010, makes regional trade flourish. Even business magazines have begun to show a certain interest in the Southern African region. While most direct investment still accrues to South Africa and, perhaps surprisingly to Mozambique, Malawi's comparative advantages – its beautiful landscape and pleasant climate, the friendly people, the absence of violent crime – are often highlighted, giving Malawi a rather profitable niche in eco-tourism and related services. The agro processing industry is also growing rapidly. The high level of demand for commodities from China and other Asian countries, which began to have a large impact on world market prices at the beginning of the 21st century, has continued and made Malawi enjoy what experts judge to be a lasting improvement in

the country's terms of trade. Thanks to good governance and continuous progress in economic growth and tax collection, Malawi's aid dependency has become drastically reduced by 2020.

According to UNDP's Human Development Report 2020, Malawi remained one of the poorest countries in the world. It also failed to meet the Millennium Development Goal of reducing extreme poverty by fifty per cent by 2015. But economic growth remains respectable, and prospects for the period 2020–2030 appear good.

Concluding discussion and policy implications

CHAPTER 13

From a human point of view, HIV/AIDS already represents a tragedy. The number of fatalities in Malawi is approaching one million, and almost every adult Malawian has witnessed a friend or relative dying from AIDS. We know that even if no new infections were to occur, the almost one million people who are HIV-positive today would, without ART, die in the next ten years. The number of AIDS orphans may exceed one million before 2010. Malawi's entire population is directly or indirectly affected by the disease.

We regard the next five to ten years as absolutely crucial in the twin struggle against HIV/AIDS and poverty. If the epidemic can be contained – which we are convinced that it can – meaning that incidence is reduced to appreciably below its current level, and that protracted economic stagnation is replaced by recovery and growth, the virtual collapse that is threatening can be avoided. But it is a battle against time: margins – at the household, community and national levels – are beginning to become exhausted, while vulnerability is high and increasing.

The purpose of this final chapter is to highlight our main conclusions and to indicate some of the policy implications that follow from our analysis. We will end the chapter with a brief review of the role of the donor community.

It should be stressed that it falls beyond the scope of this study to assess the implementation efficiency of the many different components of the government's HIV/AIDS programme; such an evaluation would require a completely different study.

13.1 HIV/AIDS: A deadly threat to Malawi's future

13.1.1 Poverty and vulnerability at household level

There is no need to repeat the data presented earlier on poverty in Malawi. Suffice it here to summarise some of the ways in which HIV/AIDS contributes to the aggravation of already existing problems of deep and widespread poverty.

The immediate economic burden of a household member falling ill is comparable to the effects of other deadly diseases: medical expenses, transport costs for patients seeking treatment, loss of labour for both the patient and for carers, funeral expenses after death etc. Studies from Malawi and other low-income countries in the region indicate that these costs tend to be particularly high in the case of HIV/AIDS. The disease leads to a substantial reduction of family income and, frequently, of assets which are sold to cover the additional expenses. A number of indicators of poverty and vulnerability such as low income, increased food insecurity and malnutrition, and declining school attendance among the youth show that HIV/AIDS has a pronounced and negative effect on people's livelihoods even in a short-term perspective.

The fact that HIV/AIDS mainly affects adolescents and prime-age adults also implies that the long-term, indirect costs in the form of loss of labour after the patient's death are much higher than for other epidemics which normally claim most of their victims among the very young or very old.

In a long-term perspective, the perhaps most destructive consequence of HIV/AIDS for surviving family members is the loss of love and care and transfer of knowledge that the death of one or both parents represents. While Malawi grandparents and other kin have been demonstrating a remarkably generous willingness to take care of orphans, the strains on the safety net represented by the extended family are extremely severe in many communities, and the time each adult can spend on each child or adolescent is drastically reduced when one or both parents pass away.

The impact of HIV/AIDS differs appreciably between different groups. While HIV/AIDS has assumed the characteristics of a generalised epidemic, affecting all socioeconomic sectors, its effects vary according to each household's capacity to cope with the disease. This capacity is, in turn, linked to education, economic conditions, access to informal safety nets, number of surviving adults in the household and a number of other factors which determine whether the household can avoid impoverishment or even destitution.

Certain groups are particularly vulnerable. As repeatedly emphasised in previous chapters, girls and women are more vulnerable than

men. Most Malawi women are subordinate to men in economic, social and sexual affairs, and their risk of becoming infected, and infected at an earlier age, is higher. The lion's share of all work related to caring for sick household members falls upon girls and women, and partly as a consequence of HIV/AIDS, girls are overrepresented among school drop-outs. Women who lose their spouse may also lose their access to land and other assets.

One likely consequence of HIV/AIDS is that the already high inequality in the distribution of income and assets will become further accentuated as the epidemic forces many poor households to dispose of assets such as household utensils, tools, livestock and even land.

13.1.2 Impact of HIV/AIDS on the productive sectors of the economy

Despite occasional periods of recovery and growth, Malawi's per capita income has been virtually stagnant for almost 30 years. As in the case of households affected by AIDS, it could therefore be said that AIDS assumes the character of an additional shock hitting the economy in an already difficult situation.

As this study has attempted to show, it is difficult or impossible to measure with any precision the impact of HIV/AIDS on the real economy. A large number of different factors – economic policies, political events, export prices, ODA disbursements, rainfall and others – are simultaneously affecting the economy, and to isolate the impact of HIV/AIDS is a daunting task. For instance, how much of the more than fifty per cent decline in manufacturing production that has been registered since 1992 is attributable to HIV/AIDS, and how much to factors such as trade and exchange rate policies, or credit policies and high rates of interest?

It is also far too early to assess the full economic consequences of the disease; the vast majority of people carrying the virus are still without symptoms and, indeed, unaware of their HIV status. What can be registered today is just the beginning.

Still, all evidence indicates that the impact on production is already visible. In agriculture, the mainstay of the economy, well over 90 per cent of poor households affected by chronic illness experience a decrease in crop yields. Households affected by AIDS have become increasingly constrained in their access to labour, capital and agricultural inputs, with obvious consequences for production. The shift in production that has been observed in recent years in favour of low-value crops requiring limited amounts of capital and labour is partly due to HIV/AIDS, and has a negative impact on the value of agricultural production and, not least important, on food quality and nutrition levels.

Another factor which has a negative effect on agricultural production is the substantial increase in HIV-related illness and death among key professionals at the Ministry of Agriculture providing extension services to smallholders (see Section 7.1.7).

What can be said with some degree of certainty is that a number of factors which are indispensable for economic growth and development are affected by HIV/AIDS. The epidemic causes illness, absenteeism and premature death of adults. Aggregate demand for consumer goods decreases as people die and households' disposable incomes are squeezed. As discussed in Section 3.2, private savings and investment, historically very low in Malawi, have declined substantially since the mid-1990s to become virtually nil in the last few years. There is strong reason to believe that HIV/AIDS has contributed to this negative development. The pressure on the government's expenditure side also reduces the possibility to compensate for the decline in private savings with the help of public savings.

It must, however, at the same time be acknowledged that the increase in ODA is partly attributable to the donor community's willingness to support Malawi in its struggle against HIV/AIDS.

The massive loss of prime-age workers as a result of HIV/AIDS is bound to have a strongly negative impact on economic growth. The effects on per capita income need not be unambiguous however; as emphasised in the preceding chapter as well as in Chapter 3, the net effect depends on a number of different factors such as the general employment situation, average productivity as well as the educational and socioeconomic level of the victims (will the poorest or the well-educated professionals be over-represented among the victims?) and others.

In a longer-term perspective, our analysis indicates that the loss of human capital is one of the most serious economic consequence of HIV/AIDS. The death of an experienced professional, worker or farmer – and most often parent – represents both a human tragedy and an economic loss in itself, but the long-time impact is compounded by the weakening of the intergenerational transfer of knowledge that the entire society incurs as a result. For this and other reasons, labour productivity will be lower with HIV/AIDS than in a no-AIDS scenario.

Another factor accentuating the loss of human capital due to HIV/AIDS is the deterioration of key public institutions related to human capital i.e. the education and health systems, whose problems related to HIV/AIDS were extensively discussed in Chapters 8–9. If the quality of these services continues to be reduced as a consequence of HIV/AIDS, the long-term impact on economic growth will be substantial.

In a short to medium-term perspective, the changes in demographic structure that will occur as a consequence of HIV/AIDS will have negative consequences on economic growth as the dependency ratio deteriorates. Long-term demographic development is more uncertain, however, and will depend on the effects of HIV/AIDS on key demographic factors: fertility, as well as mortality rates within different age groups and genders. If the rate of new infections goes down, the dependency ratio may begin to improve.

Our analysis of the medium-term effects of HIV/AIDS on economic growth is highly tentative (see Chapter 3). Given the large number of unknowns, we are indeed sceptical of all attempts to provide detailed forecasts of the macroeconomic impact of HIV/AIDS based on quantitative models. For this reason, we have limited ourselves to a presentation of different scenarios for the development of per capita income until 2015. In order to calculate the scenarios we used three parameters – the investment ratio, total factor productivity and fertility – and carried out simulations with combinations of these parameters. The results were discouraging: even the best-case scenario characterised by a gross capital formation of 25 per cent of GDP, a pronounced increase in productivity and declining fertility, would have an insufficient impact on poverty. If we consider the likely impact of HIV/AIDS on income distribution – which was not accounted for in the modelling of the scenarios – it appears unlikely that the Millennium Development Goal of reducing poverty by fifty per cent before 2015 would be within reach even in a highly optimistic scenario.

In the worst – and possibly more realistic – scenario, gross fixed capital formation would remain at today's ten per cent of GDP, and productivity and fertility were also kept constant. The result of these assumptions was that per capita income would be 17 per cent lower in 2015 than in 2000.

13.1.3 Impact on the public sector, institutions and social capital

The quantitative exercise summarised above only considered conventional economic and demographic variables, while deliberately avoiding taking other effects of HIV/AIDS into account. In modern theories of economic development, however, more and more emphasis is placed on intangible factors related to the quality of a country's institutions and, last but not least, the importance of social capital understood as norms of trust and confidence prevailing in a society.

In a comprehensive, long-term analysis of the economic impact of HIV/AIDS these variables, while difficult to measure and integrate into a macroeconomic model, are likely to play a crucial role.

As the public sector primarily provides services, human resources are absolutely essential for efficient public service delivery. And Malawi's pub-

lic sector was characterised by a number of problems related to human resources already before the onset of the epidemic: high vacancy levels, high attrition rates, inflexible recruitment procedures, financial constraints, inadequate incentive structures and a shortage of skilled staff. As in so many other areas, the HIV/AIDS epidemic has served to exacerbate already existing problems.

The combination of increased pressure on public expenditures and declining tax revenue – compared to a no-AIDS scenario – bodes ill for the possibilities of achieving the necessary improvement of public institutions, although foreign aid may compensate for the squeeze on the state budget that accompanies the epidemic.

Our analysis of the impact of HIV/AIDS showed how HIV/AIDS erodes human capital by increasing mortality and morbidity as well as absenteeism, attrition and vacancy levels. While the effects vary considerably between different ministries and public institutions, with key agencies such as the Ministry of Agriculture, Ministry of Water Development and Malawi's National Police Service belonging to the most severely affected, it is clear that both the quantity and quality of public services suffer as a consequence of the epidemic.

The indirect effects on intangible factors such as work morale are also substantial. Many ministries and key institutions report high vacancy levels, increasing workload and loss of transfer of knowledge as experienced professionals and workers have to leave due to illness and death. In certain key sectors, such as health, the situation is truly alarming. An aggravating factor, partly related to HIV/AIDS and the concomitant deterioration of working conditions in Malawi's public health system, is the massive exodus of nurses and doctors – not least to the United Kingdom.

The health swap discussed earlier (Section 8.1.3), which is intended to improve work and payment conditions for health professionals, may improve the situation, at least temporarily. However the number of nurses and doctors lost each year continues to be far higher than the annual intake of new students into Malawi's medical schools.

The situation in the education sector is not as desperate as in health, but attrition due to HIV-related death has been increasing among both teachers and technical and managerial staff at the Ministry of Education.

The effects of HIV/AIDS on demand for health and education services are somewhat different. While demand for health care unequivocally rises as a consequence of HIV/AIDS, increased absenteeism and dropout rates among students will reduce the pressure on the education system. Demand for education may also decline as the private return on investment in education is reduced when life expectancy, which has already fallen to

less than 40 years, is still falling. Still, the net effect is increased pressure on education as illness and death among teachers and other staff most likely outweigh the decline in the number of students attending classes.

In several core institutions related to public security – the police force, the army, the judiciary, the prison service, border posts and magistrates, and others – the prevalence of HIV appears to be appreciably higher than among the population at large. Evidence indicates that professionals in several of these agencies are particularly vulnerable to HIV/AIDS due to factors related to age, urban residence, postings away from home, wealth status and others. A certain organisational culture, with “macho” concepts of masculinity and male dominance prevails among these groups which may also contribute to high-risk sexual behaviour. At the same time it must be acknowledged that HIV/AIDS policies which challenge such concepts are under implementation in some of these agencies.

The deterioration of institutions responsible for public security is particularly alarming as there is clear evidence of an increase in crime and violence which, as discussed in Chapter 11, can be partly attributed to the effects of HIV/AIDS on poverty and vulnerability. An erosion of Malawi's still rather strong social capital would be a major threat to future economic and social development. Crimes such as crop and cattle theft are known to act as strong deterrents to productive investment in agriculture, and a generalised climate of insecurity has similar effects on domestic and foreign investment in general.

One key element in a development strategy aimed at simultaneously attacking HIV/AIDS and poverty must be to safeguard, and indeed improve, the quality of public institutions and social capital. The disaster scenario briefly sketched in Chapter 12 – which must and can be avoided – is basically the result of an institutional collapse, accompanied by rising poverty, crime and violence and a loss of hope for the future among the younger generations.

13.2 Policy implications

The discussion that follows will, against the background of our analysis in previous chapters, concentrate on the three pillars of the government's HIV/AIDS strategy:¹³³ prevention, treatment and care, and mitigating the impact of HIV/AIDS. (See Appendix 2.)

These three basic components of the HIV/AIDS programme are in many respects similar to HIV/AIDS policies in other African countries. The

¹³³ See GOM and NAC, “National HIV/AIDS Policy. A Call for Renewed Action”, October 2003.

major problem has to do with implementation rather than with policy formulation. Lack of material and, in particular human and administrative resources, is a major constraint. The Health swap initiative is expected to alleviate the heavily strained situation in the health sector, but it is still too early to assess its impact.

There is not always a strict line of demarcation between prevention, treatment and mitigation. For example, improved food and nutrition levels can contribute to preventing the spread of HIV by strengthening people's immune defence system as well as reducing high-risk behaviour among vulnerable groups. At the same time, appropriate nutrition is indispensable during treatment with ART, and food relief to people living with HIV and their families, and to surviving kin after AIDS-related deaths, can also play a key role in mitigation efforts.

13.2.1 Prevention

There is no doubt that both humanitarian and strictly economic arguments call for a heavy emphasis on prevention. Every infection that can be avoided represents an invaluable human benefit in addition to being the most cost-effective way of coping with the epidemic.

The development of more effective drugs used to treat HIV-positive patients is a great step forward, but it must be stressed that Malawi's fragile health system cannot possibly offer ART to all in need unless the incidence of the epidemic goes down. Successful prevention is therefore the best way to create conditions that enable improved treatment.

Having said this, it must also be acknowledged that prevention has reached a difficult stage in Malawi as it must dare to address sensitive issues while avoiding antagonising traditional customs and authorities. General information campaigns – such as posters and radio programmes – still have a role to play, of course, but since basic knowledge about the disease is as widespread as it is, education and information about sexual and reproductive rights must go beyond simple slogans about the danger of AIDS to deeper issues related to myths and misconceptions about the disease, prejudices and, in particular, norms of sexual behaviour. As stressed earlier, the weakest link in all HIV/AIDS prevention is not knowledge but rather the link between knowledge and behavioural change.

Issues that need to be tackled are, for example, dangers associated with initiation ceremonies, “dry sex” and the importance of using condoms. Health workers and public sector employees alone cannot carry out this educational work; the outreach and credibility of the messages depend to a very large extent on the support that comprehensive and correct HIV/

AIDS education is able to mobilise from community-based organisations, faith organisations and traditional authorities and healers.

Deep-rooted gender norms which accept men's right to many sexual partners must be challenged vigorously. While abstinence messages are likely to have limited effects, in Malawi as elsewhere in the world, extra-marital unprotected sex must be stigmatised. This is already happening to some extent but the process can be accelerated through, for example, school education and authoritative campaigns by leading politicians and by local or national celebrities, especially those with high credibility among the youth.

Judging from experience from other countries that have been comparatively successful in the fight against HIV/AIDS such as Thailand and, at least until recently Uganda, it is imperative for all HIV/AIDS-related work to be able to count on the wholehearted support of the country's highest political leadership.

In several areas related to men's sexual behaviour, education and information must be accompanied and backed up by legislation. Sexual abuse and all forms of gender-related violence must be defined and declared illegal. Clear legal norms must be established – and enforced – as regards the age at which girls are permissible, i.e. when men are allowed to enter into a sexual relationship with adolescents. Sexual relations with young girls must be criminalised and socially stigmatised. Teachers having sex with their students must be severely punished. The education system cannot continue to be a high-risk environment for young girls.

The empowerment of women is the most important road to sustained progress in the fight against the spread of HIV/AIDS. Women must be made aware of their rights, including the right to their own bodies and the right to say no to sex. Legal and social norms protecting women's rights must be enforced, and information about these norms should be included in the curriculum of the regular education system. The fact that traditional norms of male dominance in sexual relations are resilient to change makes it even more urgent to enforce changes in attitudes and legislation as soon as possible.

The high incidence of transactional sex, in which poor and vulnerable women receive some material gain in exchange for sexual favours, highlights the fact that economic empowerment of women must go hand in hand with their empowerment in sexual relationships. A coherent mainstreaming of HIV/AIDS into all sectors means that women, whenever possible, should be given priority in public income-generating programmes – agricultural extension work, micro-credit schemes, employment-generating public works, food-for-work programmes etc.

Another key component of prevention is to expand existing VCT facilities. As discussed earlier, it is not only – or perhaps even primarily – people’s willingness to be tested that is the main problem; it is rather the lack of testing facilities in large parts of the country.

From the point of view of cost-effectiveness, improved distribution of condoms has often been found to be a low-cost option with potentially very high benefits in terms of reducing the number of new HIV infections. In Thailand, for example, the “100 per cent condom campaign” launched in the early 1990s and directed primarily at prostitutes and their clients proved to be amazingly effective. While the situation is different in Malawi – not least because HIV has spread far beyond traditional “risk groups”, making the entire population a risk group – improved information and distribution of condoms is an essential component of a successful prevention strategy. Against this background, the shortage of distribution outlets for condoms in large parts of the country is a cause for concern. Even in many places where occasional sexual relations are often established, such as urban hotels and bars and restaurants, condom supply is reported to be very erratic.

Given the fact that HIV/AIDS is intimately connected with women’s subordinate position in sexual relationships we would also like to encourage the introduction, as soon as medical trials are concluded, of one or several of the “women-friendly” preventive techniques that are presently being tested and which were briefly described in Chapter 12. The use of condoms remains low in Malawi, and as condoms require the consent of both parties, the man is all too often in a position to say no. The development of drugs (microbicides) that can be used by the woman – i.e. drugs which are placed in the vagina before sexual intercourse, preventing the HIV virus from crossing into the body – is therefore extremely promising as it enhances women’s chances of protecting themselves without the male partner’s knowledge.

One key issue in prevention is to improve the treatment of other sexually transmitted infections which, if untreated, greatly increase the risk of HIV transmission. To cure STIs is comparatively inexpensive and, of course, far less costly than to provide HIV patients with life-long ART.

An obvious and relatively simple and inexpensive intervention is the prevention of mother-to-child transmission (MTCT). A scaling-up of MTCT efforts is likely to be one of the most cost-effective ways of reducing the number of new infections.

The mainstreaming of HIV/AIDS policies in Malawi includes ambitious programmes for prevention, treatment and care in major public institutions and enterprises. Private sector companies have also, in many cases, started their own HIV/AIDS programmes. While these programmes

often make sense from a strictly commercial point of view – as discussed in Section 5.3 various studies from different countries have shown that HIV/AIDS programmes can be extremely profitable for the individual company implementing them – the government could do more to encourage the replication of HIV/AIDS activities in the private sector. For example, all expenses related to HIV/AIDS prevention and treatment should, in our opinion, be made exempt from taxation and be treated as any other tax-deductible cost of production.

13.2.2 Treatment and care

One issue of concern, in view of the shortage of funds and personnel, is the sustainability of the envisaged ART scale-up from close to 70 000 patients receiving treatment today to 245 000 in 2010. Given the fact that ART must be regarded as a life-time moral commitment to patients, and costs will be high and rising, we would welcome a comprehensive analysis of long-term implications of the programme. Malawi cannot rely only and permanently on donor funding; a realistic assessment of the country's future capacity, in terms of financial and human resources should, in our opinion, accompany the expansion of the programme. The drastic scaling-up of ART will, at least in a short-term perspective, lead to a crowding-out of ordinary health services and must necessarily be weighted against other interventions related to HIV/AIDS. Resources are scarce and choices have to be made, and it is conceivable that additional resources invested in, for example, free distribution of condoms in high-risk environments, expansion of VCT facilities, treatment of STIs or prevention of MTCT – or fighting malaria and other deadly diseases – are sometimes more cost-effective in terms of reducing human suffering than investing heavily in ART.

The fact that there is no long-term guarantee for ODA funding of the programme makes it imperative to consider how such a programme can be continued if foreign aid is reduced. The weaknesses in Malawi's health sector also reduce the absorptive capacity needed to manage a large inflow of foreign funds, whether to ART or to other essential health programmes. While it is still too early to assess the consequences of the Health swap, there is a need to maintain and possibly increase efforts to retain existing health professionals, and to develop attractive incentive packages to make Malawian doctors and nurses working abroad return to their home country.

While it may be easier to finance ART today than other components of the national HIV/AIDS strategy, costs and benefits (in human and economic terms) of the scaling-up programme should be assessed against alternative efforts related to prevention and mitigation.

In a longer-term perspective ART may, hopefully, ease the burden on the health sector by reducing the number of opportunistic diseases that require treatment and care. As medical progress makes ART increasingly easy to administer for both health staff and patients, the medical skills needed to provide treatment can be expected to continue to decrease, and a massive programme to train “barefoot ART nurses” could be implemented with the objective of easing the pressure on the existing health personnel.

Given the fact that over 70 per cent of all hospital beds are occupied by patients with HIV-related diseases, there is also a need to ease the burden on the formal health system by increased cooperation with community-based organisations and NGOs.

Most of the care will continue to be the responsibility of the extended family, which also provides the best – and, usually, the only – safety net for surviving family members, including AIDS orphans. The importance of this safety net cannot be overestimated: a collapse of the extended family, already under severe strain, would spell disaster. While specific programmes providing food in kind or in the form of food-for-work for the most vulnerable groups have an important role to play, we also believe that a general old-age pension system might be a good complement to means-tested, targeted relief programmes. A small flat-rate pension to grandmothers and grandfathers could be a valuable contribution to easing the caring burden of relatives of households affected by AIDS. The programme would not have to be very expensive, given the small number of old people in Malawi and the rather low administrative costs of managing such a programme. The idea might also attract the interest of foreign donors.

13.2.3 Mitigating the impact of HIV/AIDS

The overriding objective of all mitigating efforts must be to help people living with HIV and their relatives to cope with the situation. Mitigation is intimately linked to poverty alleviation.

There is no need to repeat, in this context, the large number of excellent proposals discussed in official Malawian documents such as the Growth and Development Strategy (GOM, 2005b) and the draft document of Malawi’s Poverty and Vulnerability Assessment, written jointly by the Government of Malawi and the World Bank (2006). We will therefore limit ourselves to a few general comments.

Our first observation is that the large majority of Malawi’s poor who are affected by HIV live in rural areas and are engaged in small-scale agriculture. To mitigate the impact of AIDS, priority should be given to supporting agricultural development and food security.

We strongly advocate a gender perspective in which the situation of women is paid special attention. For example, there is an urgent need to continue efforts to reduce insecurity of land tenure, and of household assets, for women who have lost their husbands.

Despite the fact that women bear the main responsibility for food production, Malawi's agricultural extension services still have a pronounced male bias, and most extension workers are men. The impact of HIV/AIDS, with its dramatic effects on the demographic structure of households, makes a change in focus particularly important; adult men today represent a small minority of all agricultural workers and extension services need to cater to the knowledge needs of women, the elderly and the very young (this point is stressed by Jayne et al., 2005). In view of the very high AIDS-related mortality among extension workers in the last ten years, and the loss of intergenerational transfer of knowledge within households as a consequence of an increasing number of adults dying, the training of new extension workers, in particular female technicians, is also of paramount importance.

To mitigate the effects of HIV/AIDS on crop production, labour-saving techniques in areas such as land preparation and weeding need to be made widely accessible. Improved seeds also increase production per unit of labour. Households affected by AIDS also tend to suffer from a severe shortage of draught animals, agricultural tools and inputs (improved seeds fertilizers, etc.) and, as the root cause, lack of cash and capital. Micro-credit schemes or subsidised distribution of small packages of key inputs targeting women in particular could help to alleviate the situation.

As suggested by Jayne et al. (*ibid*), the development of well-functioning land rental markets could also help households affected by AIDS who suffer from a shortage of family labour but could earn some income allowing others to make productive use of land that would otherwise lay fallow.

It would lead us astray to discuss in detail how an appropriate strategy for agricultural development could be elaborated for Malawi. The primary objective of the above comments is to highlight the importance of giving priority to the small-scale farming sector's needs in mitigating efforts. The empowerment of small-scale farmers, many of whom are women, should also be regarded as part of a strategy helping families to cope with HIV/AIDS.

If rural livelihoods continue to deteriorate, the social implications could be devastating: accelerated urbanization without a concomitant increase in urban jobs, rising juvenile crime and high-risk sexual behaviour and other phenomena which tend to accompany poverty and despair.

The situation of orphans, whether related to AIDS or to other factors, must also be in focus in a comprehensive mitigation strategy. According to the Government's Plan of Action for Orphans and other Vulnerable Children for 2005–2009 there were, in 2005, around one million orphans in Malawi (14 per cent of all children under the age of 18), of which around half were estimated to be AIDS orphans.

As acknowledged by the Plan of Action, the traditional safety nets provided by the extended family system are today under severe strain, and must be complemented by new interventions to accommodate children deprived of parental care in order to avoid their institutionalisation. In our view, all viable solutions to problems related to orphans must be based on a strengthening of the traditional family and community safety nets, and simple schemes – such as providing grandmothers and grandfathers with a small flat-rate pension, as discussed earlier – could be a good complement to food relief and support to income-generating activities. A somewhat similar idea is suggested by Barnett and Whiteside (2002, p. 345), who propose the introduction, in countries afflicted by AIDS, of a publicly financed programme which provides both training and some cash to foster/adoptive parents selected by communities and church groups in conjunction with local authorities. The “parents” would be paid a small salary for supervision and provided with sufficient funds to cover food, clothing and incidental expenses for the orphans. As emphasised by Barnett and Whiteside: “The aggregate costs of implementing such a proposal may be high, but the costs of not doing it – and producing a generation of neglected young men and women – will be even higher.”

Mitigation should also include efforts to safeguard the quality of vital public institutions. Prevention and treatment programmes have important roles to play, but human resources are scarce even without AIDS. In view of the alarmingly high rates of attrition and vacancies in key ministries and agencies, the development of comprehensive, forward-looking plans to facilitate the recruitment and training of new staff is also absolutely essential. All public institutions should be encouraged to review and improve their recruitment procedures and incentive structures for the staff.

13.3 Donor funding and HIV/AIDS

While it has been difficult for Malawi to obtain food aid even in times of severe drought, as experienced during the difficult agricultural year 2004–2005, foreign funding for HIV/AIDS programmes has been comparatively generous.

In previous chapters, we have presented some data on the extent of aid dependency in the Malawi state budget in general, and of the HIV/AIDS programme in particular. Suffice it here to highlight a few aspects of the important role played by the donor community.

Malawi's aid dependency is, to begin with, very high. The share of grants in government revenue is approaching 40 per cent (see Section 7.2.1). As a share of GDP, foreign grants are estimated to have reached 18.9 per cent in 2004/2005. With domestic savings low or negative (see Section 3.2), foreign aid in various forms can be said to finance all new investment in the country.

While we do believe that foreign aid will be important and play a largely positive role in Malawi in a short to medium-term perspective, we are deeply concerned about the long-term impact of a high and rising aid dependency. The need to manage a large number of foreign multilateral and bilateral donors, often with conflicting views and conditions as regards priorities, reporting procedures and the like places a heavy burden on Malawi's scarce administrative resources, and may serve to reduce the country's ownership of its own development policies. The financial sustainability of government HIV/AIDS policies can also be questioned if the share of funds raised from foreign donors rather than domestically becomes, or remains, very high. The danger of "Dutch disease" effects as a result of large inflows of foreign aid should also be taken into account (see Section 12.3.4).

A large proportion of Malawi's national HIV/AIDS policies has traditionally been financed externally through earmarked funds from both bilateral and multilateral donors. At present, less than one third of HIV/AIDS-related expenditure is financed domestically and over two thirds from external sources. On the basis of committed – but not necessarily disbursed and spent – resources, the Global Fund (GFTAM) is by far the largest single contributor (39%). It is followed by the Malawi government (31%), the UN family (18%) and bilateral donors (12%).¹³⁴

The agreement with the Global Fund, signed in 2003, envisages a total amount of USD 196 million to be spent on HIV/AIDS activities over a five-year period. The allocation has four main components: voluntary counselling and testing, prevention of mother-to-child transmission, community-based home care and treatment and management of opportunistic infections and ART drugs. In addition, there are two cross-cutting components, namely health system strengthening and institutional support.

¹³⁴ Data mainly taken from UNAIDS, "Financing the HIV/AIDS Response in Malawi 2005–2009", June 2005, and various documents from the Global Fund, Government of Malawi and UN agencies.

The most expensive part of the GF grant is the scaling-up of ART. By the year 2010, the number of patients who have ever started ART is, according to projections from the Ministry of Health, expected to reach 245 000. The Global Fund is committed to financing the expansion up to 2008. After that, Malawi lacks a firm donor guarantee for the programme.

Other global health initiatives relating to HIV/AIDS in Malawi include:

- The World Bank's multi-sector project, whose primary objective is to reduce HIV transmission and improve the quality of life of those infected and affected by AIDS;
- A large number of other programmes implemented by bilateral donors and UN agencies, such as UNICEF, UNDP and UNAIDS and international NGOs, including CARE and Médecins Sans Frontières.

To judge from interviews and written reports, the donor community has responded in a positive manner in support of Malawi's HIV/AIDS policies. Many multilateral and bilateral donors and financial institutions, NGOs and, last but not least, the Global Fund are showing that they are willing to assist Malawi in the fight against HIV/AIDS.

The number and diversity of foreign agencies and actors also creates certain problems, however, largely related to the need to deal with a large number of donors with widely varying requirements as regards reporting, documentation, disbursement procedures, etc. The administrative burden is heavy. We therefore applaud recent initiatives from various bilateral donors to pool their resources in their support to HIV/AIDS programmes, as well as the Common Approach to Budget Support in which four bilateral agencies (from the European Commission, United Kingdom, Norway, and Sweden) have agreed to coordinate their biannual reviews for united budget support. While these are positive steps, and with due respect for the need of the donors to monitor how their taxpayers' contributions are being utilised, we are convinced that more could be done to harmonise and streamline donor procedures.

Several components of Malawi's HIV/AIDS programme are of a very long-term nature. Despite this, they lack long-term funding guarantees. It is, in our opinion, imperative for the sustainability of Malawi's overall development policies, including the fight against HIV/AIDS, to mobilise an increasing share of domestic funds. We would nevertheless welcome explicit commitments from key donors, including the Global

Fund, to continue to finance certain key activities such as the scale-up of ART provision and the sector support to the health sector (swap), for a very long period of time.

Appendix 1

The structure of the Malawi economy

This appendix briefly describes some aspects of the structure of the Malawian economy. The focus is on the main sectors of GDP, the composition of exports and the distribution of income-earning activities.

Malawi is heavily dependent on agriculture, both smallholder farming and large-scale commercial farming. Its contribution to GDP for the period 2000–2005 was on average 38.5 per cent (see Table 1a). This value varies greatly from year to year due to commodity price changes and climatic conditions. Smallholder farming is the larger of the two sub-sectors, contributing 30 per cent over the period, while commercial farming contributed less than ten per cent.

The second largest sector is Distribution, which includes wholesale and retailing. It contributed over 20 per cent of GDP during 2000–2005. Manufacturing is also important: together with mining it accounted for 13.3 per cent GDP. Mining is, however, a very small part. Another large sector is Government services, which accounts for 9 per cent. The category ‘Other’ includes a variety of sectors, such as construction, transport and communication, financial services, private social services, etc. These contributed close to 18 per cent of GDP.

Table 1a: GDP by sector of origin, 2000–2005

Sector	Per cent
Agriculture	38.5
– Small scale	30.0
– Large scale	8.4
Manufacturing and Mining	13.3
Distribution	21.6
Government Services	9.0
Other	17.7
Total GDP	100

Source: Reserve Bank of Malawi, Economic and Financial Data (homepage).

The dominance of agriculture is also evident from Malawi's exports, which are reported in per cent of GDP in Table 2a for the period 2000 – 2005. Tobacco is the key export product, accounting for 57 per cent of total exports. Tea, sugar, cotton and edible nuts are also important products: together they make up slightly less than 25 per cent of all exports. The main non-agricultural export product is apparel, which has a share of 7.8 per cent. All in all, Malawi exported about 26 per cent of its GDP during this period, which is close to the average for oil-importing Sub-Saharan African countries, but clearly less than for all countries in Sub-Saharan Africa.

Table 2a: Distribution of exports, 2000–2005

Product	%
Tobacco	57.0
Tea	9.0
Sugar	10.1
Cotton	2.3
Edible nuts	2.1
Apparel	7.8
Other	11.7
Total Exports	100
Exports in % of GDP	26.5

Source: Reserve Bank of Malawi, Economic and Financial Data (homepage).

The distribution of income earning activities also clearly reflects the reliance on agriculture. As reported in Table 3a, which shows results from the 2004–2005 Income and Household Survey, over 75 per cent of those that earn an income are farmers. There a few employees in Malawi, only about 13 per cent of those working; and out of these a substantial share are employed in large-scale commercial farming. Moreover, close to 12 per cent are self-employed or work in family businesses.

Table 3a: Distribution of income earning activities

Activity	%
Farmer	75.4
Employee	12.7
Family business worker	5.1
Self-employed	6.5
Employer	0.2
All employed	100

Source: Income and Household Survey 2004–2005 (NSO, 2005a).

Appendix 2

Malawi's current HIV/AIDS programme

The first case of AIDS in Malawi was diagnosed in 1985 (NAC and MOH, 2003), and the first government response came in 1986. Initial efforts were concentrated on preventing the further transmission of the virus, but lacked both funding and a coherent strategy. In retrospect, it may be said that several years were lost that could have been used to take more concerted action long before the HIV prevalence had reached its mid 1990s level.

Malawi's first comprehensive HIV/AIDS policy was formulated in 1999, the National HIV/AIDS Strategic Framework (NSF). Developed through a very participatory process involving representatives from all sectors and civil society, including faith organisations and people living with HIV/AIDS, the NSF defined priorities for the national response.

In recent years, more elaborate HIV/AIDS policies based on the NSF have been formulated. The National AIDS Commission (NAC) was established in July 2001 to coordinate the multi-sectoral implementation and mainstreaming of national HIV/AIDS policies, and a new HIV/AIDS strategy was launched in 2003.¹³⁵ The policy provides guidelines for all HIV/AIDS programmes in Malawi and has two main goals: (a) "to prevent the further spread of HIV infection" and (b) "to mitigate the impact of HIV/AIDS on the socio-economic status of individuals, families, communities and the nation". These goals would, according to the policy document, be achieved by pursuing the following specific objectives:

- to improve the provision and delivery of prevention, treatment, care and support services for people living with HIV/AIDS;
- to reduce individual and societal vulnerability to HIV/AIDS by creating an enabling environment;
- to strengthen the multi-sectoral and multi-disciplinary institutional framework for coordination and implementation of HIV/AIDS programmes in the country.

¹³⁵ GOM and NAC, "National HIV/AIDS Policy: A Call for Renewed Action", October 2003

The overall philosophy underlying the national HIV/AIDS programme is based on

- the basic principles of human rights and non-discrimination, which “should guide all HIV/AIDS-related interventions”; and
- the recognition of HIV/AIDS not only as a public health concern but as a social, economic and development issue, and the need to mainstream HIV/AIDS into “all relevant policies, plans and programmes”.

It falls beyond the scope of this study to describe in detail the various components of the programme. But in order to indicate the overall approach and government intentions, we highlight a few key areas.

As regards prevention, the programme emphasises the need for information about HIV/AIDS and the need to work in close cooperation with civil society, including community-based organisations and traditional and religious leaders, as well as traditional healers, whose important role in HIV/AIDS education is emphasised. The programme is explicit in its concerns about dangerous customary practices and in the need to “sensitise and discourage traditional healers from making false claims about HIV/AIDS cures and prescribing practices that increase the risk of HIV infection”. The programme strongly endorses the use of condoms by ensuring that the government, through the NAC, undertakes to “ensure that affordable male and female condoms.....of good quality are made available to all those who need them”. Among other preventive measures can be mentioned the heavy emphasis that the HIV/AIDS programme puts on the prevention of mother-to-child transmission as well as on the necessity of reducing the prevalence of sexually transmitted infections which, it is acknowledged, significantly increases the risk of HIV infection.

Concerning voluntary HIV counselling and testing, the government declares its commitment to “promote and provide high-quality, cost-effective, totally confidential, and accessible VCT services country-wide”. HIV testing should also be “routinely offered to all pregnant women attending antenatal clinics unless they specifically choose to decline”.

The ART treatment, provided free of charge (except in a few private clinics where a fairly low fee is charged) and expected to be expanded considerably in the coming few years, has been described in Section 1.6. If carried out according to plan, Malawi’s programme is ambitious in comparison with those being implemented in virtually all other countries on a similar income level.

The policy document also contains a large number of concrete proposals directed at specific issues and target groups such as the national security forces, youth and adolescents, widows and widowers, homosexuals, people with disabilities, orphans, people engaged in transactional sex and others. There is also a special national HIV/AIDS workplace policy.

In 2005, a new national HIV/AIDS strategy (NAF, National Action Framework) for 2005–2009 was formulated. NAF is based on the same fundamental principles indicated above, but is more specific and focuses on eight “priority areas” of activity which include a) the provision of an enabling environment; b) behavioural change interventions; c) mainstreaming HIV/AIDS into the public and private sectors; d) a prevention programme; e) a comprehensive HIV/AIDS care and support programme.

As for the role of HIV/AIDS in Malawi’s new PRSP, presented in 2006, this issue is discussed in Appendix 3.

Appendix 3

HIV/AIDS, Poverty reduction and the Millennium Development Goals

In September 2000 the member states of the United Nations adopted the Millennium Declaration. To implement it, the Millennium Development Goals (MDGs) were accepted as the roadmap for the Declaration. In Malawi, the strategy for reaching the MDGs was formulated in the Malawi Poverty Reduction Strategy Paper (MPRS), the Malawi Economic Growth Strategy and the Poverty Reduction and Growth Facility (GOM, 2005a). Of these three, the main development policy framework for reducing poverty was the MPRS, published early 2002. The MPRS lasted for three years and came to an end in the fiscal year 2004/2005. Currently the government is in the process of adopting the Malawi Growth and Development Strategy that will replace the MPRS and run for the period 2006/07–2010/11.

Malawi Poverty Reduction Strategy – a framework for achieving the MDGs

The overall goal of the MPRS was to achieve “sustainable poverty reduction through socio-economic and political empowerment of the poor” (GOM, 2002). To achieve this, a strategy was built around four pillars:

- sustainable pro-poor growth,
- human capital development,
- improving the quality of life of the most vulnerable, and
- good governance.

In addition there were four cross-cutting issues, HIV/AIDS being one of these.

For the first pillar, MPRS identified the agricultural sector as the single most important sector for future sustainable growth and poverty reduction. Moreover, diversification into other sectors that generate high value added was to be supported. The key sectors indicated were natural resources, manufacturing, tourism and small-scale mining. The second

pillar was to be achieved through implementation of general education; technical, vocational and entrepreneurial education and training as well as health, and nutrition programmes. Two important components of this pillar were access and equity to education at all levels, with a special emphasis on girls, and the expansion of the health programme based on the Essential Health Care Package. The third pillar consisted of creation of safety nets for the most vulnerable in society and disaster management, and the fourth pillar catered for improving security, access to justice, the efficiency of public institutions and speeding up the decentralisation of political power to local governments.

HIV/AIDS: a cross-cutting issue

The cross-cutting issues were HIV/AIDS, gender and empowerment, the environment and science and technology. These were meant to be mainstreamed in all of the four pillars. In the MPRS, HIV/AIDS was recognised as a major developmental issue, particularly in relationship to agricultural production, human capital development and good governance. It was pointed out that HIV/AIDS threatens to undermine any attempts to reduce poverty. Moreover, there was a detailed breakdown of the costing in which it is observed that HIV/AIDS should receive 40 per cent of all resources going to cross-cutting issues (Arrehag and Sjöblom, 2005).

According to the IMF and World Bank (2002), the MPRS was a well-developed and sound strategy. However, its treatment of HIV/AIDS was deficient. There was no clear head-on strategy to tackle the epidemic. For example, the MPRS did not specify strategic indicators and targets for HIV/AIDS. Moreover, there was no capacity building programme to mitigate the negative consequences of the impact of HIV/AIDS on human capital in the public and private sectors.

The implementation of the Malawi Poverty Reduction Strategy Paper

The MPRS was to be implemented through the government budget, and then followed up and evaluated in Annual Reviews. It listed a wide range of targets to be achieved by 2005, notable ones being reductions of poverty headcount from 65 per cent of the population in 2002 to 59 per cent in 2005, extreme poverty headcount from 28.8 per cent to 20 per cent, and an increase in life expectancy from 39 to 43 years. Other important targets were improvements in infant mortality from 104 to 90 (per 1 000) and in maternal mortality ratio from 1 120 to 800 (per 100 000). In general, the MPRS targets were in line with the MDGs but they were less ambitious, as shown by extrapolation to 2015. However, they were judged to be realistic, reflecting Malawi's socioeconomic situation (IMF and World Bank, 2002).

Initially, as many 102 indicators were to be monitored. They were divided up into four groups: inputs, i.e. government expenditures; outputs, i.e. pupil-teacher ratios; outcomes, i.e. school examination pass rates; and impacts, i.e. changes in welfare. However, it was difficult to handle such a large number of indicators and they were subsequently reduced to 51. Nevertheless, data collection constituted a serious challenge for the Annual Reviews mentioned above. This was especially true for the impact indicators, which could only be obtained from national surveys such as the Demographic and Health Survey (DHS) and the Integrated Household Survey (IHS), carried out at intervals of several years.

The main conclusion drawn from evaluating the MPRS is that it failed to achieve the most important goal, the reduction of poverty, although of the policies in the MPRS related to the HIPC initiative, 22 out of 24 were implemented including progress towards curbing the HIV/AIDS epidemic (World Bank, 2006).

The average GDP growth rate 2001–2004 turned out to be 1.5 per cent, about 0.5 per cent below population growth (see Section 3.2.1), while sustained annual economic growth of at least 6 per cent per year is required for poverty reduction. One reason for the low growth rate was that several vital growth-enhancing policies were inadequate or missing in the MPRS, particularly those addressing constraints in the private sector (GOM, 2005a). Hence, the goal to reduce poverty and ultra-poverty rates by 6 and 8.8 percentage points respectively was not accomplished. (NSO 2005a).

According to the government, the implementation of MPRS floundered because of external constraints and a lack of capacity and financial resources (GOM, 2005a). However, aspects related to the design of the MPRS were also important. One problem was a discrepancy between the MPRS and Malawi's budget process. The activities listed and their costing in the MPRS did not coincide with those in the budget, making it hard to allocate resources accurately, and thus to translate MPRS priorities into the budget. Moreover, the MPRS did not distinguish between the Recurrent Budget and the Development Budget. And since the latter is only partially covered in the budget, parts of the spending on projects in line with the MPRS were outside the budget (Durevall and Erlandsson, 2005). Yet another problem was the need to link priorities in MPRS with the spending priorities in line ministries. Since MPRS did not contain any details about spending priorities within the line ministries, this was not possible. And in fact, many ministries retained their pre-MPRS strategies (Chirwa, 2004).

In spite of its deficiencies, the MPRS should not bear the whole blame for its failure to reduce poverty. According to Government of Malawi and

World Bank, (2006), adverse weather conditions affected growth and poverty. Moreover poor public expenditure management, resulting in large budget deficits, very high real interest rates and a rapid increase in domestic debt, also inhibited economic growth. One consequence of this was a large interest bill and a need to reduce domestic debt, which left little scope for allocating resources according to the MPRS in the budget. Furthermore, the weak management of public funds resulted in inefficient allocations of resources and corruption, which also contributed to the disappointing performance (Whitworth, 2004; GOM and World Bank, 2006).

The new PRSP: the Malawi Growth and Development Strategy

The new development strategy, Malawi Growth and Development Strategy (MGDS) (GOM, 2005b) is planned to be the overarching operational policy framework until 2011 for achieving the MDGs. The philosophy of the MGDS is to reduce poverty through economic growth and development. It contains five thematic areas:

- sustainable economic growth,
- social protection,
- social development,
- infrastructure, and
- good governance.

HIV/AIDS and the other cross-cutting issues are streamlined into these themes.

The MGDS addresses several of the weaknesses of the MPRS. According to Government of Malawi (2005b), it emphasises the importance of economic growth for poverty reduction, in contrast to the MPRS, and aims at creating a healthy enabling environment for private sector development. Moreover, it has a stronger ownership by the government than the MPRS and might thus be given a high priority; the MPRS was viewed as a donor-driven document and had little impact on sector level implementation. Furthermore, according to the government of Malawi and the World Bank (2006), the MGDS is driven by Malawi's top political leadership who have taken full responsibility for developing the MGDS, which was not the case with the MPRS. The government has also taken a strong stand on the need for monitoring and following up of the MGDS implementation and there is much more focus on outcomes than there was in the MPRS.

Multi-pronged approach towards HIV/AIDS

HIV/AIDS also enters as “Sub Theme Two” under the theme Social Development, which mainly deals with human capital. The motivation for including HIV/AIDS in this theme is its interdependence with the other sub-themes, health, nutrition, education and gender.

The goal is to use a multi-pronged approach to prevent further spread of HIV infection and to mitigate the socio-economic impact of HIV/AIDS on the general population and high-risk groups. To this end, the MGDS specifies six medium term outcomes (high level indicators) such as behavioural change by targeted risk groups, ten medium outputs (lower level indicators), such as knowledge on, and capacity to practise, safe behaviour by vulnerable groups and 26 key actions e.g. promoting VCT and increasing access to STI syndromic management, counselling and information. Moreover, in contrast to the MPRS, there are impact indicators for HIV/AIDS as well as for other themes, with details on values for the baseline in 2005 and targets in 2011, and on the main institutions responsible and the frequency of data collection. However, in the currently available draft version of the MGDS (GOM, 2005b) the impact indicator matrix is almost empty; there are only descriptions of the indicators. The key indicators for HIV/AIDS are prevalence and incidence for women aged 15–49 and quality of life of those living with HIV/AIDS.

It has been argued that the main weakness of the MGDS is probably that there is no information on how to translate goals into actual plans (GOM and World Bank, 2006). Although this will mostly be done at the ministry and at sectoral level in cooperation with the private sector and civil society, it is a problematical ingredient of the strategy. For example, take the first two key actions for HIV/AIDS, “Scale up the scope and depth of the HIV and AIDS communication at the local level” and “Reduce girls’ vulnerability to HIV infections”. How are these actions going to be implemented in practice? The MGDS document only gives a very general description of the actions needed to implement the strategy.

Another weakness that has been identified is the large number of outcome indicators and key actions. Given the current lack of institutional capacity within government, implementing and monitoring these are intimidating undertakings. Moreover, many of the impact indicators are too high-level and data are not available at the frequency required for continuous monitoring and change (GOM and World Bank, 2006).

The influence of HIV/AIDS on MDGs

This section discusses how HIV/AIDS affects poverty reduction strategies (the MPRS and MGDS) and reduces the possibilities of achieving the MDGs.

Since this topic is large, the focus is on progress made in achieving MDGs and how it is hampered by HIV/AIDS. Only the qualitative aspects of the role of HIV/AIDS are assessed since there is a paucity of measurements of actual effects.

HIV/AIDS affects the prospects of achieving MDGs in several ways. There is of course a direct effect on the goal that refers to the disease (MDG6) “Halt and begin to reverse the spread of HIV/AIDS”, but HIV/AIDS also influences almost all the other MDGs. It makes it more difficult to reduce by half the proportion of the people living in poverty, (MDG1), to achieve universal primary education (MDG2), particularly due to increased numbers of orphans, to reduce gender inequality and empower women (MDG3), to reduce child and maternal mortality (MDG4 and MDG5), and to ensure environmental stability (MDG7). In addition, HIV/AIDS also has a bearing on policy implementation since many policy makers and civil servants are afflicted at a personal level by the disease.

MDG 1: “Eradicate extreme poverty and hunger”

Although it is difficult to quantify the relationship between HIV/AIDS and poverty, there is widespread evidence of HIV/AIDS-induced poverty in Malawi, as described in Chapters 2 and 3. The two key determinants of the magnitude of the impact on poverty are the size of the population at risk of falling into poverty and HIV prevalence in this group (see Section 3.2). This implies that even if HIV/AIDS does not reduce per capita income, it may still increase poverty. Hence, HIV/AIDS constitutes a major obstacle for reaching MDG1 target of “halving the proportion of people living in poverty by 2015”.

Table 4a, which summarises Malawi’s achievements in reaching MDGs, shows that there has been little or no progress in reducing poverty. The MDG1 indicators, i.e. the proportions of people who are poor and ultra-poor, have only decreased a couple of percentage points which may very well be the result of measurement problems. Only future surveys can confirm if there actually is a downward trend (NSO, 2005b). Nevertheless, it is unlikely that Malawi will reach MDG1 since that implies reducing poverty from 52.4 per cent to 27 per cent, and ultra-poverty from 22.4 per cent to 14 per cent during the next ten years.

MDG 2: “Achieve universal primary education”

The MDG2, universal primary education, is also doing poorly. Although gross enrolment to primary education has increased, net enrolment i.e. the share of those going to school in a given age group, is only 0.8. Moreover, as Table 4a shows, only 60 per cent of those completed primary edu-

cation in 2005, which is a decline from 69 per cent in 1998. As discussed in Chapter 9, many factors related to HIV/AIDS may have contributed to this development. The Government of Malawi and World Bank (2006) believe it unlikely that the MDG2 will be met.

MDG 3: "Promote gender equality and empower women"

The third goal, gender equality and empowerment, has as its main measurable aim to eliminate gender disparity in primary and secondary education by 2005 and in all levels of education no later than 2015. The first part of this has more or less been achieved; the ratio between girls and boys in primary education reached unity in 2004–5, as shown in Table 4a. On the other hand, data on enrolment at secondary school (not reported) indicate that there still is a gender disparity: the gross attendance ratio between females and males is only 0.6 in the rural areas, and more girls than boys are repeaters, 4.5 per cent compared to 3.1 per cent (MoE, 2004). Nevertheless, there are clear signs of improvement in secondary school: the number of girls and boys who attend secondary school in urban areas is almost the same (NSO and ORC MACRO, 2005); and the share of women going to secondary school has risen sharply (see Figure 10, Chapter 3). According to Government of Malawi and World Bank (2006) Malawi has also improved women's participation in the work force and it is well placed to reach MDG3.

MDG 4: "Reduce child mortality"

Child mortality has been almost halved since the early 1990s. The under five mortality rate dropped from 234 per 1 000 in 1990–92 to 133 in 2004–05, as reported in Table 4a. Other measures of child mortality show a similar pattern. It is not straightforward to explain this decline as there has been little change in factors usually associated with child mortality. However, improved education for females may account for part of the improvement since there is a strong negative relationship between the mother's level of education and child mortality (NSO and ORC MACRO, 2005).

In spite of this decline, Malawi's child mortality is still high by international standards, which to some extent is due to HIV/AIDS. The contribution of HIV/AIDS to this high level was analysed by the US Census Bureau: infant mortality would have been 105 per 1 000 in the year 2000 without HIV/AIDS, but it was 122 (GOM and World Bank, 2006). Hence, in Malawi HIV/AIDS raises infant mortality by roughly 15 to 20 per cent.

It is difficult to predict how under five mortality will develop over the next 10 years, but according to Government of Malawi and World Bank (2006), Malawi might be able to meet the target of reducing the rate

to 78. However, considering the high HIV prevalence rates among fertile women and that about 30 per cent of the HIV positive mothers infect their children, there is a great risk that infant and child mortality rates will actually rise in the future, derailing the attainment of MDG4 (GOM and World Bank, 2006).

MDG 5: "Improve maternal health"

Maternal mortality is also high in Malawi and, as indicated by the maternal mortality ratio, it rose from 620 (per 100 000) in the early 1990s to 984 in 2004/05. The current ratio is thus a far cry from the MDG5 target of 155 in 2015. Nonetheless, the DHS in 2000 found an even higher maternal mortality ratio – 1120 – so there appears to have been a substantial decline recently (NSO and ORC MACRO, 2005).

However, the data reported on maternal mortality should be treated with care since it is unlikely that the ratio has fluctuated in the manner indicated by the estimates (NSO and ORC MACRO, 2005). Nevertheless, according to McCoy et al. (2004) it is probable that ratio is higher today than in the 1980s and early 1990s, though part of the increase could be an artefact due to a tendency to report AIDS deaths as maternal deaths due to the stigma associated with the disease.

McCoy et al. (2004) address the question of why the maternal mortality ratio nearly doubled over a ten-year period to become one of the highest in the world when it was expected to decline. Even if it is difficult to pinpoint the exact reasons, HIV/AIDS seems to have played a certain role even though there appears to be relatively few cases where HIV/AIDS is the direct cause of death. According to a study of institutional deaths, about two-thirds of all deaths were due to obstetric problems such as sepsis, obstructed labour, etc. And of the other one-third, anaemia and AIDS accounted for a quarter of the deaths, while malaria, meningitis and pneumonia caused most of the others. Hence, AIDS explained less than 10 per cent of all deaths.

Nonetheless, there is indirect evidence that HIV/AIDS might be more important than implied by these numbers. The deterioration in maternal health was much greater in urban than in rural areas, which might be explained by higher HIV prevalence in urban areas. A similar pattern is observed in Zimbabwe, although the increase there was more modest. Furthermore, HIV/AIDS affects the supply of health services, as described in Chapter 8, and this has a bearing on maternal mortality. According McCoy et al. (2004) there are clear indications of deterioration in the quality of maternal care since 1989, which may explain some of the mortality rate increase. This deterioration seems to be associated with a crisis

Table 4a: Malawi's progress towards the Millennium Development Goals

Millennium Development Goals (MDG1)	Base line 1990– 1992	Inter- mediate 1998– 2000	Most recent 2004–05	MDG target 2015
MDG1: Eradicate extreme poverty and hunger				
Target 1: Reduce by half, between 1990 and 2015, the proportion of people under the poverty line	54.0	53.9	52.4	27.0
Target 2: Reduce by half, between 1990 and 2015, the proportion of people under the ultra-poor line	28.0	25.4	22.4	14.0
MDG2: Achieve universal primary education				
Target 3: Ensure that boys and girls are able to complete primary schooling. (completion rate)	-	69.0	60.0	100
MDG3: Promote gender equality and empower women.				
Target 4: Eliminate gender disparity in primary and secondary education by 2005 and at all levels by 2015 (gender ratio in primary education)	0.9	0.9	1.0	1.0
MDG4: Reduce child mortality				
Target 5: Reduce by two-thirds between 1990 and 2015, (the under five mortality rate, per 1 000)	234.0	189.0	133.0	78.0
MDG5: Improve maternal health				
Target 6: Reduce by three-quarters between 1990 and 2015, (the maternal mortality ratio, per 100 000)	620.0	1120.0	984.0	155.0
MDG6: Combat HIV/AIDS, malaria and other diseases				
Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS (HIV prevalence among 15–24-year-old pregnant women)	17.4	24.1	15.3	<17.4

Source: Adapted from Table 1.6 in GoM and World Bank (2006).

¹ The maternal mortality ratio is calculated as the maternal mortality rate divided by the general fertility rate.

in the entire health system which of course to a large extent is due to the rapid spread of HIV/AIDS.

MDG6: “Combat HIV/AIDS, malaria and other diseases”

Malawi has made some progress in reaching MDG6, stopping the spread of HIV/AIDS, malaria and other diseases, and may be able to reach the target of having reduced prevalence by 2015. HIV prevalence has been stabilised (as shown in Table 4a), the incidence of malaria has declined substantially since the 1990s and the increase in the number of TB cases has stopped during recent years, although it remains at a much higher level than in the early 1990s (GOM, 2005a)

MDG7: “Environmental sustainability”

The seventh millennium goal is ensuring environmental sustainability. Table 4a does not report any indicators for MDG7, but so far results are mixed and some targets will probably not be met. Deforestation is proceeding at a fast pace and the proportion of the population using solid fuels is very high. However, access to safe drinking water is improving and this target might be achieved (GOM and World Bank, 2006).

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List of Acronyms

ACB	Anti Corruption Bureau
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinic
ART	Antiretroviral Therapy/Treatment
ARV	Antiretroviral
CBO	Community-Based Organisation
CIDA	Canadian International Development Agency
CHAM	Christian Hospital Association of Malawi
DFID	Department For International Development (United Kingdom)
DHRMD	Department of Human Resource Management and Development
DHS	Demographic and Health Survey
DTP	Direct Transfers Programme
EHP	Essential Health Package
ESCOM	Electricity Supply Corporation of Malawi
EU	European Union
FAO	Food and Agriculture Organisation
FBO	Faith-Based Organisation
FDI	Foreign Direct Investment
FPE	Free Primary Education
GBV	Gender Based Violence
GDI	Gender-related Development Index
GDP	Gross Domestic Product
GFTAM	Global Fund to Fight AIDS, TB and Malaria
GOM	Government of Malawi
HAART	Highly Active Antiretroviral Therapy

HIPC	Heavily Indebted Poor Countries
HIV	Human Immuno-deficiency Virus
HDI	Human Development Index
HTC	HIV Testing and Counselling
IFPRI	International Food Policy Research Institute
ILO	International Labour Organisation
IMF	International Monetary Fund
MACRO	Malawi AIDS Counselling and Resource Organisation
MANET	Malawi Network of People Living with HIV/AIDS
MDGS	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy
MPS	Malawi Police Service
MBCA	Malawi Business Coalition against AIDS
MEPD	Ministry of Economic Planning and Development
MK	Million kwacha
MMR	Maternal Mortality Rate
MOA	Ministry of Agriculture and Irrigation
MOE	Ministry of Education and Vocational Training
MOF	Ministry of Finance
MOH	Ministry of Health
MOWD	Ministry of Water Development
MPRS	Malwai Poverty Reduction Strategy
MPS	Malawi Police Service
MRA	Malawi Revenue Authority
MSF	Médecins Sans Frontières
MTCT	Mother-to-Child Transmission
NAC	National AIDS Commission
NGO	Non-Governmental Organisation
NSNS	National Safety Net Strategy

NORAD	Norwegian Agency for Development Cooperation
NSF	National Strategic Framework
NSO	National Statistics Office
ODA	Overseas Development Assistance
OECD	Organization for Economic Cooperation and Development
ORT	Other Recurrent Expenditure
PLWHA	People Living with HIV/AIDS
PMTCT	Prevention of Mother-to-Child Transmission
PRSP	Poverty Reduction Strategy Paper
PWP	Public Work Programme
SADC	Southern African Development Community
Sida	Swedish International Development Cooperation Agency
SMR	Standardised Mortality Rate
SRH	Sexual and Reproductive Health
SSAJ	Safety, Security and Access to Justice
STI	Sexually Transmitted Infection
SWAP	Sector-wide Approach
TB	Tuberculosis
TFP	Total Factor Productivity
TFR	Total Fertility Rate
TIP	Targeted Input Programme
TNP	Targeted Nutrition Programme
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USD	us dollar
VCT	Voluntary Counselling and Testing

WHO	World Health Organisation
WLSA	Women and Law in Southern Africa

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