Assessment of the Impact of HIV/AIDS on the Education Sector in Mozambique

prepared by
Verde Azul Consult Lda.
P.O. Box 352
Maputo, Mozambique

for
the Ministry of Education (MINED)
Government of the Republic of Mozambique

May, 2001
# Table of Contents

Table of Contents i  
List of Figures iii  
Glossary iv  
List of Abbreviations v  

**Executive Summary: Findings and Recommendations** S1  

**Chapter 1: Introduction**  
Introduction 1  
Aims and Objectives of the Study 1  
Statement of the Problem 2  
Potential Impacts of HIV/AIDS on the Education Sector 4  
Methodology and Approach 7  
Summary 7  

**Chapter 2: Background**  
Introduction 10  
Context 10  
HIV/AIDS in Mozambique 11  
Economy, Poverty and Human Development 13  
Impact of HIV/AIDS on Economic Development 14  
Macro-Economic Impacts 14  
Household Economic Impacts 15  
The Education System in Mozambique 15  
Background and Introduction 15  
Overview of Educational Performance in Mozambique 18  
Introduction 18  
Primary Level 19  
Secondary and Higher Education 20  
Technical Education 21  
University 21  
Teacher Training 22  
HIV/AIDS Programming in Education Sector 23  
Summary 25
<table>
<thead>
<tr>
<th>Chapter 3: Impacts of the AIDS Epidemic on the Education Sector</th>
<th>27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>27</td>
</tr>
<tr>
<td>Estimating Demand</td>
<td>27</td>
</tr>
<tr>
<td>Limitations of the Data</td>
<td>28</td>
</tr>
<tr>
<td>Demand for Primary Education (EP1)</td>
<td>29</td>
</tr>
<tr>
<td>EP1</td>
<td>29</td>
</tr>
<tr>
<td>Demand for EP1, Secondary and Technical Education</td>
<td>32</td>
</tr>
<tr>
<td>Estimating Supply</td>
<td>33</td>
</tr>
<tr>
<td>Supply</td>
<td>33</td>
</tr>
</tbody>
</table>

### Supply
- **Introduction: AIDS Mortality**
- **EP1**
  - Teacher Supply
  - Pupil:Teacher Ratio Impacts
- **EP2**
  - Teacher Supply
  - Pupil:Teacher Ratio Impacts
- **ESG1 and ESG2**
  - Teacher Supply
  - Pupil:Teacher Ratio Impacts
- **Technical Education**
- **Teacher Training**
- **Senior Managers**

### Education Quality
- **Introduction**
- **Variables Affecting Demand for Education**
- **Variables Affecting the Supply of Education**

### Costs
- **Introduction**
- **Parameters**
- **Educational Costs**
- **Cost Increases Due to Increases in Repetition**
- **Additional Costs Arising for Teacher Training**
- **Sick Benefits**
- **Cost Summary**

### Summary

---

**Annex A: Terms of Reference** A1
**Annex B: Discussion of Modeling and Projections** A8
**Annex C: Detailed Findings for EP2, ESG1, ESG2 and Technical Education** A14
**Annex D: Detailed Tables** A20
**Annex E: Key Informant Interview Instrument** A21
**Annex F: Bibliography** A29
## List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Summary of Sexual KAP Findings</td>
<td>12</td>
</tr>
<tr>
<td>2.2</td>
<td>Human Development Index Ranking</td>
<td>14</td>
</tr>
<tr>
<td>3.1</td>
<td>AIDS Impact on EP1 Enrolment</td>
<td>29</td>
</tr>
<tr>
<td>3.2</td>
<td>AIDS Mortality Rates for Those Aged 20-49, 2000-2010</td>
<td>34</td>
</tr>
<tr>
<td>3.3</td>
<td>Impact of AIDS Deaths on Pupil:Teacher Ratio, EP1</td>
<td>35</td>
</tr>
<tr>
<td>3.4</td>
<td>Impact on Pupil:Teacher Ratio if Trained Teachers not Replaced</td>
<td>37</td>
</tr>
<tr>
<td>3.5</td>
<td>Impact on Pupil:Teacher Ratio if Trained Teachers are not Replaced</td>
<td>38</td>
</tr>
<tr>
<td>3.6</td>
<td>Change in Pupil:Teacher Ratio, Technical Teachers, 2000-2010</td>
<td>39</td>
</tr>
<tr>
<td>3.7</td>
<td>Pedagogical University (Universidade Pedagogico)</td>
<td>40</td>
</tr>
<tr>
<td>3.8</td>
<td>Projected AIDS Deaths, Senior MINED Personnel</td>
<td>42</td>
</tr>
<tr>
<td>3.9</td>
<td>Unit Costs for Education by Sub-Sector and by Year (2000-2010)</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Compared to Costs for Repeaters (Meticais and % Additional Costs)</td>
<td></td>
</tr>
<tr>
<td>3.10</td>
<td>Costs for Educating One Teacher by Training Offered (2000-2010)</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Versus Total Costs</td>
<td></td>
</tr>
<tr>
<td>3.11</td>
<td>HIV/AIDS-Related Sick and Death Benefit Costs</td>
<td>51</td>
</tr>
<tr>
<td>Figure</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>Population by Age</td>
<td>10</td>
</tr>
<tr>
<td>2.1</td>
<td>The Mozambican Education System</td>
<td>16</td>
</tr>
<tr>
<td>3.1</td>
<td>AIDS Impact on EP1 Enrolment</td>
<td>30</td>
</tr>
<tr>
<td>3.2</td>
<td>AIDS Impact on EP1 Enrolment (North)</td>
<td>31</td>
</tr>
<tr>
<td>3.3</td>
<td>AIDS Impact on EP1 Enrolment (Centre)</td>
<td>31</td>
</tr>
<tr>
<td>3.4</td>
<td>AIDS Impact on EP1 Enrolment (South)</td>
<td>31</td>
</tr>
<tr>
<td>3.5</td>
<td>Projected EP1 Teacher Deaths from AIDS, 2000-2010</td>
<td>35</td>
</tr>
<tr>
<td>3.6</td>
<td>Projected EP2 Teacher Deaths by Region and Nationally, 2000-2010</td>
<td>36</td>
</tr>
<tr>
<td>3.7</td>
<td>ESG1 and ESG2 Projected Teacher Deaths, by Region, 2000-2010</td>
<td>38</td>
</tr>
<tr>
<td>3.8</td>
<td>Additional CFPP/IMPA Teachers Needed to Trained 2001-2010</td>
<td>40</td>
</tr>
<tr>
<td>3.9</td>
<td>Graduate Trainees Lost during Training</td>
<td>41</td>
</tr>
<tr>
<td>Glossary</td>
<td>Definition</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired immune deficiency syndrome, a collection of symptomatic conditions caused by the Human Immunodeficiency Virus.</td>
<td></td>
</tr>
<tr>
<td>AIDS Orphans</td>
<td>A child aged 0-15 who has lost her/his mother, or who has lost both parents to AIDS.</td>
<td></td>
</tr>
<tr>
<td>Asymptomatic HIV Infection</td>
<td>The stage of HIV infection prior to the development of illness or clinical signs and symptoms.</td>
<td></td>
</tr>
<tr>
<td>Base Year</td>
<td>Year upon which projections are based.</td>
<td></td>
</tr>
<tr>
<td>Counseling</td>
<td>Dialogue between a person in need and a care provider with the aim of reducing the stressful impact of HIV/AIDS on the individual and preventing transmission of HIV infection. Information, education and psychological support are given in a way that allows the individual to make decisions that facilitate preventive behaviours.</td>
<td></td>
</tr>
<tr>
<td>Demographic</td>
<td>Relating to the study of people.</td>
<td></td>
</tr>
<tr>
<td>Dropout Rates</td>
<td>The percentage of students in the educational system who are no longer able to attend school.</td>
<td></td>
</tr>
<tr>
<td>Epidemic</td>
<td>An epidemic is the occurrence in a community or region of a number of cases of a disease that is unusual or unexpected for the given place and time.</td>
<td></td>
</tr>
<tr>
<td>Epidemiology</td>
<td>The study of the distribution and determinants of health-related states or events in a specified population and the application of this study to health problems. Epidemiology can be thought of in terms of who, where, when, what and why. That is, who has the infection/disease, where are they located geographically, and in relation to each other, when is the infection/disease occurring, what is the cause, and why did it occur.</td>
<td></td>
</tr>
<tr>
<td>Focus Group Discussion</td>
<td>A discussion held among a small group of people (usually 5-9) on a specific set of issues. Usually comprised of people who are in a similar situation, or are alike in another way.</td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>Sex between men and women.</td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus, the virus that causes AIDS. Two types of HIV are currently known: HIV-1 and HIV-2. Worldwide, the predominant virus is HIV-1. Both types of virus are transmitted by sexual contact, through blood, and from mother to child, and they appear to cause clinically indistinguishable AIDS. However, HIV-2 is less easily transmitted, and the period between initial infection and illness is longer in the case of HIV-2.</td>
<td></td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>HIV Infection</td>
<td>HIV is primarily a sexually transmitted infection, passed on through unprotected penetrative sex. The virus can also be transmitted through blood transfusions, the use of unsterilised injection equipment or cutting instruments and from an infected woman to her fetus or nursing infant. While some individuals experience mild HIV-related disease soon after initial infection, nearly all then remain well for years (see Asymptomatic HIV Infection). Then, as the virus gradually damages their immune system, they begin to develop illnesses of increasing severity, characterised by various combinations of symptoms and diseases, such as diarrhoea, fever, wasting, fungal infections, tuberculosis, pneumonia, lymphoma, failure to thrive and Kaposi’s sarcoma.</td>
<td></td>
</tr>
<tr>
<td>HIV Sentinel Survey</td>
<td>The systematic collection and testing of blood from selected populations at specific sites for the purpose of identifying trends in HIV prevalence over time and location. For example, pregnant women attending antenatal clinics.</td>
<td></td>
</tr>
<tr>
<td>Immunodeficiency</td>
<td>The inability of the immune system to satisfactorily protect the body, which results in an increased susceptibility to various cancers and opportunistic infections.</td>
<td></td>
</tr>
<tr>
<td>Incidence</td>
<td>The frequency of new cases during a given time period in a specified population.</td>
<td></td>
</tr>
<tr>
<td>Incubation Period</td>
<td>The time interval between HIV infection and the onset of AIDS.</td>
<td></td>
</tr>
<tr>
<td>Infectiousness</td>
<td>The relative ease with which a disease is transmitted. The degree of Infectiousness of HIV varies over the course of the incubation period, and is probably highest when people are first infected (prior to development of antibodies) and when they are symptomatic.</td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>A set of activities through which a strategy is implemented. For example, promoting safer sexual behaviours is one intervention to reduce sexual transmission of HIV.</td>
<td></td>
</tr>
<tr>
<td>Intravenous</td>
<td>Within a vein or veins. It is the introduction of a solution into a vein, usually through a needle.</td>
<td></td>
</tr>
<tr>
<td>Key Informant Interview</td>
<td>One-on-one interviews with those who, by their position or through their influence, are consider to be knowledgeable or influential with regard to an issue or set of issues.</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>A model is a construct that is developed in an attempt to represent the real world. Models are usually expressed in the form of a mathematical equation or set of equations that represent an object or a system.</td>
<td></td>
</tr>
<tr>
<td>Morbidity Rates</td>
<td>The percentage ill over a particular span of time.</td>
<td></td>
</tr>
<tr>
<td>Mortality Rates</td>
<td>The percentage who die during a particular span of time.</td>
<td></td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Opportunistic Infections</td>
<td>Infections that are caused by microorganisms which the body's immune system is normally able to fight off. When the immune system is weakened or destroyed, as in HIV infection, opportunistic infections can then take hold.</td>
<td></td>
</tr>
<tr>
<td>Person Living with HIV</td>
<td>An individual infected with HIV, also called a person who is HIV positive or a person who is HIV seropositive. As soon as an individual becomes infected, s/he is capable of infecting others through sex, blood and perinatally. HIV infection is lifelong.</td>
<td></td>
</tr>
<tr>
<td>Prevalence</td>
<td>The number of cases in a given population with the infection, disease, or other health-related event of interest at a specified period of time.</td>
<td></td>
</tr>
<tr>
<td>Preventive Measures</td>
<td>Measures aimed at stopping the sexual, blood borne and perinatal transmission of HIV. For example, preventive measures aimed at decreasing sexual transmission include: education to encourage people to avoid high-risk sex; prevention and treatment of other sexually transmitted infections; and measures to make the environment, or overall situation, more supportive of safer sex.</td>
<td></td>
</tr>
<tr>
<td>Primary Data Collection</td>
<td>The collection of non-pre-existing information, usually carried out using structured data collection instruments. Collected via one-on-one or group interviews.</td>
<td></td>
</tr>
<tr>
<td>Projection</td>
<td>Estimate of future characteristic based on past trends, information known, and experience.</td>
<td></td>
</tr>
<tr>
<td>Qualitative Data</td>
<td>Data which is not statistically generalisable to a larger population. Tends to provide more depth than quantitative data.</td>
<td></td>
</tr>
<tr>
<td>Quantitative Data</td>
<td>Data generalisable to a larger population based on following careful sampling procedures, detailed question and questionnaire construction, and consistent implementation.</td>
<td></td>
</tr>
<tr>
<td>Repeater Rates</td>
<td>The percentage of students who have to repeat a grade.</td>
<td></td>
</tr>
<tr>
<td>Risk Factors</td>
<td>The term risk factor is used to describe those factors that are positively associated with the risk of development of a disease, but are not sufficient in and of themselves to cause the disease. In the case of HIV, these factors might include: involvement in any sexual relationship other than one which has been mutually exclusive and HIV negative for a sustained period of time; presence of an STD; injecting drug use; history of blood transfusions, skin-piercing, invasive, surgical or dental procedures that were done under possibly unsterile conditions or with contaminated blood or blood products; and sexual intercourse with a partner who has any of these risks listed.</td>
<td></td>
</tr>
<tr>
<td>Secondary Data Collection</td>
<td>Data obtained from existing published materials or available from existing databases and sources.</td>
<td></td>
</tr>
<tr>
<td>Sexually Transmitted Infections</td>
<td>Sexually Transmitted Infections comprise a variety of infections that are transmitted through sexual intercourse. It includes HIV, as well as other sexual diseases such as gonorrhoea, syphilis, etc.</td>
<td></td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Seroprevalence (HIV, STD)</td>
<td>The percentage of a population from whom blood has been collected that is found, on the basis of serology, to be positive for HIV or other STD agents at any given time.</td>
<td></td>
</tr>
<tr>
<td>Social Marketing</td>
<td>Application of private sector marketing techniques to the sale of products, such as condoms, that fulfill a social objective. Marketing refers to having the right product at an accessible place at an affordable price with appropriate promotion to one or more targeting audiences.</td>
<td></td>
</tr>
<tr>
<td>Socio-Economic</td>
<td>Refers to the investigation of both social and economic aspects of an issue. Tends to be broken down into 'macro', larger investigations, for example at the national or regional level, and 'micro' level, referring to an individual, a homestead, neighbourhood, or community.</td>
<td></td>
</tr>
<tr>
<td>Virus</td>
<td>One of group of minute infectious agents not visible using an ordinary light microscope. They are characterised by a lack of independent metabolism and by the ability to replicate only within living host cells. Viruses contain DNA or RNA, but not both. Viruses are customarily separated into three subgroups on the basis of host specificity, namely bacterial viruses, animal viruses and plant viruses.</td>
<td></td>
</tr>
</tbody>
</table>
## List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>CFPP</td>
<td>Curso de Formacao de Professores Primarios (Primary Education Course)</td>
</tr>
<tr>
<td>EP1</td>
<td>Ensino Primario 1 (Primary School 1)</td>
</tr>
<tr>
<td>EP2</td>
<td>Ensino Primario 2 (Primary School 2)</td>
</tr>
<tr>
<td>ESG1</td>
<td>Ensino Secundario 1 (Secondary School 1)</td>
</tr>
<tr>
<td>ESG2</td>
<td>Ensino Secundario 2 (Secondary School 2)</td>
</tr>
<tr>
<td>ESSP</td>
<td>Education Sector Strategic Plan</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>IAF</td>
<td>Inquerito Nacional aos Agregados Familiares (National Household Survey)</td>
</tr>
<tr>
<td>IAP</td>
<td>Instituto de Aperfeicoamento Pedagogico (Teacher Improvement Institute)</td>
</tr>
<tr>
<td>IMAP</td>
<td>Institutos de Magisterio Primario (Teacher Training Institute)</td>
</tr>
<tr>
<td>IMP</td>
<td>Institutos Medios de Professores Primarios (Primary Teacher Training Institute)</td>
</tr>
<tr>
<td>INDE</td>
<td>Instituto Nacional de Desenvolvimento de Educacao (National Institute for Educational Development)</td>
</tr>
<tr>
<td>MTCT</td>
<td>Mother to Child Transmission (of HIV)</td>
</tr>
<tr>
<td>UEM</td>
<td>Universidade Eduardo Mondlane</td>
</tr>
<tr>
<td>UP</td>
<td>Universidade Pedagogica (Pedagogical University)</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infections</td>
</tr>
<tr>
<td>ZIP</td>
<td>Zona de Influencia Pedagogica (Pedagogical Influence Zone)</td>
</tr>
</tbody>
</table>
Executive Summary: Findings and Recommendations

Introduction

Mozambique is currently estimated to have the world's seventh highest HIV infection rate. Estimates based on 1998 ante natal surveillance data suggest that by 2000 16.4% of all Mozambicans aged 15-49 would be infected, and 2000 data are likely to indicate a worsening epidemic. The education sector is not immune to the epidemic. HIV infection rates within the education sector based on those for other countries in Southern Africa may be as high, if not higher, than the national average. The system is, as a result, losing key personnel. This is taking place within an educational system that, despite major achievements in recent years, is already suffering from severe constraints that negatively affect its ability to meet its mandate -- to provide education to all young Mozambicans and to improve the quality of that education. At the same time, the epidemic in Mozambique has not yet reached the levels reached in neighbouring countries. This implies that early and effective planning intended to both mitigate the anticipated reductions in the demand for and supply of education, including preventative measures, could assist the Ministry of Education in managing these negative impacts.

At the same time, there is no doubt that the education sector has a key role to play in stemming the rise in the epidemic. It directly targets those who, because of their age, are part of the so-called 'generation of hope' -- those young Mozambicans aged 6-15 who are not yet sexually active, and thus not HIV-positive. This further burdens the education system with a major responsibility, while the sector is itself being severely affected.

The recommendations made in this report are based on a recognition of these three aspects of the epidemic: 1) the fact that the sector itself is already affected; 2) the fact that the sector already suffers from numerous problems that both limit its ability to respond to the epidemic as well as its ability to achieve its strategic objectives; and 3) that the education system itself must play a central role in improving understanding and changed behaviours.

Recommendations presented in this report build on existing initiatives within the system and within Mozambican society in the fight against the epidemic. Similarly, they are based on lessons learned in, and avoiding the mistakes of, other countries in the region. These present Mozambique with the its greatest opportunity in combating HIV/AIDs -- that of simultaneously targeting young Mozambicans before they are sexually active and helping the five out of six sexually active Mozambicans who are not HIV positive to avoid
infection. These challenges place the Ministry of Education at the centre of key interventions to stem the rising infection and death rates.

---

**Status of the Data**

The data in this report are based on the Assessment of the Demographic Impacts of HIV/AIDS in Mozambique which uses the available antenatal surveillance data based on 4 urban sites in the central and southern regions of the country. By the end of 2000, wider antenatal surveillance data will become available drawn from 22 sites in all regions of the country, including rural areas. These are likely to provide a more realistic picture of the nature and extent of the HIV/AIDS epidemic in Mozambique.

**Discussion:** It is presently estimated that HIV prevalence levels among the adult population (those aged 15 to 49) stand at 16.4%. They are higher in the central region at 20.7%, and lower in the southern and northern regions at 12% and 13.6%, respectively. Projecting from these rates, by 2010, HIV prevalence levels are expected to reach 21.4% in the central region and 14.4% and 14.3% in the northern and southern regions. Given that these projections are based on limited antenatal surveillance data they may be overly optimistic.

These prevalence levels have been used to establish how the epidemic has affected the education sector. If observed 2000 prevalence rates are significantly higher than the 1998 figures, the actual impacts on the education sector will also vary significantly from the figures presented in this report. Therefore, should the current round of antenatal surveillance indicate higher projected prevalence levels this report would need revision to reflect these changes. This would provide the Ministry with up-to-date data from which to carry out effective planning, and against which to measure change over time.

Further, the study was carried out in a context where much is not known about key variables that most certainly affected the epidemic. This includes qualitative information on the situation of orphans in Mozambique and on the cultural, social and economic reasons why children are not in school. The absence of this contextual information undermines the Ministry's ability to plan effectively.

**Recommendations:** Once the new surveillance data are available, it is recommended that the Assessment of the Demographic Impacts of HIV/AIDS in Mozambique model be revised to reflect these new findings. Once this has occurred, it is strongly recommended that the projections in this report be updated, as new findings from will have a significant impact on the projections for the Ministry.
It is also recommended that Mozambique consider how to respond to the rapidly growing orphan population. While the assumption is that extended families and communities can cope on their own, evidence from elsewhere in Africa suggests that this is not necessarily the case. The Ministry needs to consider how the education sector can respond in an innovative manner to this emerging problem. Best practice elsewhere indicates that responses to increases in the number of orphans as a result of the epidemic are centred on support to keeping these children in their communities and that the children and those caring for them are in control of decisions regarding their care and support. Ensuring that orphaned children are able to access and/or continue in school requires flexible planning at the district and provincial levels, identifying the number of AIDS orphans, providing access to and expansion of existing programmes of financial support (such as Caixa Escolar, the programme providing funding for books, etc.) and classroom recognition of the psychosocial problems these children encounter. The implication is that the schools themselves are provided the tools to monitor the increase in AIDS orphans in their communities, understand the reasons why they are not in school or for their learning problems, and that teachers are equipped to deal with these issues.

Because the epidemic is at its worst in the four central provinces of Manica, Tete, Sofala and Zambezia, the impact of the epidemic on the education sector will be felt more severely in this region. As a note of caution, however, this does not imply that this area should receive the bulk of the Ministry’s attention in terms of HIV/AIDS education and prevention intervention. Rather, the Ministry should consider its role in challenging HIV prevalence in areas where it is still relatively low. However, as a matter of urgency, planning for the impact of the epidemic should begin in the central region. It is recommended that the Ministry consider an equal focus on all provinces of the country, bringing to bear the relative strengths of its own organisation and its partners in development in this regard.

It is strongly recommended that the Ministry commission a study around the reasons why children are not in school now. Without this knowledge, it will be difficult to plan for these impacts. At the same time, there is still a great deal we do not know about adolescent sexual behaviours. A twin approach is therefore advocated, a qualitative investigation into the cultural, social and economic factors affecting enrolment, and a quantitative knowledge, attitudes and practices survey among 10-24 year olds. The INE (the National Statistical Institute) is undertaking a study that contains several questions as to why children may not be in school, responses to these questions could provide the basis for designing a more qualitative survey of the social cultural or economic factors involved. This would permit the Ministry to gain a deeper understanding of the factors keeping children out of school, and to plan for these. Equally, it is understood that an Adolescent and Reproductive Health Survey is planned for 2001. The Ministry of Education must become involved in the
development of the instruments to be used in this effort. This will ensure that the issues relating to sexual knowledge, attitudes and practices among in-school youth are addressed. These could then inform preventative measures introduced into and through the school system, including curricula changes. These two approaches should ensure that our understanding of how the education sector is being affected by the epidemic as well as the role it can play in stemming the epidemic are enhanced.

Finally, the response to HIV/AIDS requires a broad based, multi-sectoral response. In this regard the Ministry of Education has specific responsibilities, to assist Mozambicans in protecting themselves by teaching children their rights and how to protect themselves, by using the resources of the education system, and particularly the schools in their community as partners in the fight against HIV/AIDS. It is recommended that in order to meet these obligations teaching about child rights be strengthened. It is further recommended that the Ministry strengthens its existing multi-sectoral ties, not only with its donor and other partners in education, but extends these to include with non-governmental and community based organisations that can assist in meeting these obligations.
Demand for Education

Because of existing problems affecting the supply of education, HIV/AIDS will have little effect on reducing demand for education, except at the EP1 level. However, worsening supply of education due to HIV/AIDS will further depress the ability of the system to meet demand at all levels. Consideration of demand issues has raised many of the problems surrounding HIV/AIDS prevention and the role of the education sector in this regard.

Findings: There are at present some 2.6 million children in the Mozambican education system. The vast majority (85%) of these are in EP1. While the number of children in EP1 will continue to increase even in the face of the AIDS epidemic, the rate of increase will decline. This results from fewer children being born as a result of the HIV/AIDS epidemic, and because those who are born with HIV will normally die before they enter the schooling system. By 2010 it is expected that there will be 13% fewer children in EP1 than would be the case without AIDS.

While the EP1 projections do indicate a decline in the rate of increase in demand for education at this level (that is, that demand will flatten), this does not imply that EP1 access objectives outlined in the Education Sector Strategic Plan will immediately be threatened. The reason is that the system has expanded very rapidly in the past three years. Gross enrolment was close to 90% this year, which is the 2002 objective. However, as the epidemic progresses and the demographic structure of the population changes, these strategic planning objectives will come under threat.

Demand at other levels (EP2, ESG1, ESG2, technical and higher education) should not be affected by HIV/AIDS. At these levels the demand for education will continue to be constrained by the lack of available schools and their location, not by a decline in the number of students. As a result the number of children qualified for entry into higher levels of the system will continue to substantially exceed supply, despite a decline resulting from HIV/AIDS in the number of young Mozambicans of relevant ages for these levels.

The findings presented above do not account for the likely reduction in demand for education due to the impacts of HIV/AIDS at the household and community levels. These impacts result from the systematic decline in household economic status as AIDS progresses. Studies elsewhere uniformly conclude that children in households where one or more adults are affected by AIDS, or where the children are orphaned, are the first to lose access to education. There are already over 500,000 orphans in Mozambique, some two-
thirds of which are AIDS orphans, and this is set to rise to over one million AIDS orphans by the year 2010. Studies suggest that these children are negatively impacted for several reasons. Among these are the fact that poorer households are more likely to take in orphans than their wealthier counterparts, and the fact that these households bear additional costs that lead to its overall impoverishment. Their new status as orphans takes its toll and leads to non-attendance at, or dropping out of, school. These impacts in Mozambique will be widespread. At EP1, this may result in reduced enrolment, or at least increased distortions in who has access to education and who does not (e.g., poorer households, rural households, etc.). Indeed, studies indicate that these impacts disproportionately affect young girls, who are more likely to be withdrawn from school to care for sick relatives or replace labour at home or on the farm. This will challenge Mozambique's efforts to increase attendance of girls. Further children who come from AIDS-affected households or who are orphaned are traumatised and suffer emotionally. These emotional impacts affect their ability not only to stay in school, but also to learn and progress. This has an additional impact on drop-out and repetition rates.

Recommendations: The school system is viewed as a vehicle for informing children about HIV/AIDS and empowering them to be able to respond to it effectively in order that they may protect themselves from infection. It is also viewed as a vehicle for assisting affected children, their families, caregivers and communities in coping with impact of the epidemic. The implementation of these aims requires planning for the re-orientation of curricula, assisting teachers to develop the skills needed to deal with emotional pressures on children (and themselves) and planning for coping with the impact of the epidemic on the classroom and school. Equally, it requires viewing the school as a resource within its community, which should become one of the focal points in combating the epidemic. This implies that the school, through its school directors and teachers, becomes more community centres and that once these individuals have themselves gained an understanding of HIV/AIDS are able to act as a local resource in the provision of information and the collection of data, etc.

One major lesson learned in neighbouring countries is that it is those children who are not sexually active must learn the lessons of abstinence, protection and prevention. These are the 6 to 15 year olds who are known as the 'window of hope' in combating the disease (in Mozambique the average child becomes sexually active at 16 years of age). The Ministry of Education and its partners in development are particularly well-placed to respond to this 'window of hope'.

A second major lesson learned from elsewhere in the region is that HIV, despite its rapid spread, can indeed be prevented, and that the 5 out of 6 sexually active Mozambicans that are not infected can avoid infection.
This implies that the vast majority of Ministry personnel are not infected, therefore timely interventions to protect them through knowledge, understanding and empowerment can go a long way towards protecting the sector from AIDS.

A third major lesson learned from elsewhere in the region is that those who are already HIV positive can live a long time in a positive manner. This holds for infected Ministry personnel as much as anyone else, but only if they understand their condition, protect their partners, know what their rights are, help improve the public's understanding of HIV/AIDS, and increase compassion towards those who are HIV positive.

A fourth major lesson emerging from elsewhere in Southern Africa is that planning for the epidemic must involve the entire Ministry, from the centre, to the provinces, to the district level and down to the schools, headteachers and teachers. All levels of the system must understand the impact of the epidemic on the education system and be involved in planning for and implementing mitigatory measures.

A final lesson learned from elsewhere in the region, particularly Tanzania, is that the introduction of more flexible school calendars, adjusted to meet peak on-farm labour demand, can assist in keeping children in school in the face of the epidemic.

It is recommended that the Ministry of Education begin collecting data at the school level on orphans, reasons for drop out and absenteeism among pupils. These data collection efforts should be included in the annual submissions to the Ministry’s planning section, and could initially provide information from a representative sample of schools at the district level. The data would allow the Ministry to set a baseline against which to measure increases in these indicators and begin planning for their mitigation.

It is also recommended that the Ministry target AIDS education and prevention activities not just to those who are already sexually active, but also those who are not yet sexually active. The Ministry of Education’s strategic plan presently targets children in EP2 and higher with sex education and HIV/AIDS prevention, but states that children in EP 1 will be “included”. In fact children in EP1, who represent some 50% of all 6 to 15 year olds in Mozambique, should receive equal attention from the Ministry. This can only be achieved through collaboration with those involved in the education and HIV/AIDS arenas – the National Council, the Ministry of Health and other government bodies, non-governmental organisations, churches, community leaders and donors. Successful initiatives at the EP1 level (such as the child-to-child programmes) need rapid expansion, particularly in the central region of Mozambique where infection levels are highest. To the extent possible,
and with the Ministry’s consent, NGOs, churches and other such organisations should implement these programmes. It should be noted that introducing HIV/AIDS education and prevention interventions at EP1 level might result in some disapproval from parents and communities. Therefore these extra-curricular activities should seek to involve parents and community members, and could become one vehicle to increase the role of the school’s in mitigating of the epidemic at the local level. Evidence from throughout Africa highlights the fact that a careful and mature approach to the problem and a broad-based anti-AIDS campaign can often overcome such resistance.

Simultaneously, it is recommended that an innovative curriculum teaching children about HIV/AIDS in the broader context of sex education and sexually transmitted disease prevention and treatment is needed at both primary and secondary levels. Current efforts to disseminate information to teachers that encourage them to incorporate these subjects into their current classroom routines should be expanded and strengthened. These include the current the Zona de Influencia Pedagogica (ZIPS, Pedagogical Influence Zones) programmes and those conducted by the teacher’s union, which in fact offer an excellent opportunity to reach a considerable number of teachers in the system.

It is also recommended that extra curricular schools-based HIV/AIDS prevention activities be considered as a matter of urgency. These can range from information distribution (e.g., youth magazines focused on improving an understanding of their sexual rights, including the right of abstinence, and an understanding of sexual diseases, including HIV/AIDS) to peer education (e.g., anti-AIDS clubs and drama groups) to direct interventions (e.g., condom demonstrations and distribution, as well as the creation of ‘abstinence clubs’ etc.).

It is further recommended that the Ministry consider the ‘costs’ associated with inaction in terms of reaching its own personnel against the costs associated with reaching educators with requisite information and prevention measures in a timely manner. Unless the Ministry acts now, the situation will only worsen, and will worsen rapidly. Again, this does not imply that the Ministry has to take these actions without the assistance of its partners, rather it should be able to rely on its partners in this regard.

Finally, it is recommended that a policy on non-discrimination regarding HIV and AIDS-affected children in school be developed. This can only be effective, of course, within the context of increased understanding about HIV/AIDS. While the educator sector is generally viewed as a place where the HIV/AIDS epidemic can best be stemmed, it should be recognised that the school system itself is a place of risk, and these risks will need to be eliminated. Risks include wide age ranges in the school system (overage learners in a system with
very young learners), many children are either in boarding school or living with relatives, friends or on their own in order to attend schools, there are high risk behaviours among some educators and students, etc. Schools are locations where children are subject to peer pressure, where the rules may differ from the situation at home (especially for children who have had to leave their homes to attend school) and, unfortunately in some cases, where the unwanted advances of older teenagers or adults occur.

Finally, it is recommended that the Ministry strengthen and strictly enforce regulations with regard to teachers that have sexual relations with students.

For many of these recommendations, this does not necessarily mean burdening the Ministry of Education itself with a wide range of new activities. Rather, the multi-sectoral planning that is already underway in the AIDS arena can benefit the Ministry, and the Ministry should consider how it might best rely on other implementing agencies to assist (e.g., non-governmental organisations).
Supply of Education

It is with regard to the supply of education that HIV/AIDS is dramatically affecting the education sector in Mozambique. Supply constraints, already severe, will worsen considerably by the end of the projection period, 2010. The teacher training system will be under additional pressure.

Discussion: The supply of trained educators is perhaps the most critical constraint to the Ministry’s ability to achieve its objective of universal access to basic primary education and quality improvements, and its longer-term aim of universal access to full education. Unfortunately, it is precisely here — the supply of educators — where AIDS will take its most serious toll.

Over the period 2000-2010, the AIDS epidemic is projected to result in the education sector losing some 17% of its personnel. Across all levels, some 9,200 teachers will die, and an estimated 123 senior managers, planners and administrators will be lost. For each of these educators some eighteen months of productive work time will also be lost before they die.

Because the central region has the highest levels of HIV prevalence, they are projected to lose the greatest percentage of teachers (23.3%). And because the region has the highest number of educators in the system, half of all teachers who die will come from the central provinces.

In order to maintain the system as projected based on recent trends, trained teachers and senior personnel will need to be replaced. In order to accommodate the loss of trained teachers alone, CFPP/IMPA will need to expand the number of trainees in the system by 25% solely due to HIV/AIDS. In order to replace teachers with university degrees who die of AIDS, training at this level will need to be expanded by 28%.

While the HIV/AIDS epidemic will increase demands on the teacher training institutions to produce greater numbers, it is unlikely that these institutions will be able to meet this increased demand. It is therefore likely that trained teachers will be replaced with untrained ones, lowering quality in the sector. While this may seem to be an easy solution, it must be remembered that the education sector will be competing with other sectors, including the private sector, in attracting those who have obtained at least some education. In other words, the epidemic will increase the competition for trained personnel and may make it more difficult to attract people into the teaching profession.
Recommendations: Despite numerous constraints, there seems little alternative but to expand teacher training opportunities. This can only be accomplished with the increased understanding of, and support from, donors and the Ministry's other partners in development. It is therefore recommended that teacher training opportunities be expanded to accommodate the impacts of the epidemic.

It is recommended that as a matter of urgency the Ministry ensure that all its personnel understand HIV/AIDS and the impact the epidemic is likely to have on the education system. HIV/AIDS must be mainstreamed in the Ministry. Planning for and mitigating the impacts of the epidemic must become the task of all personnel, not only a select task force or group within the Ministry. Simultaneously it will be necessary for the Ministry to obtain improved data on staff illness, absenteeism and death, in order to plan for AIDS impacts on the supply of education.

Planning for the loss of teachers must be built into the system and based on data that take into account the impacts of HIV/AIDS. Presently the Ministry bases its planning projections on outdated demographic data (i.e., population projections done prior to the 1997 census). It is recommended that future planning projections be based on the updated population projections in the "with Aids" demographic data produced by INE. This will also require the collection of information by the Ministry on staff absenteeism, resignation and loss of staff and applying this to its planning model.

It is also recommended that the Ministry consider targeted educational and preventive measures for its educators. This can only occur with the assistance of key non-governmental organisations, including the teacher's unions. The mobility of Ministry personnel places them at higher risk. Educators with higher 'risk profiles' should be identified (that is, those living away from home, those in areas where HIV prevalence is highest, those in areas where vectors of HIV transmission are prominent (e.g., major transport stops, areas where high levels of migrant labourers, etc.), etc. Expanded access to condoms and other preventative measures to reduce the transmission of HIV should be considered as a matter of urgency, but only in the context of improved knowledge about HIV prevention and how to use condoms.

It is recommended that the Ministry introduce policies related to HIV/AIDS and Ministry personnel that support non-discrimination within a context of increased knowledge and understanding.

It is also recommended that the Ministry solicit counselling and advisory services for its staff to help deal with HIV/AIDS. It is also recommended that those educators and Ministry personnel who find that they are HIV
positive have access to relevant counselling services. This must include information and resources on positive living, as this can and does assist in reducing absenteeism and the loss of personnel.
Educational Costs

The HIV/AIDS epidemic will reduce the efficiency of the education sector and increase costs throughout the system.

Findings: In current dollars, the total estimated loss to the educational system arising from HIV/AIDS is US$110 million, or Mt1,900 billion. This represents additional costs to the system of 6.9% just due to HIV/AIDS. It should be noted that this is an underestimate of the actual costs because some costs cannot be quantified based on available data. It is also an underestimate because it assumes that the Ministry will bear no costs associated with expanded HIV/AIDS prevention activities by, or within, the sector.

The bulk of these costs arise from HIV/AIDS related sick and death benefit costs, and to a lesser extent by expanded teacher training costs. There are also costs associated with increased inefficiencies in the system, most notable increased drop-out and repetition rates. With education currently receiving some 14% of the national budget, these losses will have a significant impact on the ability of the state and the Ministry to cover these additional expenses.

Recommendations: The only way that these costs can be avoided is to respond effectively to the epidemic, both in the general public and among educators. The Ministry of Education has a role to play in both respects. Outside resources and support are required for the Ministry to play such a role. It is recommended that the Ministry consider preparing a costing plan, in collaboration with the Ministry of Finance and their partners in development, covering the additional costs of HIV/AIDS education and prevention activities and the costs of HIV/AIDS within the system.
Chapter 1: Introduction

Introduction

This report presents findings from an assessment of the impact of the HIV/AIDS epidemic on the education sector in Mozambique. Verde Azul Consult Limitada and collaborating Mozambican researchers undertook the study. The quantitative impacts on the education sector are based on the recent demographic assessment of the impact of HIV/AIDS on Mozambique carried out by the Ministry of Health and the National Statistical Institute, with technical assistance from the Policy Project of The Futures Group. The analysis of quantitative impacts resulting from the epidemic was supported by a comprehensive review of available secondary materials from Mozambique and the Southern African region.

Aims and Objectives of the Study

The main aim of the investigation was to provide the Ministry of Education and the Government of Mozambique with information on the impacts of HIV/AIDS on the education sector in order to initiate strategic planning and for advocacy purposes.

The objectives of the investigation, as outlined in the Terms of Reference, were as follows:

- Determine the impact of the epidemic on the education sector at the national level.
- Determine the medium and longer-term effects on the education system’s ability to meet its stated strategic objectives over the next ten years (outlined later in this report).
- Strengthen the capacity of the Ministry’s directorates to implement and manage similar assessments.
- Increase awareness within the Ministry of Education as the nature and extent of HIV/AIDS in Mozambique and its impacts on the education sector.

In order to meet the first two objectives the projections modelled in the demographic assessment of the impact of HIV/AIDS were used to calculate the demand for education over the period 2000 to 2010. These were then used to calculate the supply of education. To the extent possible, the findings are then analysed against the qualitative objectives contained in the Education Sector Strategic Plan (ESSP). Regarding the latter two objectives, these relate to process and the study met these by working as closely as possible with Ministry officials. Firstly, the Ministry of Education appointed a representative multi-sectoral Reference Group (which included the Ministry of Finance) that guided the study and met to discuss and agree upon the approaches used in calculating the demand and supply of education in a growing and stressed public education system. Secondly, the Mozambican researchers collaborating with the Verde Azul consultants were themselves
members of the technical group that produced the demographic assessment. Their participation in the team and all meetings with the Ministry increased inter-sectoral collaboration and assisted in increasing awareness and acceptance of the impact of HIV/AIDS on the sector.

Statement of the Problem

"While Mozambique was suffering from the effects of war over the past decades, neighbouring countries such as Botswana were enjoying a level of economic growth and social stability enviable in Africa. The question now posed is the following: if even more stable countries, with higher levels of human development, such as Botswana, are being affected, in such a visible fashion, what will happen in Mozambique? In other words, if even in a climate of peace, political stability and strong economic growth, human development can be demolished so visibly, will there be any chance of Mozambique avoiding this further catastrophe?" UNDP, 1999:67.

Mozambique is currently estimated to have the world's seventh highest HIV infection rate (UNICEF/Mozambique, 1999). Sixteen percent (16%) of all Mozambicans aged 15-49 were HIV positive as of the year 2000, some 1.2 million people. Some 100,000 Mozambicans are estimated to have already died of AIDS since HIV was first detected in the country in 1986 (the majority of these in the last few years), and by the year 2010 a total of 1.7 million Mozambicans are expected to have died of AIDS-related diseases. As of 2000, there are some 500,000 orphans, two-thirds of whom were estimated to be AIDS-orphans. By 2010, there are expected to be almost three times as many orphans (1.4 million), of which almost 90% are projected to be AIDS orphans. The epidemic results in both AIDS-impacted households, that is, those households that have someone in the household who is HIV-positive, and AIDS-affected households, that is, households that are affected in some way by the epidemic (e.g., looking after orphan children, reallocating labour to assist an AIDS-infected household, etc.).

As severe as these various impacts are, these figures may well be under-estimates of actual impacts. The projected infection rates and deaths are based on the assumption that the comparatively low infection rates in the south and north of the country (in comparison to the central provinces and to neighbouring countries) will remain low and will peak at the same time as the higher peak occurs in the central provinces (2003/4). This is by no means assured. Over time these projections will be revised and expanded as surveillance sites are added to the existing four urban sites nation wide, and as more accurate data become available.¹

¹ Please refer to page 10 for an explanation of the importance of multiple sentinel surveillance sites in developing more accurate projects of the demographic impact of HIV.
As severe as the epidemic is in Mozambique, and as serious as it may become under various scenarios, it is important to note that this does not mean that nothing is being done, and it most certainly does not mean that nothing can be done. Indeed, for every Mozambican aged 15-49 that is HIV positive, another six are not. Despite its rapid spread in southern Africa, the fact remains that HIV does not spread easily. Abstinence, the proper and consistent use of condoms during sexual intercourse, rapid treatment of other sexually transmitted infections (STIs) and abstinence during such treatment, and the avoidance of 'high risk' sexual encounters can dramatically reduce the spread of the virus. Even if the epidemic is ‘generalised’ in a country, as is the case in Botswana, Namibia, Swaziland, South Africa, Malawi, Zambia and Zimbabwe, as well as has likely occurred in central Mozambique (at least), much can be done to stem infection rates and, over time, deaths.

A recent study in Botswana (UNDP/BIDPA, 2000), a country which has the dubious distinction of having the world's highest HIV prevalence figures, is focusing attention on what they refer to as an ‘AIDS free generation’, that is, the half of the population, currently under 15, that is by and large not infected. Of course, as the opening quote to this section reminds us, the situation is different in Mozambique in terms of its recent history and its ability to marshal resources to respond to the epidemic. At the same time, Mozambique’s level of infection, even in a worst case scenario, is not as severe as that found in Botswana. Consequently, the implementation of timely, effective interventions in Mozambique may result in the epidemic ‘cresting’ at a lower level than found in Botswana, despite Mozambique's relative disadvantages in other respects. Reaching the youth--the ‘AIDS-free generation’--with education and empowerment is perhaps the most important means of stemming the epidemic.

The link between reaching children aged under fifteen and the education sector is clear. Most of these young people will either be in school or aspire to be in school, and Mozambique has strategies in place to eventually meet the full demand for education. Even in a situation where many children are not being reached with an...
adequate education — the current situation Mozambique — the role of the education sector in stemming the epidemic cannot be understated.

Unfortunately, the education sector must play such a role in a context where the sector itself is being severely affected. In order for the system to respond to the needs of the general population of young Mozambicans, the sector must respond to the threats the epidemic poses to itself. In recent years those working in the education sector and those familiar with HIV/AIDS have considered how to proceed with the conduct of effective sectoral impact assessments. While the number of such studies are limited (see Kelly, Carr-Hill, Katabaro and Katahoire, 2000, and JTK Associates, 1999), there is a growing understanding of the importance of accounting for HIV/AIDS impacts when planning the way forward for the education sector.

**Potential Impacts of HIV/AIDS on the Education Sector**

"HIV/AIDS is not just one problem among many. This is an emergency epidemic – a development crisis – that is ravaging the region and undermining all social and economic development efforts. A radical response that mobilizes all sectors, including the education sector, is imperative." The World Bank, September 2000.

HIV/AIDS results in demographic, social and economic changes in society, changes that affect the education sector. These include impacts on the demand for education, specifically enrolment trends, school attendance, drop-out and repetition rates and the growth in the number of orphaned children. The supply of education is affected as teachers, managers and others responsible for the system become sick and die - thus reducing the provision of quality education. Further, as the private and other sectors experience similar losses of skilled personnel there may be "poaching" of teachers and managers, further increasing the loss of skilled personnel.

These losses greatly affect the quality of education provided. Studies in West Africa have demonstrated that an HIV-positive teacher generally loses six months of teaching time prior to the onset of AIDS, following which s/he is generally absent from the classroom until death (Carr-Hill, Katabaro and Katahoire, 2000). This study estimated that approximately 18 months of classroom time is lost for each affected teacher. The reality in Southern Africa appears to be increasing frequency of bouts of illness and thus loss of classroom time until death. There is a system-wide loss of experience and professionalism as the replacement teaching and managerial stock, if available, is under-trained and under-experienced.

Further, many more teachers, managers and other skilled personnel will need to be trained than would otherwise have been the case. This results in increased expenditure on training without an expansion in the supply of educators overall, implying less funding being available for quality improvements.
Simultaneously, AIDS affects the national economy (through the loss of skilled labour, reduced productivity and declining investment, etc). Thus at the macro level, the epidemic reduces the state's ability to commit funds to education while AIDS-related demands from all sectors on resources increase.

The education sector is particularly vulnerable to the AIDS epidemic because of its high dependence on skilled human resources, and because it is necessarily dispersed throughout a country. Further, beyond being labour intensive in terms of human resource needs, education is skills intensive at the management level. From national Ministry personnel to provincial personnel to area-based personnel, a wide variety of skills are required.

However, modelling and educational data, while important, only tell half the story. Unfortunately, the other factors that require consideration are less easy to measure from available secondary data. HIV/AIDS profoundly affects families and communities, resulting in the loss of labour, assets as well as socio-cultural skills, and places almost unprecedented stress on community and extended family networks. These result in withdrawal of children from the education system, even when education is provided at no cost, as their labour is required to replace that of adults who become sick or die, as well as to care for the sick. Equally, it reduces the ability of households to pay for education. In these circumstances, more girls than boys are likely to be withdrawn from school. In Mozambique much attention is being paid to increasing female participation in education, particularly in the centre and north of the country. Despite these efforts the gender gap continues to widen, and the epidemic is likely to further erode these efforts.

The epidemic dramatically increases the number of orphans in society. Appendix D provides details on the anticipated numbers in Mozambique, by region. While the war provided the country with experience in coping with the problem of orphans, studies elsewhere demonstrate that, at the peak of the epidemic, the expectation that communities and extended families can continue to absorb orphans becomes, in practice, unworkable (Hunter and Williamson, 1997, Hunter, 2000; Rugelema, 1999). Rather, support for the well being of orphaned children within their communities, based on access to care, security, shelter and social services, including education, is required. In many countries in southern and eastern Africa, this is taking place in a situation where household and community resources intended to deal with the impacts of the epidemic are inadequate.
Increased assistance from outside is, in these circumstances, as important as community and family coping in responding to the epidemic.

Finally, the HIV/AIDS epidemic requires a response from the education sector itself. It offers an excellent opportunity to strengthen the knowledge base of young people, as well as change attitudes and behaviours through curriculum and school-based interventions. It is, in effect, a focal point for interventions, whether these come from the community or from outside. Further, educators are often role models in society, their word and their behaviours have a significant impact on others. However in order to achieve these preventative measures, the education sector must first plan for the impacts of the epidemic. This requires ensuring that all personnel understand HIV/AIDS and its impacts, and that planning for and mitigation of the impact of HIV/AIDS on the supply of and demand for education is then incorporated into all levels of the system.

There are, at the same time, circumstances that enhance risk, including wide age ranges across students in the same class/classrooms, the need for many children to attend school away from home (only 67% of rural communities have a local primary school, and only 2% of rural communities have a secondary school; Ministry of Planning and Finance, 1998), the fact that many teachers are living away from home, etc. In Mozambique it is estimated that there are some 24,700 children in boarding school. (MINED, 2000). Most (80%) are in EP2 and ESG1 schools and the majority, some 50%, are male students. The vast majority of children attending school away from their homes are not in boarding schools, and are thus living with relatives, friends, or indeed, on their own. These children, both those in boarding establishments and those living outside the schools, are extremely vulnerable to sexual and other forms of abuse. Increased access to education may therefore covary with increased risk of HIV infection. (see Shell, 2000).

These factors, both positive and negative, place additional burdens and costs on the educational system, requiring time-consuming and costly curricula changes, teacher training interventions, extra-curricular school-based interventions, etc. There are many reasons requiring that laws about teacher:pupil sexual relations must receive attention and rigorous enforcement, not least the rights of children. HIV/AIDS adds a further imperative to these.

Equally, the sector has a responsibility to its employees, at all levels of the system, to provide them with proper prevention education and, if considered appropriate, prevention interventions (e.g., condoms).
Equally, the sector has a responsibility to its employees, at all levels of the system, to provide them with proper prevention education and, if considered appropriate, prevention interventions (e.g., condoms).

Methodology and Approach

Three approaches were employed when preparing this report:

- Secondary materials review and compilation.
- Limited primary data collection in the central and southern regions.
- Modelling.

Secondary materials reviewed included documents about HIV/AIDS at the international, regional, and national levels, reports on the impact of HIV/AIDS on the education sector in other countries, and policy documents and other studies of the Mozambican educational sector. Primary data collection consisted of key informant interviews in Maputo and Beira with school directors, teachers and Ministry officials. These interviews filled some of the gaps in available data on the education sector, assessing what is already occurring in terms of HIV/AIDS prevention in schools and the Ministry itself, and more specifically to solicit opinions on the impact of HIV/AIDS on the education sector in Mozambique.

The demographic impacts of HIV/AIDS are contained in the study undertaken by INE and the Ministry of Health which models these effects using the SPECTRUM group of programmes, including the AIDS Impact Model (INE, 2000a). Considerable use was made of these data in order to determine the 'with AIDS' and 'without AIDS' projections for school age children, and the impact of AIDS on the teacher population and managers/administrators under these scenarios. The projections for demand for education were made by comparing population groups of those likely to be in school from the 'with AIDS' and 'without AIDS' scenario in this model. The impacts on the supply of education were based on the AIDS mortality data contained in the demographic assessment. The model is explained in more detail in Appendix B – Discussion on Modelling and Projections.

Summary

A recent report by UNICEF/Mozambique (1999: 8) states that "A false sense of security prevails that the epidemic is not as bad in Mozambique as in neighbouring countries, that [Government] is taking care of the problem, and that other development challenges are much more serious. Ministries are unaware of the potential impact of HIV/AIDS and they lack the tools and motivation to visualize and launch effective
interventions.” It continues by arguing that: “The first step is for Ministries to undertake technical analyses of sectoral-specific impact and responses. These would include impact on Ministry personnel (losses, projected costs for replacement, key capacities lost) and on delivery of Ministry services.”

This study, which is based on the demographic assessment of the impact of HIV/AIDS in Mozambique, is intended to provide the Ministry of Education with information allowing it to both begin to plan for the epidemic and to advocate for the implementation of preventative action.

Changes in the system resulting from the epidemic will affect the quality of the teaching-learning process. In Mozambique, where the education system is already under considerable stress (as it undergoes rehabilitation following its destruction during the war, and is simultaneously attempting to achieve its objectives of universal basic education and quality improvements), these impacts may be particularly severe and long-term.
Moçambique – Provinces and regions

Legend

- North region
- Centre region
- South region
Chapter 2: Background

Introduction

In this chapter, background information is included against which to consider the impact of HIV/AIDS on the education sector in Mozambique. It includes general information on the country, the status of the HIV/AIDS epidemic in the country, and an overview of the education sector.

Context

Mozambique lies in southeast Africa, bordered by the Indian Ocean to its east, with a coastline of some 3,000 kms. To the south and west, the country is bordered by South Africa, Swaziland, Zimbabwe, Zambia and Malawi, with Tanzania to the north (see Map 1 overleaf). The country covers an area of 799,380 km², and population projections from the 1997 census indicate that, as of 2000, the total population was 17.2 million people, of whom 52% are women and 48% are men. Almost one-third (32.6%) of this population lives in the northern region comprising Niassa, Cabo Delgado and Nampula Provinces, 41.9% in the central region comprising Zambezia, Tete, Manica and Sofala provinces, and 25.5% in the southern region comprising Inhambane, Gaza, and Maputo provinces. The most populated provinces are Zambezia and Nampula with 19.2% and 19% of the population, respectively. Nampula and Maputo provinces are the most densely settled (the latter primarily because of Maputo city, followed by Sofala, Inhambane, Zambézia and Cabo Delgado where population density ranges from 19.1 to 35.5 persons per km².

The 1997 census estimated life expectancy at 44 years for women and 40.6 years for men, some seven years lower than the average for sub-Saharan Africa. HIV/AIDS is projected to decrease life expectancy in Mozambique to 35.7 years by 2005. The Mozambican population is very young. In 2000, an estimated 44.6% of its population was under the age of 15 years, and the median age was 17.5 years, as shown in the following figure:
HIV/AIDS in Mozambique

The first confirmed case of AIDS was detected in Mozambique in 1986. Since that time the number of HIV positive people and, subsequently, AIDS cases has increased. The rate of increase in the early years of the epidemic appears to have been relatively flat, consistent with most other southern African countries. However, from 1992 the rate of increase rose dramatically, coinciding with the return of refugees from neighbouring countries following the end of the war - countries that already had very high levels of HIV infection and established epidemics (Zimbabwe, Malawi, Zambia, South Africa and Swaziland). Of equal importance, the ending of the war led to increased movement within the country. Projections suggest that the epidemic is worst in the central provinces, followed by the northern provinces and finally the south.

As with other African countries, the most common method of HIV transmission in Mozambique is through heterosexual relations, although mother-to-child transmission accounts for 25% of all diagnosed cases, a figure higher than for elsewhere in southern Africa. (The reasons for this are unclear, perhaps arising from the fact that children are more likely to be taken to health centres for treatment and higher fertility rates in Mozambique).

Unfortunately, until 1992 the only antenatal surveillance site was in Maputo City. This was expanded to Tete and Chimoio in 1994 and Beira in 1996, all urban sites in the central region. Findings show an antenatal...
prevalence rate of 10% in 1998 in Maputo, compared to 17% in Tete and Chimoio and 18.3% in Beira. Starting in 2000, antenatal sentinel surveillance is being expanded rapidly. Tests are presently being conducted at 22 sites in urban and rural areas in the north, central, and southern regions of the country. Once available, the 2000 antenatal surveillance data will be more geographically and demographically representative and will present a more realistic picture of the HIV/AIDS situation in Mozambique allowing for increased accuracy (being based on more data points) in projecting the impact of the disease on the population.

In 1998 Population Services International (PSI Mozambique, 1998) carried out a sexual knowledge, attitudes and practices (KAP) survey covering 15-49 year olds in peri-urban and urban areas throughout Mozambique. Key findings are indicated in the following table:

<table>
<thead>
<tr>
<th>KAP Variable</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of HIV/AIDS</td>
<td>97% knew of AIDS as a sexually transmitted disease.</td>
</tr>
<tr>
<td></td>
<td>85.3% could name two or more methods of prevention.</td>
</tr>
<tr>
<td></td>
<td>Knowledge of HIV/AIDS most commonly came from radio.</td>
</tr>
<tr>
<td>Attitudes About People</td>
<td>Most felt that those with AIDS should not be allowed to work.</td>
</tr>
<tr>
<td>Living With HIV/AIDS</td>
<td>Most felt that the HIV status of people should be made public 'to protect the public'.</td>
</tr>
<tr>
<td></td>
<td>6.8% of respondents believed that AIDS could be cured, while a further 20.4% were uncertain.</td>
</tr>
<tr>
<td>Practices (including</td>
<td>Age at first sexual contact: 16.5 years (little variation across males and females)</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>Number of years between first sexual activity and first marriage: males 5 years, females 1 year</td>
</tr>
<tr>
<td></td>
<td>Mean number of 'regular' partners (partners the respondent is serious about) over one year: 1.08 for males, 1.17 for females, 1.13 overall</td>
</tr>
<tr>
<td></td>
<td>Mean number of 'casual' partners (partners the respondent is not serious about) over one year: 2.24 for males, 1.51 for females, 2.03 overall</td>
</tr>
<tr>
<td></td>
<td>45.6% of men between the ages of 20-24 had casual partners (an average of 2.68), compared to 21.2% of women the same age.</td>
</tr>
<tr>
<td></td>
<td>23% of all sexually active respondents reported paying for commercial sex.*</td>
</tr>
<tr>
<td></td>
<td>One-third of all sexually active respondents had used a condom at least once in their lives.</td>
</tr>
<tr>
<td></td>
<td>12.6% of all sexually active male respondents reported at least one sexually transmitted infection in the year before the survey. Men living away from home at least one month a year were twice as likely to report an infection as those staying at home.</td>
</tr>
<tr>
<td></td>
<td>Key reasons for not using a condom included 'inopportune' (35.6%); dislike of condoms (31.2%); confidence that partner does not have HIV (13.2%); and partner refusal (6.7%).</td>
</tr>
</tbody>
</table>

*This finding is reported as such. However, we have reservations about this and believe it more likely to be 23% of male respondents.

Basic awareness of AIDS was high, and many knew how it was spread and how it could be prevented. However, there were numerous uncertainties regarding HIV in particular, and fear of those living with HIV as well as AIDS. Nevertheless, study findings suggest that the relationship between knowledge and actual practices is not strong, although specific interventions (e.g., in communities where condoms are distributed through social marketing channels) appear to relate positively to improved practices (see INE, 1997). Many of
the respondents engage in high-risk sex, for example either to 'sell' sex commercially or to purchase it, and condom use was both low and inconsistent.

Economy, Poverty and Human Development

Following the signing of the peace accord in 1992 the economy of Mozambique has been among the fastest growing in the world. Impressive gains in restoring economic growth have been achieved, albeit from a small base. Growth averaged 10% annually over the period 1996 – 1999, peaking at 12.4% in 1997. Despite possible setbacks resulting from the severe floods in early 2000, Mozambique's prospects for continued economic growth are sound. Its natural resource base has enormous potential, and it remains vastly under-utilised. Only about 10% of arable agricultural land is used, although over 75% of the population derive their principle livelihood from this sector, primarily as smallholder farmers.

Mozambique achieved macroeconomic stability in 1996 fuelled by a strong performance across sectors, but most vigorously in manufacturing, construction and services. Agricultural output, which accounts for approximately 27% of GDP, has kept pace with overall economic growth due to generally favourable climatic conditions. For 2000, the GDP growth rate has been reduced due to the floods but this is expected to recover to 10% by 2001.

Despite these macro-economic achievements, the country is heavily indebted and remains one of the poorest in the world. In 2000 the World Bank development indicators placed Mozambique amongst the most severely indebted countries, with the value of this debt being 74% of 1998 GNP and 470% of export goods and services. Estimated GDP per capita in 1998 was US$140 (World Bank, 1999).

Poverty in Mozambique affects over two-thirds of its people. On a national level, 69.3% of the population live below the poverty line (US$0.40 per day, Ministry of Planning and Finance, 2000). Poverty, defined by the Government as the inability of individuals to ensure for themselves and their dependants a set of minimum basic conditions for their survival, is widespread throughout the country. The incidence of poverty is higher in rural areas (71.3%), where 79.7% of the population live, than in urban areas (62%), although poverty is high in both areas. At the provincial level, the incidence of poverty ranges between 88% in Sofala to 47.8% in the city of Maputo. Dividing Mozambique into the south, the centre and the north, levels of poverty in the centre of the country were highest at 73.8%, compared to 66.3% in the north and 65.8% in the south. Not surprisingly, on the Human Development Index (HDI) comprising variables such as infant mortality rates, educational attainment, health status, etc., Mozambique was ranked as the poorest country in southern Africa. Figures for
Mozambique in comparison to other countries in the region as well as change in HDI over time in Mozambique, and regional variation are indicated in the following table:

Table 2.2: Human Development Index Ranking

<table>
<thead>
<tr>
<th>Variable</th>
<th>HDI Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison Between Mozambique and Other Southern African Countries (1998)</td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>0.695</td>
</tr>
<tr>
<td>Namibia</td>
<td>0.638</td>
</tr>
<tr>
<td>Botswana</td>
<td>0.609</td>
</tr>
<tr>
<td>Lesotho</td>
<td>0.562</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>0.560</td>
</tr>
<tr>
<td>Democratic Republic of the Congo</td>
<td>0.479</td>
</tr>
<tr>
<td>Zambia</td>
<td>0.431</td>
</tr>
<tr>
<td>Tanzania</td>
<td>0.421</td>
</tr>
<tr>
<td>Malawi</td>
<td>0.399</td>
</tr>
<tr>
<td>Angola</td>
<td>0.398</td>
</tr>
<tr>
<td>Mozambique</td>
<td>0.343</td>
</tr>
</tbody>
</table>

Human Development Index Ranking for Mozambique by Year

<table>
<thead>
<tr>
<th>Variable</th>
<th>HDI Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>0.310</td>
</tr>
<tr>
<td>1995</td>
<td>0.313</td>
</tr>
<tr>
<td>1996</td>
<td>0.322</td>
</tr>
<tr>
<td>1997</td>
<td>0.331</td>
</tr>
<tr>
<td>1998</td>
<td>0.343</td>
</tr>
<tr>
<td>1999</td>
<td>0.356</td>
</tr>
</tbody>
</table>

Human Development Index Ranking for Regions 1998

<table>
<thead>
<tr>
<th>Variable</th>
<th>HDI Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>0.212</td>
</tr>
<tr>
<td>Centre</td>
<td>0.267</td>
</tr>
<tr>
<td>South</td>
<td>0.427</td>
</tr>
</tbody>
</table>

As the table shows, Mozambique has the lowest ranking in terms of human development of the eleven southern African countries listed. The table nevertheless shows a steady rise in human development ranking from 1994 to 1999, albeit remaining at a very low level. Regional variation is considerable, with the ranking for the south double that of the north, and almost double that of the central provinces.

Impact of HIV/AIDS on Economic Development

Macro-Economic Impacts

The impact of HIV/AIDS on macro-economic growth is difficult to predict, as the impact depends on the structure of the economy (e.g., capital intensive activities dominate or labour intensive activities dominate, etc.) and the composition of the labour force (e.g., skills shortages are severe or not so severe, etc.). Nevertheless, even in cases where growth has been historically positive, where capital intensive industries dominate the economy, and where skills shortages have been largely overcome by importing labour from outside (as Botswana has done), the anticipated effect of HIV/AIDS on the economy will be negative. It is
estimated that in Sub-Saharan Africa the annual growth rate of per capita income falls by about 1 percentage point when HIV/AIDS prevalence rates reach 25% of the adult population. Sources indicate that the disease is slowing economic growth. The Ing Baring report released in 2000 indicated that GDP growth in South Africa will be some 0.3 to 0.4 percentage points per annum lower than anticipated over the next ten years solely as a result of HIV/AIDS. In Kenya it is believed that GNP will be 14.5 percent lower by 2005 as a result of AIDS (ONAP, 1999). In 1996 it was estimated that AIDS resulted in a drop of almost 8 percent in GNP in Namibia. Skilled human resources are scarce in Mozambique, thus the economic impact may be especially severe.

**Household Economic Impacts**

Regardless of the complexities of the relationship between macro-economic growth and HIV/AIDS, the impact on the economic well being of families and communities is clear. Numerous studies regarding how HIV/AIDS affects households in southern Africa have been carried out over the past few years (see in particular Barnett and Whiteside with Desmond, 2000 and Rugalema, 1999, and also ActionAid, 1993 [Tanzania], Government of Zambia, 1999, Save the Children, 1999 [South Africa], UNICEF, 1995, and Hunter and Williamson, 1994). A few studies have considered these possible impacts on Mozambique (e.g., UNICEF/Mozambique, 1999), and other studies in Mozambique have made reference to the potential impacts of HIV/AIDS across sectors (e.g., impacts on poverty, impacts across males and females, etc.) and by sector (e.g., UNDP, 2000). The diversion of scarce family resources to seek medical assistance and care for the ill, the reduced access to and availability of education and other basic social services, and growing dependency ratios mean that a large proportion of Mozambican families will see their opportunities shrink as a result of the HIV epidemic. There is, of course, significant variation in how households cope with the growing epidemic, affected by socio-economic status, culture, etc. Nevertheless, human development uniformly suffers as a result of the epidemic.

**The Education System in Mozambique**

**Background and Introduction**

This study considers the impact of HIV/AIDS on the supply of public education overall, and on the demand for education at primary and secondary levels (covering almost all students in the current educational system); it also touches on teacher training impacts. The Mozambican system is divided into five sub-systems offering formal education: 1) primary; 2) secondary; 3) tertiary; 4) technical/vocational; and 5) teacher training, as well as two basic types of non-formal education: 1) literacy and adult education; and 2) teacher distance education and on-the-job training. The system is presented in the chart that follows.

---

2 The chart is derived from that contained in the World Bank Project Appraisal for the Education Sector Strategy Programme (ESSP).
Figure 2.1  The Education System in Mozambique
This study covers EP1, EP2, ESG1 and ESG2, although it also touches on key teacher training issues. EP1 covers classes 1-5. EP2 covers classes 6-7. ESG1 covers classes 8-10. ESG2 covers classes 11-12.

The Education Sector Strategic Plan for the period 1999-2003 (MINED, 1998: 7-8) notes that "The ultimate goal of the "Plan Estratégico de Educação" is to support the Government's national development strategy by building an educational system that provides Mozambican citizens with the knowledge and skills that they will need to obtain sustainable livelihoods, accelerate the growth of the economy, and strengthen the institutions of a democratic society" [emphasis added]. The three main objectives of the plan are 1) increased access; 2) improved quality; and 3) development of an institutional and financial framework to sustain the system over time. All this is taking place within the context of structural changes designed to help obtain these objectives, but in so doing has made the educational process more complex.

The specific objectives to be reached by 2004 are:

- To ensure that children have access to quality basic education, with due consideration to the need to reduce regional and gender disparities in admissions and school performance. Specifically, a gross admission rate of 93% and a gross enrolment rate of 88.1% will be achieved in EP1, and a gross enrolment rate of 26% will be achieved in EP2.

- To ensure access to schools and retention of children from poor families through the free provision of school materials and uniforms. Support from the School Fund Programme (Caixa Escolar) will be provided to 75% of children from poor households.

- To ensure that girls have access to school and remain in school by making parents and communities aware of the importance of girls' attendance, through the free provision of school materials, uniforms and coverage of other educational expenses. The proportion of girls will be increased in EP1 from the current 43% to 45%.

- To expand non-formal education and adult education to all parts of the country, rural areas in particular. The supply of literacy services in rural areas will be expanded to all districts in the country.

- To encourage the private sector and NGOs to provide literacy programmes for their workers and surrounding communities.

- To expand access to technical and vocational education, particularly in rural areas, as a way of providing vocational skills leading to better paid job opportunities. To achieve this goal, all elementary agricultural and trade schools in the country will be re-opened, and re-activated.
Overview of Educational Performance in Mozambique

Introduction

As of 1997, 47% of all females and 26% of all males had never attended school (INE, 1997). Higher percentages are classified as illiterate, as many of those who managed to attend school only completed one or two years. Indeed, 78% of all Mozambicans (69.5% of men and 86% of women) have not finished any educational level (UNDP, 1999). Late entry into the school system and high repetition rates are serious problems, with wide age ranges particularly in Class 1 and 2 in EP1. Less than 25% of the students who enter Class 1 in EP1 complete all five EP1 classes without repeating at least once. Only 6% of those who enter EP1 move on to graduate from EP2. Overall gross enrolment rates for the formal schooling system have grown dramatically since the end of the war, rising from 25% in 1994 to 35% in 1999, while EP1 gross enrolment rates were significantly higher at some 90% by the year 2000.

Sixty percent (60%) of the adult population in Mozambique is illiterate (46.6% male, 75.7% female), and approximately 60% of children in the age group 6-12 years are out of school. Inequity persists in terms of the provision of education between regions, urban and rural, as well as between girls and boys. Regarding urban and rural differences, 10% of urban males and 21% of urban females had never attended school, while this rose to 32% and 55% for rural males and females, respectively. Girls are less likely to attend and finish school than boys. At primary level, girls represented 41% of all students, dropping to some 35% at secondary level.

Female attendance and completion is particularly problematic in the north (see World Bank, 1999).

In EP1 the average pupil to teacher ratio was 61:1, ranging up to 81.1:1 in Gaza Province. Most primary school students attend school on double shifts, while triple shifts are not uncommon in urban and peri-urban areas. Many teachers at all levels are either unqualified or under-qualified for the posts they hold. Indeed, in 2000, 38% of EP1 teachers are untrained, and the majority had only received one year of teacher training (MINED, 1998 and 2000). The number of untrained teachers in the system is increasing as the education system expands. Education quality is a problem as materials are lacking or of poor quality, budgets are low, payments are sometimes late, etc. As there are no local capital budgets (these are rather determined
centrally), schools tended to have to rely on parents for key inputs and HIV/AIDS is likely to substantially reduce the ability of parents to provide these.

Primary Level

In 2000 there were 7,072 EP1 public schools nationally accommodating 2.27 million children, representing a 7% annual growth in schools and of 9% in terms of EP1 students. In 1998 only 69.8% of all 6-10 year olds were in school, rising to 90.6% by the year 2000 (MINED, 2000). The Ministry aims to sustain the current pace of gross enrolment increases in EP1 until all Mozambican children have places in primary schools. Under its strategic plan the number of EP1 schools is to be increased by some 12,000 over the period 1999 - 2003, a provision of 33,516 classrooms. The highest priority is being placed on increasing the number of classrooms in the three northern provinces of Cabo Delgado, Niassa and Nampula where many children lack effective access to primary facilities.

There are, of course, inefficiencies in the Mozambican educational system arising from the many challenges it has faced over the years. An overview of its current status highlights these challenges. The 'average' Mozambican child does not complete EP1. Dropout rates are high as are those for repetition, females are under-represented in the educational system, and the quality of education provided is low. Only 32% who enter the first class eventually graduate from EP1. In 1999 it required 13.1 years (males 12.7 and females 13.8) for the average pupil to graduate from EP1, rather than the five years envisaged. This represents significant progress over 1992 when an average of 15.5 years per graduate was recorded (14.5 males and 16.6 females), but inefficiencies in the system remain severe. The pupil:teacher ratio at EP1 is 62:1.

Annually, about 30% of all children repeat at least one class, while 8% drop out, and only 8% complete the first cycle of primary education without repeating. Most teachers have limited education and 38% had no training in 2000; and only 24% are women. Teachers have heavy loads, particularly in urban areas where trained teachers may work at multiple institutions in order to supplement low wages. Teacher absenteeism, felt to be a problem in the early 1990s, is no longer perceived to be as serious (key informant interviews, Beira and Maputo).

The EP2 sub-system covers classes 6 and 7. Only a few EP1 schools have "correspondent" EP2 school nearby. More usually the EP2 schools serve a much larger geographic area. As a result most of the students who are able to move on to EP2 have to relocate. Further, while EP1 schools have class teachers covering all subjects within a class, at EP2 specialist subject teachers do teaching. Key informants said one of the

---

Unfortunately data are not available regarding how many of these schools cover all five classes and how many do not.
reasons behind lower enrolment rates for girls particularly at EP2 level is the need to send the child away from home for education.

In the EP2 sub-system there are presently some 522 schools, accommodating 209,230 children. Over the next five years Government aims to construct some 1,860 new EP2 classrooms creating places for an additional 167,400 students. For every ten EP1 students, therefore, only one can be accommodated in EP2 (Classes 6-7) at present. Of those that enter EP2, only 6% complete. Key informants in both Beira and Maputo felt that drop-out rates were higher in rural areas than in urban areas in part due to the higher 'opportunity costs' associated with education in rural areas. 'The labour of children on-farm and at home is required, especially girls'.

Under the new strategic plan it is intended to integrate EP1 and EP2 to create a consolidated primary system focussed on 'basic education' needs, known in the strategic plan as 'complete primary schools'. As the plan notes (MINED, 1998: 17), "This will require not only the construction of additional classrooms but also a significant revision of the curriculum in EP2 to bring it closer [to] the curriculum in EP1. Revising the EP2 curriculum to reduce the number of independent subjects will also reduce the number of new teachers needed at this level as enrolments rise." The plan argues that this will improve access and quality within the primary system: "The opportunity to complete primary school close to home should reduce drop-out rates and increase the rate of transition from EP1 to EP2, especially for girls."

Secondary and Higher Education

Not surprisingly, few young Mozambicans are reached by secondary education. In 2000, only 32% of those who enter EP1 will complete this cycle of their education. Only 7% of those who complete EP1 (or 2.2% of all those who attend at least the first year of EP1) move on to ESG1. Only 33% of those in the 10th class of ESG1 graduate. Of these, an estimated 25% are able to move on to ESG2. As of 1997, only 1% of all Mozambican women and 3.1% of all Mozambican men had completed secondary school (UNDP, 1999).

In part these low transition rates are due to efficiency and quality problems in the primary system. However, they are also due to the lack of availability of schools and classrooms at secondary level. Indeed, there are only a small number of public secondary schools, 93 at ESG1 (classes 8 through 10) and 20 at ESG2 (classes 11 and 12). Further, most secondary schools are located in urban centres, with attendance biased towards urban residents. The few that exist in rural areas are primarily boarding schools, with few resources.
Beyond quality constraints, problems in the secondary education system are similar, albeit less intense, to those in the primary education system. For example, at secondary level the repetition rate is 50% (46.5% male and 53.5% female), indicating that the efficiency of the secondary level leaves much to be desired.

As with the transition from primary to secondary level, the curriculum and quality of secondary education does not allow for smooth progression to tertiary levels such as university and technical/vocational institutions. Indeed, only 1% of secondary school students enter higher education institutions.

**Technical Education**

Technical education consists of industrial, commercial, agricultural and arts/crafts schools whose educational levels equate to upper primary (EP2) and secondary levels. There are currently some 36 such technical schools across all levels. These accommodate some 28,000 students. Under the ESSP the goal is to make technical education more relevant to the labour market. Currently a strategy for this sub-system is under preparation and will make available more detailed data against which to measure its quality and efficiency.

**University**

There are 5 public universities:

- Universidade Eduardo Mondlane, offering 22 different degree courses.
- *Pedagógica*, teacher training at university level, offering 12 courses.
- Instituto Superior de Relações Internacionais (ISRI, International Relations Institute), Foreign Affairs training.
- Escola Náutica de Moçambique, the nautical university-level school, offering 3 courses.
- Police Academy, recently created, with no students at present.

It should be noted that since 1996 private universities have been opened in the north and central regions; these are not included in this assessment as no data are available.

In 1999, the public universities had 9,021 students. Economics courses (which include management) attract the most students (some 17% of the total), while the teaching sciences attract about 11% of all students. The public universities produce under 500 graduates each year, and, as elsewhere, there are indications of inefficiencies in the public tertiary institutions. The number of female university students is low, with a male:female ratio of around 3:1. Existing data² reveal that more than 50% of these university students are
from the southern region of the country. There are no data available indicating whether these students are from rural or urban areas.

The number of Mozambican university teachers has been increasing, most of them being "licenciados" (which equates to a masters degree). Tertiary institutions have focussed on sending Mozambican academics to post graduate courses in order to improve the quality of teaching and research at this level.

The structure of most university degree courses is rigid, with a heavy theoretical content. Most last on average five years. In addition, the lack of materials (computers, laboratories, libraries, etc.) impedes the use of modern teaching techniques, affecting the quality of teaching.

In its draft strategic plan the higher education sector proposes to: a) satisfy social needs for access and equity; b) satisfy the labour market and national needs by introducing flexibility; c) make more efficient use of available resources; d) diversify the resource base; e) diversify the institutions and teaching techniques; f) improve quality; and g) redefine Government's role in this sector.

**Teacher Training**

The supply of trained teachers is possibly the single most critical constraint to the Ministry's ability to meet its sectoral objectives. Most teachers are only minimally trained, and teacher:pupil ratios are extremely high. The crisis in the supply of teachers requires urgent attention. Over one-third of teachers are not trained, and in many rural locations this means that well over half of all teachers are untrained. The growth in enrolment, particularly in primary education, is outstripping the capacity of the system to produce sufficient trained teachers, and the ravages of HIV/AIDS will further undermine the supply of teachers in the years ahead. Indeed, the percentage of untrained teachers in the system has increased in recent years as a result of the expansion in the number of schools and the inability of training institutions to keep up with demand. Further, the system loses trained teachers who move to jobs with better conditions and benefits (conditions of service are poor, salaries are low and most teachers are not provided accommodation). As one teacher interviewed put it: “teaching is a trampoline to a better job.”

The current output of trained teachers graduating from teacher training institutions is approximately 1,360 per annum according to the Ministry's strategic plan. While this is expected to rise to some 2,200 per annum with the opening of new teacher training institutions, there will be a cumulative shortage of some 8,000 teachers by
the year 2001. To help overcome these shortages, the Ministry is accelerating training programmes at
teacher training institutions so that pre-service training can be completed in one year, following which they will
be posted to schools and thereafter trained for an additional year via in-service training.

The following types of teacher training institutions are found:

- **Curso de Formação de Professores Primários (CFPP, the primary teacher training course)** provide
  three years of training for teachers from lower primary levels of the system who have completed seven
  years of education (7 + 3);
- **Institutos Medios de Professores Primarios (IMPS, a primary teacher training institute for upper primary)**
  previously provided three years of training for upper primary teachers who have graduated from 10th
  class (10 plus three);
- **Institutos Magisterio de Primario (IMAP, a primary teacher training institute covering both upper and
  lower primary which will eventually replace the IMPS system)** provide two years teaching for all primary
  schools (10 plus 2). With the phasing out of the IMPS, this system is being expanded;
- **Universidade Pedagogico (Pedagogical University)** provides university level training for teachers who
  are then mainly placed in the secondary system.

While the intention is to streamline these training institutions, the bulk of teachers in the system are presently
primary school graduates (EP1), often with a year of pre-service training and follow-up in-service training.
These pre-service training courses are further supplemented by distance education through the Instituto de
Aperfeicoamento Pedagogico (IAP, the Teacher Improvement Institute). The IAP provides in-service training
and institutional support to teachers through distance learning through the Zona de Influencia Pedagogica
(ZIPs, Pedagogical Influence Zones). ZIPs cluster some ten to sixteen schools together, and are intended to
provide pedagogical support including in-service training to teachers in their respective zones. The strategic
plan intends to revitalise the ZIPs to build the skills of untrained teachers in particular.

As noted earlier, the Ministry is expanding training opportunities via an expansion of the IMAP system, so that
new teachers can complete their pre-service training in one year, be posted to schools, and thereafter receive
an additional year of in-service training. While many teachers currently in the system have only received six
years of formal education and one year of pre-service training (or just seven years of education), the intention
is to move to ten years of education, one year of pre-service training and one year of in-service training.

**HIV/AIDS Programming in the Education Sector**

As part of the National Strategy to Combat HIV/AIDS, the Ministry of Education (MINED) has developed a

---

*Without considering the impact of HIV/AIDS on the teacher population.*
sector strategy. MINED’s programme to control and prevent HIV/AIDS is based on the policies and strategies contained in the National Strategic Programme against STIs/HIV/AIDS. Within the Ministry this project is known as “Education on Issues of Population and Family”, under the Instituto Nacional de Desenvolvimento de Educação (National Institute for Educational Development, INDE). The programme defines the main target group as youth, especially girls, and the Ministry is viewed as being responsible for ensuring that in-school children receive education on these issues. The priority areas to be covered are urban and those rural areas that are in, or close to, the economic corridors where the epidemic is felt to be worst.

Under this programme, the Ministry is participating in management and co-ordination groups, specifically in provincial and regional nuclei, an inter-ministerial Committee and the National Committee against STIs/HIV/AIDS.

To accomplish these aims, MINED is placing priority on:

- activities to prevent infection aimed at the youth, especially girls;
- activities to reduce impacts, targeting students, teachers and other professionals living with HIV/AIDS, as well as targeting orphans;
- Improvement in the quality and levels of coverage of educational activities developed in schools and the communities;
- activities in the economic corridors;
- resolving constraints, particularly cultural constraints where identified.

The primary beneficiaries of these activities are students, including younger students attending EP1, and teachers (either working or in pre-service training). The secondary beneficiaries are families and community members as well as other Ministry staff and support personnel. The priority target groups are EP2 and ESG1 and ESG2 (including technical schools). Activities are divided into non-curricular activities and curriculum development. The first task focuses on the training of teachers and of peer education task force groups. Teachers will be trained either through distance learning (with an initial phase involving training of trainers and the preparation of materials) or through the Zona de Influencia Pedagogica (ZIPs, Pedagogical Influence Zone), training the ZIP coordinators to disseminate this training to schools under the respective ZIP.

The main activities to prevent infection are the promotion of the use of condoms, peer and child-to-child education and counseling, accompanying youngsters to the health services, learning life skills and mobilising organisations that focus on vulnerable groups.

"Given the unique opportunity presented by the education system to play a central role in reduction and prevention, it is extraordinary that it has not only been largely ignored, but that the sector has been allowed instead to become a major part of the problem."

Badcock-Walters, 2000: 3. Elsewhere Shell (2000: 1) pessimistically notes that "While education is glibly assumed to be a key turnaround factor and cultural antidote to the further spread of the pandemic ... this earnest and understandably near universal hope is unlikely to translate into reality."
The main activities to reduce the impact of the epidemic are counseling on the use of condoms, vocational training, promotion of access to voluntary tests, promotion of visits to counseling centres and expanding awareness to reduce the stigma surrounding HIV/AIDS.

The specific objectives of the programme up to 2002 include:

- By mid-2000 to define a national strategy to reduce the impact of HIV/AIDS in the sector (as noted above).
- By the end of 2000 to define, together with the National Committee against AIDS, the framework for NGOs to participate in activities aimed at students and other youngsters, in school based programmes.
- By 2002 to:
  - Reach 1,200,000 students;
  - Train 4,000 teachers in education to prevent HIV/AIDS;
  - Include HIV/AIDS and sexual education issues in the project;
  - Implement the project throughout the country, with priority given to the corridor zones where HIV prevalence is felt to be higher;
  - Reform the curricula to include HIV/AIDS; and
  - Carry out pilot testing programmes and materials covering 30 schools and 3,500 students

Summary

The education sector in Mozambique is complex. It also exhibits quality and efficiency problems. Many children still do not or cannot access education and as a result remain outside the system. There are fewer girls than boys in the schools, and this is particularly true in the northern and central provinces of the country. Key informants highlighted both economic and cultural reasons for this. Dropout and repetition rates are high and over one third of teachers lack training. Once a child has graduated from EP1, s/he may have to reside away from home in order to access higher primary or secondary education (either as boarders, or living with relatives or in rented accommodation). This increases their risk of infection. The Ministry needs to ensure the safety of these children, through programmes and projects which allow them to understand their rights, through education and information on HIV/AIDS, including prevention measures, and strict enforcement of regulations relating to sexual abuse of students by teachers.

HIV/AIDS will exacerbate these problems within the system, slowing Mozambique's progress towards attainment of the goals and objectives contained in its sectoral plan. At the same time, the education system
provides an opportunity to respond to the epidemic, not only by planning for its impacts, but by introducing curricular changes and preventative measures and by encouraging schools to become a focal point for HIV/AIDS programmes within the community.

The Ministry’s plan of action to combat HIV/AIDS is being implemented and an internal task force has been appointed to respond to the epidemic. Work has begun on including HIV/AIDS in the secondary school curricula. Of particular importance are younger children, those between the ages of 6 and 15 years, who are free of infection. They are what are referred to as “the window of hope” in combating the AIDS epidemic in southern Africa (Kelly, 2000). In this regard, Mozambique has the opportunity to learn from the mistakes of their neighbours, whose life skills training and other responses were initially misdirected only towards older children, those in secondary schools. These children are often already sexually active and the messages concerning abstinence and condom use reach them too late, as has been learned elsewhere in the region with tragic consequences.

The focus of current activities is on providing information and preventing the spread of the epidemic. These are important and should not be neglected. Equal importance must be placed on the more difficult tasks associated with planning for the impacts which will impede the Ministry’s ability to deliver education. In addition, now that the impacts on the education system itself are better understood, the programme of activities must include planning for the impacts on the demand for education and the ability of the Ministry to supply education.
Introduction

As noted in Chapter 1, HIV/AIDS is already severely affecting the education sector in Mozambique, and these negative impacts will only worsen in the future. Effects can be grouped into four categories:

- Impacts on the demand for education by learners.
- Impacts on the supply of educators (teachers, administrators and policy-makers).
- Impacts on the quality of education, that is, to what extent will the education system yield efficient and effective outcomes, and what will affect its ability to do so (e.g., growing unaffordability of education in AIDS-affected and AIDS-affected households; rising numbers of orphans; increased repetition and drop-out rates; loss of productivity in the system; etc.).
- Cost implications for the education sector.

These impacts are discussed below.

Estimating Demand

This study recognises that, given the problems facing the Mozambican educational system, it would have been unwise to consider demand for education only among those of the 'correct' age by sub-sector (e.g., EP1, EP2, etc.). There are many repeaters in the system, students drop-out and re-enter at a later time, and many start their schooling late. The projections made in this report have accommodated these factors. This has, unfortunately, complicated some of the explanations introducing the projections, although these are presented in as clear and concise a manner as possible. Readers interested in further details on assumptions and methodologies should consult Appendix C.

Demand for education, in the context of this report, refers to the number of students who are expected to seek education over the period 2000-2010. Demand for education is expected to decrease because of HIV/AIDS due to lower fertility resulting from HIV infection in women, early death of women of childbearing age and an increase in infant mortality resulting from infection.

Two projections in this regard are offered: a) the number of students demanding education assuming no AIDS (the so-called 'without AIDS' projection); and b) the number of students demanding education assuming an AIDS impact (the so-called 'with AIDS' projection).
The issue of demand is complicated by two basic factors: 1) problems in the educational system that complicate projecting the number of actual students in the system under either scenario (with AIDS and without AIDS); and 2) the effect 'supply' constraints have on demand.

Regarding the first point, the presence of a wide age range of students resulted in the examination of the age composition of the existing school population over a three-year period prior to the study. Age cohorts actually present in the system were thereafter identified, and proportions calculated. The population model projecting the 'with AIDS' and 'without AIDS' scenarios was then used to determine the number of a given age cohort likely to be in school for any given year; the same exercise was conducted for all age cohorts in each sub-sector. Allowance was made for growth in the system by calculating the average increase in the population of children in school over the past five years. This average figure was used to project demand (that is, projected growth in the system) over the period 2000-2010.

Regarding the second point, constraints in supply, the best example of the problem is with regard to secondary school. The percentage of all Mozambicans completing primary school and thus eligible for secondary school is extremely small. Nevertheless, the secondary school system can only accommodate a portion of these children, and many that would like to proceed with their education cannot do so. In this respect, the demand for secondary education far exceeds supply, and will continue to do so for the foreseeable future (certainly for the 2000-2010 period covered under this projection). In this situation, the demand for education is less important in predicting student numbers than the availability of educational opportunities. Even if, for example, the HIV/AIDS epidemic were to reduce the demand for secondary education by 5%, the fact that over half of those seeking secondary education cannot find a place in school will mean that the HIV/AIDS impact will be largely unimportant in affecting secondary school enrolment. It thus remains important that the Ministry continue to expand educational opportunities.

Data Limitations

The data presented in this chapter are derived from the models used to project the demographic impact of HIV/AIDS in Mozambique. These demographic data project the national population with and without AIDS for the years 1998 to 2010. The 'with AIDS' data are based on prevalence rates derived from antenatal surveillance in five urban locations in two regions of the country.