

https://dspace.org/

The impact of HIV and AIDS on primary teacher attrition in Malawi.

Ndala, Ken Kaziputa

2011-04-15
http://hdl.handle.net/10539/9465

Downloaded from a DSpace repository. https://dspace.org/

The Impact of HIV and AIDS on Primary Teacher Attrition in Malawi

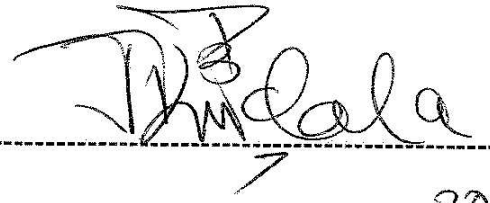
Ken Kaziputa Ndala

A thesis submitted to the Faculty of Humanities, University of the Witwatersrand
in fulfillment of the requirements for the degree of
Doctor of Philosophy in Education

JOHANNESBURG, AUGUST, 2010

DECLARATION

I declare that this thesis is my own original work except where otherwise acknowledged. The thesis is being submitted for the Doctor of Philosophy at the University of Witwatersrand, Johannesburg, South Africa. This thesis has never been submitted for any other degree or examination at any other university.



30 – AUG – 2010

Ken Kaziputa Ndala

ABSTRACT

There has been a growing concern about what would happen to the education sector in the face of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). The concern has been that the education sector in sub Saharan Africa (SSA) in particular where most of the infected people live would be devastated due to teacher absenteeism and deaths resulting from the pandemic. Education sectors in countries that have high prevalence were expected to collapse. Recent studies however suggest otherwise and this has resulted in two schools of thoughts: on one hand that the education sector will collapse and on the other that the effects will not be catastrophic. This study was conducted in response to that debate and had two objectives. The first was to examine the impact of HIV and AIDS on primary teacher attrition in Malawi from 1996 to 2007 and the second was to assess the extent to which that attrition could be attributed to HIV and AIDS. This, a quantitative study, used secondary data available in the Ministry of Education and a survey of 820 teachers in low and high prevalence districts of Dedza and Blantyre respectively. Whilst the secondary data intended to respond to the first question, the survey responded to the second by seeking teachers' views on what they perceived were the impacts of HIV and AIDS on teachers. As a conceptual framework, studies on the impact of HIV and AIDS on teachers and theories of teacher attrition were used. The study has shown that teacher attrition in Malawi is not at a level that would collapse the education sector. Although there have been notable increases in teacher attrition, mortality rates and causes of deaths, overall these have not overwhelmed the teaching profession. It appears that the collapsing thesis did not come to pass because of the effectiveness of preventive programmes and availability of antiretroviral therapy.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisor, Professor Brahm Fleisch, for his nurturing, invaluable guidance and untiring support which inspired me throughout my study. I wish also to thank Linda Zuze for her critical comments. I am also sincerely grateful to the University of Malawi and the World Bank (Malawi office) which fully sponsored my PhD studies at the University of the Witwatersrand.

I also acknowledge the generous support of colleagues in the School of education and especially fellow PhD colleagues, Ephraim Mhanga, Hlengani Baloyi, Fatima Adams, Judy Backhouse, Uche Amadi, Esme Kadzamira and Emmanuel Ojo, whose observations and comments surpassed my imagination and were invaluable to me.

Finally, I would like also to extend my deepest appreciation to my wife Catherine, my sons Chiyembekezo, Mayamiko and Chikhulupiro and my daughter Victory, for all their continuous help, care, patience and constant encouragement over the four years of my study.

To my mother, my late father, my brother-Henderson and my in-law Stanford Mangani, I express my deepest gratitude for the faith and confidence they had in my ability and inspiration they gave me throughout my life to achieve my goal.

ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinic
ART	Antiretroviral Therapy
ARV	Antiretroviral
EFA	Education for All
EMIS	Education Management Information System
FPE	Free Primary Education
HIV	Human Immunodeficiency Virus
HRD	Human Resources Department
IIEP	International Institute for Educational Planning
LEA	Local Education Authority
MOE	Ministry of Education
MPRSP	Malawi Poverty Reduction Strategy Paper
NAC	National Aids Commission
NSO	National Statistical Office
OECD	Organization for Economic Cooperation and Development
RA	Religious Agency
SPSS	Statistical Package for the Social Sciences
SSA	sub-Saharan Africa
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNESCO	United Nations Education Scientific Cultural Organization
UNDP	United Nations Development Programme
UPE	Universal Primary Education
VCT	Voluntary Counseling and Testing
VSO	Voluntary Service Oversees
WHO	World Health Organization

TABLE OF CONTENTS

ABSTRACT ii
ACKNOWLEDGEMENTS iii
ABBREVIATIONS iv
LIST OF FIGURES ix
LIST OF TABLES x

CHAPTER 1 1
INTRODUCTION TO THE STUDY 1
1.1 Background 1
1.1.1 Education system 3
1.1.2 HIV and AIDS in Malawi 4
1.1.3 Effects of HIV and AIDS on education 10
1.2 Statement of the problem 11
1.3 Aims of the study 12
1.4 Research questions 13
1.5 Significance of the study 15
1.6 Theoretical framework 16
1.7 Limitations 20
1.8 Outline of the chapters 22

CHAPTER 2 25
LITERATURE REVIEW 25
From Collapsing to a call for more evidence 25
2.1 Introduction 25
2.2 The collapsing thesis 26
2.2.1 Fewer children will need schooling 28
2.2.2 Reduction in the number of teachers 30
2.3 Empirical evidence to the collapsing thesis 35

2.3.1 Enrolment 36
2.3.2 Orphans 37
2.3.3 Number of teachers 39
2.3.4 Teacher Mortality 41
2.3.5 Teacher absenteeism 43
2.4 Critique of evidence 48
2.4.1 Methodological issues 49
2.4.2 Inconsistent findings 50
2.4.3 Use of projections 51
2.4.4 Use of aggregated data 52
2.5 The call for more studies 53
2.5.1 Need for more evidence 53
2.5.2 Need for disaggregated data 56
2.6 Conclusion 58

CHAPTER 3 61
LITERATURE REVIEW 61
Theories of teacher attrition 61
3.1 Introduction 61
3.2 Methodologies of the studies reviewed 62
3.3 Definition and impact of teacher attrition 62
3.4 Theories of teacher attrition 65
3.4.1 Appeals theory 65
3.4.2 Human capital theory 66
3.4.3 Chapman's model 67
3.4.4 Billingsley's model 68
3.5 Studies on teacher attrition 70
3.5.1 Personal factor 71
3.5.2 Employment factors 72
3.5.3 Global patterns on teacher attrition 74
3.6 HIV and AIDS teacher attrition related studies in Malawi 77

3.7 How teacher attrition theories provide a framework for the study 82
3.8 Conclusion 87

CHAPTER 4 88
RESEARCH METHODOLOGY 88
4.1 Introduction 88
4.2 Research design 88
4.3 Population and sample 90
4.4 Data collection and analysis 91
4.4.1 EMIS and HRD data 91
4.4.2 The survey 93
4.5 Validity and reliability 96
4.6 Ethical considerations 96

CHAPTER 5 99
RESULTS AND DISCUSSION 99
Primary teacher age structure and attrition in Malawi 99
5.1 Introduction 99
5.2 Primary teacher age structure 103
5.2.2 National primary teacher age structure 107
5.2.3 Regional primary teacher percentage age structure 108
5.2.4 Blantyre and Dedza districts primary teacher percentage age structure 111
5.2.5 Teacher age structure and the collapsing thesis 114
5.3 Primary teacher attrition and mortality in Malawi 120
5.3.1 National teacher attrition by cause 121
5.3.2 Regional teacher attrition by cause 123
5.3.3 Blantyre and Dedza teacher attrition by cause 126
5.3.4 Teacher attrition and the collapsing thesis 129
5.4 Causes of deaths of primary teachers 135
5.4.1 Causes of Teachers' death and the collapsing thesis 137
5.5 Conclusion 141

CHAPTER 6 146
RESULTS AND DISCUSSION 146
Teachers' perceptions on attrition 146
6.1 Introduction 146
6.2 Are teachers dying because of AIDS or are they on ART? 149
6.3 Are teachers leaving because of HIV and AIDS? 160
6.4 Are teachers quitting because of influences of surrounding environment? 167
6.5 Are working conditions motivating? 171
6.6 Conclusion 173

CHAPTER 7 176
CONCLUSION 176
7.1 Introduction 176
7.2 How plausible are these conclusions? 179
7.2.1 Flaws in data 180
7.2.2 Prevention and treatment is working 182
7.2.3 Data could be right but original predictions incorrect 184
7.3 Recommendations for further studies 189
7.3.1 Improve quality of data 189
7.3.2 Need for research in other affected countries 191
7.3.3 Collapsing thesis postponed-need for more research on teachers 193

REFERENCES 196

APPENDICES

Appendix 2.1: Summary of some studies done on the impact of HIV/AIDS in SSA.207
Appendix 3.1: Summary of some studies done on Teacher Attrition……..…….213
Appendix 4.1: Sample Questionnaire……...216
Appendix 4:2: Ethical Clearance-University of the Witwatersrand……224
Appendix 4.3: Approval from Ministry of Education Malawi……226
Appendix 4:4: Approval letter from Central Western Education Division…….……227
Appendix 4.5: Approval letter from South Western Education Division…….……...228

LIST OF FIGURES

Figure 1.1 Female HIV prevalence by age group ……9
Figure 1.2: HIV and AIDS effects on supply and demand for education.....17
Figure 1.3 Factors that influence Teacher attrition……19
Figure 2.1 Multilevel Interactional effects of HIV/AIDS in fragile schools…….34
Figure 3.1 Model of the influences of teacher retention……68
Figure 3.2 A conceptual model of the influences of teachers' career decisions.....70
Figure 3.3: A model of HIV and AIDS influence on teacher attrition.....86
Figure 5.1 Trend in teachers, 1996-2007.....105
Figure 5.2: National teacher age structure by gender, 1997-2006 107
Figure 5.3: Northern region teacher age structure by gender, 1997-2006.....109
Figure 5.4: Central region teacher age structure by gender, 1997-2006.....110
Figure 5.5 Southern region teacher age structure by gender, 1997-2006 ……...108
Figure 5.6: Blantyre teacher age structure by gender, 1997-2006.....112
Figure 5.7 Dedza teacher age structure by gender, 1997-2006…….110

LIST OF TABLES

Table 1.1: Trends in district and regional HIV prevalence 8

Table 2.1: Requested data by different experts 57

Table 3.1: Teacher attrition in selected countries 76

Table 3.2: Teacher Attrition in different sectors in Malawi 81

Table 4.1: Number of Teachers analysed 95

Table 4.2 Respondents by age bands and districts……..95

Table 5.1: Trend in number of primary schools, pupils and teachers, 1996-2007 . 104

Table 5.2: National teacher attrition by cause, 1996-2007 122

Table 5.3: National teacher attrition by gender and cause, 2004-2007 123

Table 5.4: Northern region teacher attrition by gender and cause, 2004-2007 124

Table 5.5: Central region teacher attrition by gender and causes, 2004-2007 125

Table 5.6: Southern region teacher attrition by gender and cause, 2004-2007 126

Table 5.7: Blantyre teacher attrition by gender and cause, 2004-2007 127

Table 5.8: Dedza teacher attrition by gender and cause, 2004-2007 129

Table 5.9 Number of teachers died by cause, 2000-2006 136

Table 6.1: Estimated number of teachers died of AIDS 151

Table 6.2: Estimated number of teachers who are on ART 153

Table 6.3: Teacher opinion on absenteeism and morale 157

Table 6.4: Opinion on leaving teaching profession 161

Table 6.5: Opinion on why teachers quit 164

Table 6.6: Opinion on some factors that may affect teacher decision to quit teaching 166

Table 6.7: Opinion on some external influences to quit teaching 168

Table 6.8: Opinion on motivating working conditions 172

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 Background

Since the emergence of Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) in the late 1970s, education experts have become concerned about what would happen to education systems when the pandemic reaches its peak. This particularly has been the case in sub-Saharan Africa (SSA), where most of the infected people live. It has been feared that demand and supply of education, among other areas, would adversely be affected. Without proper intervention, deaths resulting from the pandemic were expected to impact upon school enrolment and number of teachers. The status of education in SSA has therefore been associated with the term 'collapsing', whereby the mortality or sickness of education officers, inspectors and management personnel will lead to the cancellation of classes or even the closure of entire schools (Kelly, 2000:64). Two schools of thought have emerged from this, one that the education system will collapse, the other that it will be affected but not so catastrophically. Researchers are therefore seeking evidence to support or refute either side of this debate (Bennell, 2005b; Carr-Hill, Katabaro, Katahoire, & Oulai, 2002; Castro, Duthilleul, & Calloids, 2007; Coombe, 2004; Jansen, 2007; Kelly, 2000).

More research appears to have been conducted in assessing the impact of HIV and AIDS on demand (pupils) than supply (teachers) of education (Ainsworth, Beegle, & Koda, 2005; Bicego, Rutstein, & Johnson, 2003; Case & Ardington, 2004; Foster & Williamson, 2000). Little is known about the impact of the pandemic on teachers, with early studies having treated them as a homogenous group, without singling out such characteristics as age, academic qualifications or gender. Due to lack of hard data, projections have usually been used and seen to increase the figures of sickness, absenteeism, demoralization and mortality, leading to high teacher attrition (Bennell, 2003a; Kelly, 2000; Shaeffer, 1994). This study was therefore carried out to assess the impact of the pandemic on primary teachers in Malawi, one of the countries in SSA with high prevalence. A brief background of Malawi is provided in the following section to contextualize the study.

Malawi is a landlocked country bordering Zambia, Mozambique, and Tanzania. In 2008, the country had a population estimated at 13,066,320, representing a 32 percent increase from 1998 (National Statistical Office, 2008). Malawi ranks among the world's least developed countries, with adult literacy rates in 2005 at 60.9 percent, of whom 90.5 percent were urban and 58.7 percent rural (National Statistical office, 2005). The economy is predominately agricultural, with about 90 percent of the population living in rural areas and farming accounting for 36 percent of Gross Domestic Product and 80 percent of export revenues in 2005.

Against this background, it can be seen that the government faces strong challenges to improve educational facilities and develop a market economy, as well as dealing with the rapidly growing problem of HIV and AIDS.

1.1.1 Education system

The Ministry of Education is responsible for all formal education and teacher training. Policy development in other key areas such as University, Technical and Vocational education, Adult Literacy and Pre-school learning, is coordinated by the Ministry of Education. The education system is divided into three categories: primary (eight years), secondary and tertiary (four years each). Administratively, Malawi is divided into three regions, Northern, Central and Southern, with six education divisions and 33 education districts that report to the divisions. One division is in the northern region; two are in the central region and three in the southern region. Decentralization reforms are causing the division education offices to release some of their responsibilities to the district education offices (Davies & Dzimadzi, 2003).

Malawi introduced Free Primary Education (FPE) in 1994, leading to a rapid growth in the primary sector. For example, the enrolment rose from 1,895,423 in 1993 to 2,860,819 in 1994. After 1994, the number of primary schools increased from 3,216 to 5,231 in 2006 (Ministry of Education, 2006:3), but the increase in demand was not balanced by the supply of teachers. Despite the recruitment of new teachers soon after introducing FPE, there was still a shortage, as evidenced by teacher-pupil ratio, which

in 2007 was 1:88, including that of untrained at 1:78. These ratios were higher than those recommended by government policy of 1:60 (Ministry of Education, 2001).

Access to secondary education remains highly competitive in Malawi, even after the introduction of Community Day Secondary Schools (CDSS) in 1994, which aimed at providing secondary education within a walking distance of 5 km. The transition rate from primary to government-funded secondary schools is 26 percent. Entry to the University of Malawi is also highly competitive, with entrance examinations in place. The transition rate from secondary to university is as low as 6 percent. With these low transitions rates, the Ministry has experienced a mushrooming of private education institutions at the primary, secondary and tertiary levels.

1.1.2 HIV and AIDS in Malawi

As with other sub-Saharan African countries, Malawi has been affected by HIV and AIDS. Following the first case being discovered in 1985, the epidemic spread rapidly among 15-49 year olds, and this saw the prevalence estimates increasing from 1.6 percent in 1987 to 16 percent in 1999. Since then, Malawi has been ranked among the countries with a high prevalence, and according to research findings conducted by Poverty and Vulnerability Assessment in conjunction with the World Bank and National Statistics Office in 2007, AIDS is the leading cause of death among people aged 20-49 years. This resulted in Malawi's life expectancy being set at 42 years in 2004 (Ministry of Education, 2004).

Formal HIV prevalence estimates are released by the Ministry of Health in conjunction with the National AIDS Commission (NAC). The NAC was created in 2001 to coordinate response to AIDS policies, and be central in estimating prevalence. The estimates are based on systematic and routine collection of information on the occurrence and distribution of HIV infection among women who attend Antenatal Clinics (ANC), with the data collected used to estimate national HIV prevalence in the general population.

HIV surveillance in Malawi has been conducted since 1985, and in 1994 a system of 19 sentinel sites was established, to represent the urban, semi-urban and rural areas as well as the northern, central and southern regions. The NAC noted that it would be difficult to establish an urban and rural sentinel site for all 31 districts in Malawi, so one was chosen to represent an urban population and another a rural population, in different districts of the regions. According to the NAC, this selection was to be done on the basis of key characteristics, such as socio-cultural factors, developmental levels, access to major transportation routes and economic status. This implies that a site in a particular district can represent another district as long as those two districts have some similarities in the stipulated characteristics. For example, a site in Blantyre district urban can be used to estimate prevalence in Zomba district urban, likewise a site in Zomba district rural can be used to estimate prevalence in Nsanje district rural (National AIDS Commission, 2005).

The number of people infected with HIV in each district is estimated separately for the urban and rural population and then added. For both urban and rural populations, the number of people infected is calculated by multiplying those aged between 15 and 49 by the estimated and projected HIV prevalence for the chosen surveillance sites. Prevalence among adults is calculated by dividing the number of people infected by the size of the population aged between 15 and 49 (National AIDS Commission, 2005).

The procedure of estimating the prevalence explained above could be liable to error (National AIDS Commission, 2005), and NAC affirms that prevalence estimates at ANC sites have an error of plus-or-minus 5 percentage points for rural with a sample size of about 200 women to plus-or-minus 3 percent in urban sites with sample size around 800 women. NAC further contends that there are uncertainties in finding the best fitting curves for each site and in equating prevalence from antenatal clinics to the general population. Another possible source of error is whether the 19 sites can really represent the entire country, since the assignment of the sentinel sites to each district was based on the best judgment of the participants. The estimation of HIV prevalence among all adults aged 15-49 also rests on the assumptions that prevalence among pregnant women attending antenatal clinics is similar to prevalence among all adults, including both men and women, in the general population. Another main criticism of the sentinel surveillance is that it is using a sample who are sexually active to make predictions across a population all of whom are not (National AIDS Commission, 2005).

The NAC reported that in 2005 a total of 8,953 pregnant women were captured in a survey from 1st August through the end of September 2005. Most were less than 30 years old. Overall, the HIV prevalence estimate for the antenatal attendees was 16.9 percent. The report further indicated that the estimated HIV prevalence in adults (15-49 years) in Malawi was 14 percent with a range of 12 to 17 percent. The NAC maintains that levels of HIV infection in the adult population of Malawi have remained constant for the last nine years. There is also a declining trend primarily in semi-urban areas and no concomitant decrease in urban and rural areas in the prevalence estimates (National AIDS Commission, 2005). In addition, there was a revelation that HIV prevalence was significantly higher among women with post-secondary school education at 33.3 percent, as compared to women with no education at 17.0 percent. The prevalence estimate was 21.6 percent in urban and 12.1 percent in rural areas. It is reported that females aged 15 to 29 years and males aged 30 years above are more likely to be infected.

Prevalence estimates in the regions show a decreasing trend. Available data from the ANC shows a decrease of a median prevalence rate in the northern region from 21.6 percent in 1999 to 13.5 percent in 2005. The central region had a median of 22.8 percent in 1999 and declined to 12.2 percent in 2005. The southern region had a median of 19.3 percent in 2005 from 25.9 percent in 1999 (National AIDS Commission, 2005). In terms of districts, the prevalence estimates show that by 2005 the southern region had higher rates, with a minimum of 15.0 percent in Machinga district and a maximum of 27.0 percent in Blantyre district. The central region had the lowest prevalence, with a

minimum of 6.3 percent in Dowa district and a maximum of 18.6 percent in Lilongwe. The northern region showed a fairly equal distribution of the prevalence estimates, with minimum of 12.3 percent in Nkhatabay district and a maximum of 15.5 percent in Mzuzu city. Table 1.1 (below) indicates trends in districts and regional prevalence estimates.

Table 1.1: Trends in district and regional HIV prevalence

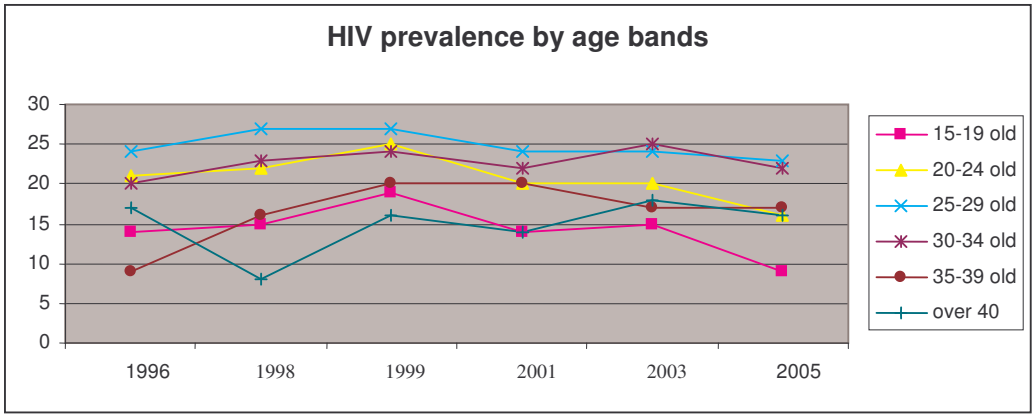
District	**Prevalence Estimates**			
	1999	**2001**	**2003**	**2005**
Mzimba	9.5	10.5	14.5	14.4
Rumphi	22.2	13.5	16.2	13.5
Nkhatabay	21.6	18.6	24.1	12.3
Karonga	6.6	17.4	20.5	12.7
Mzuzu	23.3	18.6	20.8	15.5
Median North	**21.6**	**13.5**	**20.5**	**13.5**
Lilongwe	25.2	20.1	16.9	18.6
Mchinji	26.6	23.8	18.1	14.8
Nkhotakota	22.8	19.1	9.9	12.2
Ntcheu	33	18.6	22	22
Dowa	9.4	4.5	11.4	6.3
Kasungu	2.9	5.1	6.7	6.4
Dedza	4.5	5	7.2	8.3
Median Central	**22.8**	**18.6**	**11.4**	**12.2**
Blantyre	27.9	28.5	27.6	27
Mulanje	35.5	24.1	23.9	23.5
Mangochi	27.7	16.4	14.5	17.3
Nsanje	25.9	35.8	32.9	23.1
Chiradzulu	14.9	15.8	15.1	18.6
Machinga	25.8	13.3	17	15
Thyolo	21.7	16.9	23.2	19.3
Median South	**25.9**	**16.9**	**23.2**	**19.3**
Median National	**22.8**	**16.9**	**17**	**15**

Source: National AIDS commission, 2005

With the method of estimating prevalence rates through women, detailed data for men appears scarce. Prevalence estimates for females disaggregated to age bands and per district are also not available. Report by NAC (2005), however, captured the number of

women in age bands but not available per districts. Figure 1.1 shows prevalence estimates for females according to age bands from 1996 to 2005.

Figure 1.1: Female HIV prevalence by age group



Source: National AIDS Commission, 2005

The trend in prevalence estimates for ANC attendees, according to age bands, indicates that women aged between 25 and 29 have high rates, albeit showing some declining pattern. Women aged between 30 and 34 have the second highest trend in the prevalence and the trend appears to have increased between 1996 and 2005. Women aged between 35 and 39 have registered an increasing pattern in prevalence but estimates stabilized in 2004 and 2005. The estimates for women aged 40 and above have fluctuated and show a slightly upward trend.

1.1.3 Effects of HIV and AIDS on education

It is usually acknowledged that the epidemic has affected almost all sectors of the economy in Malawi, but with the education sector be the focus of attention because of its position in relation to the young generation and teachers. On teachers, it is assumed that HIV and AIDS will deprive the education sector of essential human resources, due to deaths and sicknesses of teachers. The Ministry of Education in Malawi accepts that it is difficult to know exactly how many educators have died of AIDS-related illnesses, but does affirm that:

> There is evidence that the education system is already malfunctioning and there is a very real danger that if nothing is done this malfunctioning will become generalized and unmanageable, leading to a total collapse of the education system in Malawi (Ministry of Education, 2005:7).

Despite the anticipated effects of the pandemic to the education sector, it is generally agreed that no significant research has been conducted that measures the impact of HIV and AIDS on teaching and other functions of the education system in Malawi (Chawani & Kadzamira, 2004; Kadzamira, Maluwa Banda, & Kamlongera, 2001). It is against this background that this study was carried out and the problem statement made.

1.2 Statement of the problem

Most of the studies conducted in countries affected with the pandemic in SSA on teachers indicate some declining trends in number of teachers, but they fail to identify HIV and AIDS as a contributory cause of the decline (Abt Associates, 2000; Bennell, Hyde, & Swainson, 2002; Castro et al., 2007; Chawani & Kadzamira, 2004; Kelly, 2000; Louw, Shisana, Peltzer, & Zungu, 2009; Mobile Task Team, 2005; Ndamugoba, Mboya, Amani, & Katabaro, 2000; Wasala, Kiage, & Kariuki, 2002). This is due to the difficulties in knowing that a teacher has left the profession because of HIV and AIDS. It is also difficult to say with certainty that a teacher has died of AIDS, without a medical report to confirm it. In spite of these shortcomings, the mortality rate is still used as one way of measuring the impact of the pandemic (Boler, 2003; Desai & Jukes, 2005). Where the mortality rate has increased it could be an indication of the effects of the pandemic. There is a need, however, to integrate other approaches in trying to examine and understand whether the deaths are caused by the pandemic. As more studies are conducted there is a need to disaggregate the data and single out characteristics such as age, gender and location which are associated with the pandemic. In addition, other theories need to be integrated, notably, teacher attrition theories, which have identified other reasons central to the loss of teachers (Billingsley, 1993; Borman & Dowling, 2008; Chapman, 1994; Ingersoll, 2003; Kirby & Grissner, 1993; Stinebrickner, 2002). Among the reasons are personal, employment and external factors. Teachers are said to resign from their profession in search of better-paying and prestigious jobs, following their spouses and other family commitments. Continual

wearing down of teachers also contributes to their loss from the system through voluntary resignations and retirements. Poor working conditions, salaries and housing policies are among the employment factors that make teachers leave the profession. Teachers are also said to be attracted by other organizations that offer more favorable working conditions.

On the other hand, deaths of teachers and disabling illnesses have not been recognized as central factors in teacher attrition. Little is mentioned in the literature regarding teachers resigning, retiring or being dismissed as a result of infection or being affected by HIV and AIDS. The assertion therefore that these are contributory factors to the declining number of teachers in education systems in SSA has brought new dimensions to research in the area of teacher attrition. More particular is the concern that the education system will collapse due to the pandemic. This requires more robust research.

1.3 Aims of the study

This study therefore examines teacher attrition in Malawi between 1996 and 2007, in relation to HIV and AIDS. The following were the aims of the study:

1. To examine primary teacher attrition from 1996 to 2007 in Malawi.
2. To explore what proportion of the attrition could be attributed to HIV and AIDS.

Specifically, the study had the following sub-aims:

1. To examine the trend in age structure of primary teachers by gender in three regions and two selected district between 1996 and 2007
2. To calculate primary teacher attrition by age bands and gender according to reasons in the three regions and two selected districts between 1996 and 2007.
3. To examine causes of deaths of primary teachers by age and gender in the three regions and two selected districts between 1996 and 2007
4. To compare and contrast primary teacher attrition by cause and HIV prevalence rates by age and gender in the three regions and two selected districts between 1996 and 2007.
5. To explore how HIV and AIDS could have influenced personal factors of primary teacher attrition in Malawi.
6. To examine how HIV and AIDS could have influenced employment factors of primary teacher attrition in Malawi.
7. To examine how HIV and AIDS could have influenced external factors of primary teacher attrition in Malawi.

1.4 Research questions

The study advanced the following two main research questions:

1. What was the attrition rate of primary teachers in Malawi between 1996 and 2007?
2. What proportions of the attrition could be attributed to HIV and AIDS?

The following were the sub-questions:

1. What was the trend in primary teachers' age structure by gender in the three regions and two selected districts between 1996 and 2007?
2. What was the trend in primary teacher attrition by cause, age bands, and gender in the three regions and two selected districts between 1996 and 2007?
3. What were the causes of deaths of primary teachers by age, gender in three regions and two selected district between 1996 and 2007?
4. What was the comparison between primary teacher attrition and HIV prevalence rates by age bands and gender in the three regions and two selected districts between 1996 and 2007?
5. How has HIV and AIDS influenced personal factors of primary teacher attrition in Malawi?
6. How has HIV and AIDS influenced employment factors of primary teacher attrition in Malawi?
7. How has HIV and AIDS influenced external factors of primary teacher attrition in Malawi?

1.5 Significance of the study

Malawi, as other countries with high HIV prevalence, is concerned about the loss of teachers, particularly now that the MOE is strategizing for attaining the EFA goals by the year 2015. Perpetual loss of teachers entails more pressure on budgetary resources for teacher training. The loss of teachers is therefore a threat to achieving the EFA goals and the national goals. With HIV and AIDS aggravating teacher loss through mortality, the MOE has had to renew its efforts to reduce teacher attrition. The study therefore is significant because it contributes to the development of educational research and literature and aims to induce a change in policy and practice in the area of teacher attrition (Creswell, 1994; Locke, 1999; McMillan & Schumacher, 2001).

This study tests some theories currently being advocated by educational researchers, notably that HIV and AIDS affect supply of education (Kelly, 2000). By examining teacher attrition status in Malawi within the last decade, the study provides an opportunity to assess whether the theory that education will collapse due to HIV and AIDS holds in Malawi. Furthermore, teacher attrition theories as suggested by Billingsley, (1993) and Chapman, (1994) are examined and linked to HIV and AIDS, as a suggested factor contributing to teacher attrition. Testing these theories will help to place the research findings in the contemporary debates on the impact of HIV and AIDS, and so contribute to the literature and knowledge.

Finally, this study is important because it will contribute to educational policy and practice. There are many challenges regarding understanding of the impact of the pandemic, and the call for more data to verify whether education systems will collapse indicates a need for better policies that can guide the collection of the relevant data in SSA, particularly Malawi. The availability of antiretroviral therapy requires more research to assess what impact this treatment will mean to the education system. These require effective policies and practice.

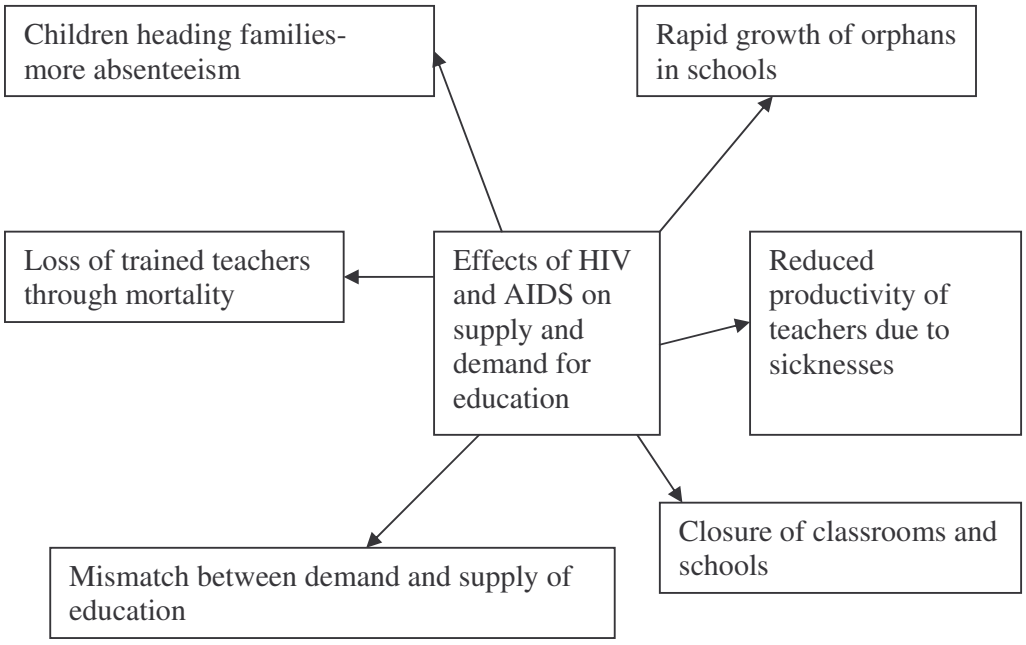
1.6 Theoretical framework

This study is grounded in the debate about the collapsing thesis (Bennell et al., 2002; Coombe, 2001; Gachuhi, 1999; Jansen, 2007; Kelly, 2000; Shaeffer, 1994) and theories of teacher attrition (Billingsley, 1993; Borman & Dowling, 2008; Chapman, 1994; Lortie, 1975). The debate about what would happen to education systems in the face of the pandemic provides a foreground to the study and the identified problem in the literature, while teacher attrition theories provide basic assumptions of existing knowledge about the problem.

On the one hand, the debate about the collapse of the education sector suggests that the education system will collapse or be destroyed in the face of HIV and AIDS. Notable claims are: (a) there will be a rapid growth in the number of orphans in schools; (b) children will take up responsibilities of sourcing income for the family, thereby absenting themselves from school; (c) there will be loss of trained teachers through

mortality; (d) there will be reduced productivity due to sickness of teachers; and (e) there will be no match between demand and supply of education and as a result schools will close. Figure 1.2 (below) illustrates this graphically.

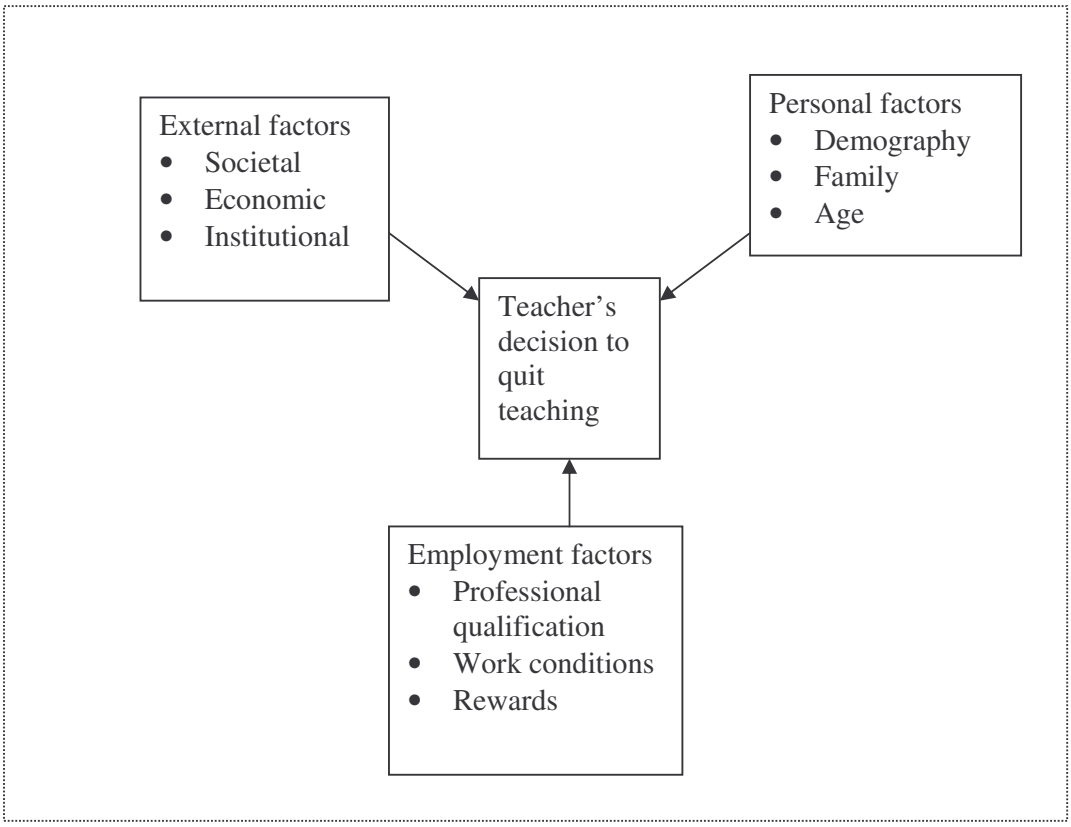
Figure 1.2: HIV and AIDS effects on supply and demand for education



On the other hand, teacher attrition theories establish that there are several typical dominant reasons for teacher attrition, notably for this study, appeals theory, human capital theory, and Chapman's and Billingsley's models . The appeals theory argues that in teaching there are certain inherent appeals to teaching that attract teachers to the

profession. When such appeals do not exist, teacher attrition occurs (Lortie, 1975). Kirby et al. (1993) affirm that the fundamental tenet of the human capital theory of occupational choice is that individuals make systematic assessments of the net monetary and non-monetary benefits from different occupations and make systematic decisions throughout their career to enter or leave an occupation. Billingsley (1993) and Chapman (1994) summarize teacher attrition factors in their separate models, arguing that personal, employment and external factors influence teachers to leave their profession. Personal factors include demographic, family and cognitive issues that push or encourage one to decide whether to resign or remain in the teaching profession. Employment factors, which are generally provided by the employer, cover professional training, rewards and working conditions. External factors are those that might not necessarily be dealt with by the teaching sector. What other sectors offer attracts teachers or encourage them to leave the profession. How the society views the teaching profession, and policies that are provided in other institutions affiliated to the teaching profession, are examples of external factors that contribute to teacher attrition. Figure 1.3 (below) illustrates teacher attrition theories.

Figure 1.3: Factors that influence teacher attrition



Notably, theories on teacher attrition lack HIV and AIDS as a contributory factor, while theories or research findings, particularly from developed countries, say little or nothing about HIV and AIDS as one. This is not indicated, whether through resignation, retirement, dismissals, transfers or death. In SSA countries, however, HIV and AIDS are suggested as a possible contributor to teacher attrition. Despite this framework the study has some limitations.

1.7 Limitations

This study confines itself to teachers in public primary schools. The assumption was that most of these public school teachers have similar characteristics compared to teachers in private schools. Teacher qualifications and challenges that teachers in public schools experience could be similar. For example, teachers in public primary schools undergo similar training provided and accredited by government teacher training colleges. Teachers in private schools, on the other hand, do not usually go through this kind of training. Wages or salaries for teachers in public schools are the same according to rank, but the situation with teachers in private primary schools could be different. Besides differences between public and private primary schools teachers, there are also enormous differences between primary and secondary teachers. For example, teachers in secondary schools are more highly qualified. These differences could have implications in terms of the effects of the pandemic.

The study also confined itself to debates on the impact of HIV and AIDS on teachers, but not on epidemiological issues. How the virus for is being spread among teachers, for instance, was beyond the scope of this study. Rather, it focused on how teachers were being affected by the pandemic. In particular, cultural practice is a factor that could influence sexual behavior of teachers. There are other cultural practices that could influence the spread, and these vary according to geographical regions or areas. For example, a certain tribe in a particular district could be practicing a certain harmful

traditional cultural practice that could influence the spread of the pandemic, whereas another tribe in the same district could be practicing another practice that reduces the spread. Spousal inheritance may be encouraged in societies where it is believed that the children of the deceased are well taken care of by their kinsmen, whereas in other tribes they may practice circumcision which is believed to reduce the spread of the virus. Little research in studies that have assessed the impact of HIV and AIDS on teachers appears to have been conducted. Likewise, the scope of culture in this study was minimized to the societies' or communities' behavior towards teachers. Aspects of teachers' cultural background that could influence their movement were beyond the scope of this study.

Stigmatization could also be another limitation to this study. Although data was collected through a self administered questionnaire, the mere mention of HIV and AIDS could evoke bad memories and experiences about the effects of the pandemic. Some respondents, especially those infected, might have felt uncomfortable responding to the questions. Even those not infected could be influenced by an attitude that they were in good health.

However, In spite of these limitations, the study reveals some insights into the impact of HIV and AIDS on primary teachers in Malawi. The following section provides the structure of seven Chapters of this study report.

1.8 Outline of the chapters

Chapter 2 reviews literature on the impact of HIV and AIDS on teachers. It locates the study in the realms of debates that have been engaged in since the emergence of the virus in the early 1970s. Although there is a body of literature on the impact of the pandemic on the demand side of education, this literature review focuses on supply of education, particularly teachers. What is called the 'collapsing thesis' is presented, in which are discussed arguments in support of the collapsing of the education systems in the face of the pandemic. Earlier analysis (Kelly, 2000) on a worst case scenario of how the pandemic would likely collapse the education system is presented, in addition to a recent model suggested by Jansen (2007). Reviews of studies that have assessed the impact of the pandemic in SSA are presented, followed by a critique of the evidence. The final section reviews the call for more and improved data to enhance understanding of assessing the impact of the pandemic on teachers.

To situate the study among existing knowledge, **Chapter 3** presents a literature survey of teacher attrition theories. That teachers do leave their profession is not a new phenomenon, but what is new is the dimension that HIV and AIDS could be a contributory factor. The chapter begins by outlining the methods commonly used in researching teacher attrition. It progresses by highlighting the impacts of teacher attrition on the education sector and examines some studies that have been conducted on teacher attrition related to HIV and AIDS. From the theories, a framework of teacher

attrition related to HIV and AIDS has been suggested, to provide direction in analyzing and researching its impact.

Chapter 4 maps out the way the study was conducted. It has maintained the methods used by other researchers, thus, using existing information and surveys but adding a few dimensions to them. An attempt has been made to include age structure, trends analysis in teacher attrition, mortality and causes of deaths. Where sets of data were available, they were disaggregated by age bands, gender and region. The focus was to compare teacher attrition through age structure, mortality rates and causes of deaths among regions and two selected districts, namely those with high and low HIV prevalence. The chapter therefore presents the research design, the population sample, methods of data collection and how the analysis was carried out and issues of validity.

Chapter 5 is the first of two chapters to present the results of the study, this one presenting results of secondary data analysis. It begins with the trends in the age structure of teachers by gender, regions and two selected districts, followed by trends in teacher attrition. The third part of the chapter presents the causes of teachers' deaths. Generally, the results show that the age structure of primary school teachers appear to follow the normal ageing pattern in all the regions and the districts. However, teacher mortality appears to have been the main causes of teacher attrition in the past ten years. There is likelihood that tuberculosis, malaria and other diseases associated with the pandemic have exacerbated mortality rates. Overall, teacher attrition is not overwhelming.

Chapter 6 presents results of the survey in five sections. It presents teachers' estimations on the number of colleagues who might have died or were having antiretroviral therapy (ART), because of the pandemic. Teachers' experiences on the impact of HIV and AIDS related to absenteeism and work overload are expressed in this chapter. In addition, teachers' opinions on leaving or quitting the profession as a result of the impact of the pandemic are presented. Teachers' opinions generally show that they acknowledge that the pandemic has caused some deaths among their colleagues. The opinions also show that they acknowledge that some of their colleagues are on ART. A feeling that absenteeism of their colleagues due to effects of the pandemic has overwhelmed their teaching loads appears to be minimal.

The conclusion of the study is drawn in **Chapter 7**. Overall, the evidence suggests that the teaching profession has been adversely affected, but it seems not so overwhelming as to collapse the sector. The chapter then suggests that this conclusion could be true, and it might be possible that the earlier predictions about the collapse of the sector were correct. However, this has not come to pass because of positive effects of the intervention programmes that have been carried out. In addition, the availability of ART appears to have reduced mortality rates of teachers. It is likely that earlier predictions about the collapse of the sector were over estimated.

CHAPTER 2

LITERATURE REVIEW

From Collapsing to a call for more evidence

2.1 Introduction

A large body of literature has emerged since the mid 1990s that attempts to understand the impact of the pandemic on education systems globally. It is evident that earlier analysis of the impact of HIV and AIDS on education was based on speculation rather than on hard data. Experts expressed what they anticipated would be the effects of the pandemic under a worst-case scenario reliant only on anecdotal evidence. Whilst these earlier theories were articulated as speculative, time has seen progress made in developing frameworks for analyzing the impact of the pandemic on education systems. This has consequently led to many studies, particularly in the heavily affected region of SSA being carried out within these frameworks.

This review focuses therefore on the impact of the pandemic on supply and demand of education, in particular on teachers. In the presentation I have attempted to separate the theories that articulate the expected impacts and reports of studies that have been carried out to assess the impact of the pandemic on demand and supply of education. The chapter reviews the literature on the impact of HIV and AIDS on teachers with four parts. The first part presents what has been called the 'collapsing thesis' as it relates to the collapsing of the education system. The second part reviews studies as empirical

evidence in support of the collapsing thesis. The third section attempts to provide a critical appraisal of the evidence and the final part reviews the call for new studies.

2.2 The collapsing thesis

The emergence of Human Immunodeficiency Virus (HIV) in the late 1970s, and its spread in the subsequent two decades, led to a predicted estimate of 33 million people living with the virus by the end of 2007. UNAIDS affirms that although there are traces of declining trends in the prevalence in Africa, SSA remains heavily affected, with 67 percent of all people living with HIV are from SSA and 72 percent of AIDS deaths occurring in this region in 2007 (UNAIDS, 2008). This continues to raise fears that developmental goals in areas of human and economic well-being may not be achieved in the face of the pandemic. Education has been singled out as a sector that would be adversely affected. Given the magnitude of the pandemic, there have been concerns that the virus could collapse the education system.

Soon after the onset of this epidemic, educational specialists (Badcock-Walters & Whiteside, 1999; Coombe, 2001; Gachuhi, 1999; Kelly, 2000; Shaeffer, 1994) became concerned with what would happen to the education sector in countries where HIV prevalence would be very high when reaching its peak. The concern specifically was with the impact of the pandemic on supply of education (the teachers) and the demand for education (the learners), if many of these were infected. This is illustrated in the following:

> Less well recognized is its potential impact on the provision of system managers who are, in real terms, in much shorter supply and are in the main drawn from the ranks of experienced, senior educators. For example, a 30% erosion of the educator stock may indeed be critical, but a similar erosion of more limited management stock would be catastrophic (Badcock-Walters & Whiteside, 1999:2).

The concern was that the education system, which was already experiencing shortages of teachers, would be devastated. Further attrition has therefore been associated with the collapsing of the education system. For example, Coombe (2001:3) predicted that "education systems (in Africa) will collapse unless we change our understandings of the pandemic and how we in education respond to it". Some authors expressed fears as to challenges children would experience in the face of the epidemic, including a realization that since children depend on their parents, losing one or both would create trauma and loss of support:

> HIV is a direct threat to children. All children are at risk of HIV through contaminated blood transfusions, unsterile skin-piercing instruments, and/or sexual activities- whether coercing or consensual. Few children, if any, have the control over their lives to avoid these risks (Bailey, 1992, cited by Shaeffer, 1994: 10).

The debate about HIV and AIDS leading to collapsing of the education sector emanated in the early 1990s (Gachuhi, 1999; Shaeffer, 1994). However, Kelly (2000) provided a comprehensive analysis of the potential impacts of the pandemic on demand and supply of education. Kelly's contribution has frequently been used as a framework for analyzing the impact of the pandemic in other studies (Carr-Hill et al., 2002; Coombe, 2002).

2.2.1 Fewer children will need schooling

Shaeffer (1994) suggested that there would be four effects emanating from HIV and AIDS on demand for education. Firstly, there would be fewer children needing education due to death of one or both parents. Secondly, parents would reluctantly send their children to school because they would not want to invest in what they perceived as a long-term loss. Thirdly, it was suggested that fewer children and their families would afford education because of the costs, as families would be experiencing budget constraints. Finally, a further impact of HIV and AIDS on demand might be that fewer children would complete their education. Shaeffer affirms:

> Even if some HIV-infected children and those ill with AIDS live to enter primary school, the increasingly debilitating episodes of HIV-related illness will likely make it difficult for them to complete schooling (Shaeffer, 1994:13).

Two arguments are advanced for the assumption that the demand for education would decrease. First is that, due to death of one parent, the fertility rate will be reduced such that fewer children will be born, resulting in contraction of the school-age population. It has been expected that even in cases where the remaining spouse would want to bear children, the chances of finding a partner would be slim, particularly when people know that a former partner had died of AIDS (Caldwell, 1997). Also, if a child is born from a mother who is infected, and that the child is also infected, the chances of the child surviving would be very slim. To this end, there has been a consensus that HIV and AIDS would decrease the number of children who would want to enroll for education.

The second argument relates to affordability and direct costs. Because of illness and death of a parent or guardian, fewer children would be required at home to take care of a relative who is ill, or to take the responsibilities of a parent as a breadwinner. Besides, the sicknesses of a parent before the death may have contributed to a loss of direct income to the family. As a result, the family will not afford to send a child to school. This can also be exacerbated in cases where a child who has lost parents is taken to live with a relative. The relative might have the capacity to provide all the necessary materials needed for schooling. In the long run, there could be fewer pupils enrolling in the schools. It is also expected that even the children who enter school will have minimal chances of completing school because they could be discriminated against and suffer stigma when it is known that their parents have HIV of have died of AIDS. As a result, performance of these children would deteriorate markedly, with higher repetition

and dropout rates and resultant reduction in enrolments (Gachuhi, 1999; Shaeffer, 1994).

2.2.2 Reduction in the number of teachers

On the supply side of education, the concern was that the likely lowering of demand for education in areas heavily affected by HIV and AIDS might be matched by a lessening of supply. Three impacts are a decrease in the number of classes and schools, lack of teachers and other personnel, and issues of financing. One author argued that 'it is quite apparent that as AIDS continues to take its toll, there will be schools with no head teachers and no inspectors of schools' (Gachuhi, 1999:5). It was therefore expected that the system would collapse because of an increasing number of deaths amongst teachers, coupled with lack of training for additional teachers, due to financial constraints. It was further expected that the quality of education would be affected due to trauma affecting both teachers and pupils as they face the results or outcomes of the impact of HIV and AIDS. Also, teachers would be infected by the virus and this would reduce the effectiveness of their professional work. Those who might not be *in*fected might nevertheless be *af*fected in one way or another. For example, as a result of attending to relatives who are infected, this can increase absenteeism. In the long run, the education system would have traumatized teachers and pupils, who might then lose the zeal to work and thus reduce the quality of education (Gachuhi, 1999; Shaeffer, 1994).

Kelly (2000) analyzed the effects and suggested that HIV and AIDS had the potential to affect demand, potential clientele, supply, content, process, organization, role, availability of funds, aid agency involvement, planning and management of the education system. Thus, Kelly (2000) claimed that almost all angles of educational development would be affected. On the effects that the pandemic would have on demand for education, the following were noted:

- Rapid growth in the number of orphans
- Massive strain which the orphan problem is placing on the extended family and public welfare services
- The need for children who are heading households, orphans, the poor, girls and street children to undertake income-generating activities (Kelly, 2000:20).

Thus, there has been a consensus that, in the face of the pandemic, there would be a reduction in the number of pupil enrolling in schools. If indeed this could be experienced rapidly, the education system would go through a challenging period, leading to the collapse of the sector. On the effects of the pandemic on supply of education, the following are suggested:

- Loss of trained teachers through mortality
- Reduced productivity of sick teachers

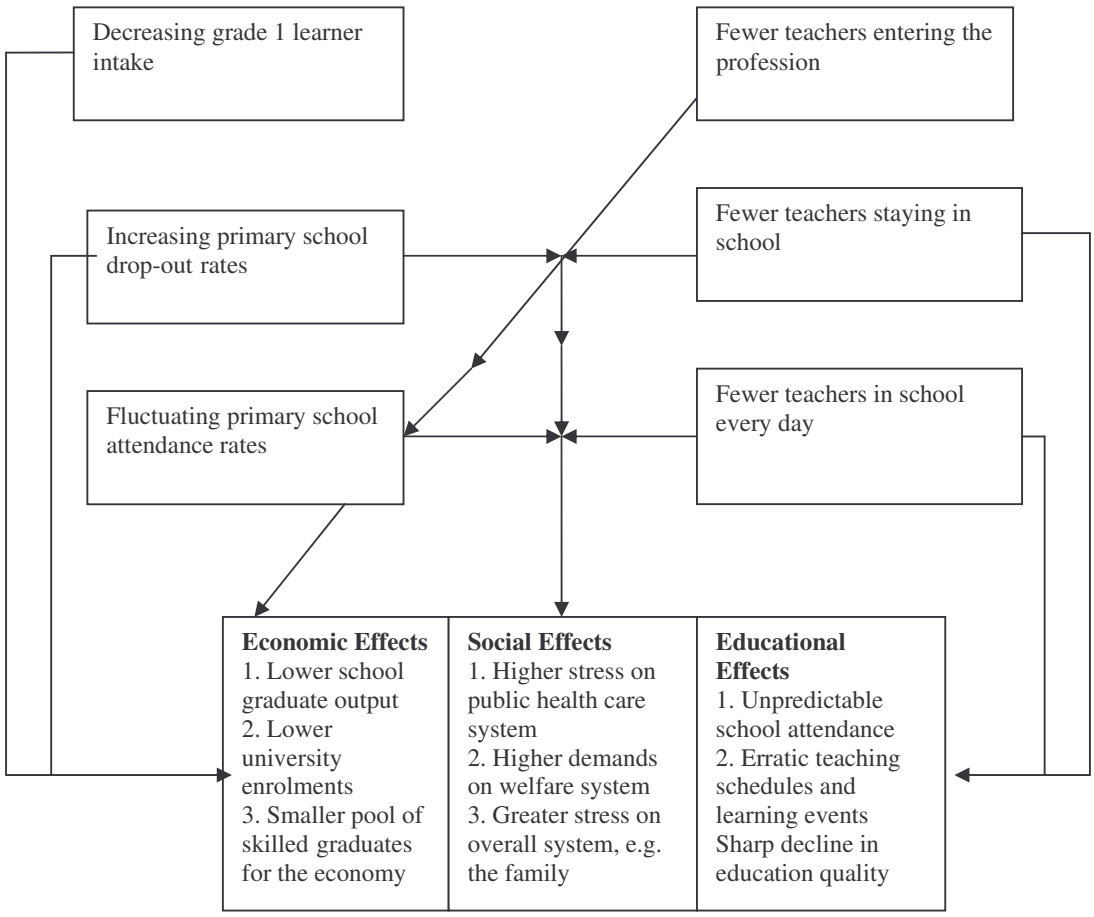
- Reduction in the system's ability to match supply with demand, because of the loss, through mortality or sickness, of education officers, inspectors, finance officers, building officers, planning officers and management personnel
- The closure of classes or schools because of population decline in catchment areas, and the consequent decline in enrolment, or because of teacher loss (Kelly, 2000:63).

Thus, the education system would experience a drastic reduction in number of teachers and deterioration of quality of education. Besides, at managerial level, managers and planners who are well-trained, their illness, absenteeism, death, and the resulting turnover, could signal a loss of considerable competency. This could simultaneously erode the education system's capacity to plan, manage and implement educational policies and programmes.

Another contribution to the theories about the effects of the pandemic on education has come from Jansen (2007), who proposes a model that focuses on multilevel and interactional effects of HIV and AIDS in schools. Unlike Kelly's contribution, where all angles of education are anticipated to be affected thereby collapsing the education systems, Jansen's model emphasizes the way the education would be affected in terms of quality. His model attempts to show how, among teachers and learners, the disease and death would interact with social, economic and educational spheres.

The model suggests that AIDS would increase mortality so that few students would enroll in Grade 1. Infected children would also enroll and so might drop out, whilst fewer teachers would enter the education system. As with learners, teachers would dropout of schooling because of chronic illnesses caused by AIDS. Those infected and attending schooling would do that erratically thereby affecting quality of education. Thus, the model suggests unpredictable school attendance by teachers and learners, and erratic teaching schedules and learning events in school. This would eventually impact on quality of education (Jansen, 2007). Figure 2.1 (below) illustrates Jansen's model.

Figure 2.1: Multilevel and interactional effects of HIV/AIDS in fragile school environment



(Adapted from Jansen, 2007:28)

Thus, the literature reveals that the presence of HIV and AIDS has challenged the operations of the educational services. The number of children attending primary schools would have been more had there been no HIV and AIDS. Likewise, the number of teachers currently serving in SSA schools would have been larger and more schools would have been opened. The concern is not only with the numbers but also with the

qualitative aspects of the education services. In the face of the pandemic, the place called school is expected to overcome emerging factors that could exacerbate poor quality. The school is expected to be concerned about pupils who attend while traumatized by the death of their parents. It is expected be responsible for teachers who are infected or affected and frequently absenting themselves from work. In the long run, the teaching and learning process is expected to be disrupted and quality of education impaired.

2.3 Empirical evidence to the collapsing thesis

Since the commencement of this debate in the early 1990s, studies have been conducted to examine what have been the effects of the pandemic on supply and demand of education in Uganda, Botswana, Malawi, Kenya, Tanzania, Namibia, Zimbabwe, Mozambique and South Africa (Abt Associates, 2001a; Bennell et al., 2002; Case & Ardington, 2004; Castro et al., 2007; Education Labour Relations Council, 2005; Kadzamira et al., 2001; Louw et al., 2009; Mbwika, Mburu, & Thuita, 2003; Mobile Task Team, 2005; Ndamugoba et al., 2000; Wasala et al., 2002). The methods used in conducting these studies varied, but surveys, interviews and use of available data or information in the Ministries of Education are common. Most of the surveys involved schools, teachers and pupils, and were conducted in both primary and secondary sectors (Appendix 2.1).

2.3.1 Enrolment

There are reports of declining enrolments in Uganda, Zambia, Tanzania, Botswana, South Africa, Swaziland and Zimbabwe. A study carried out in Rakai district in Uganda, reported a decrease in student enrolment from 1,534 in 1989 to 950 in 1993. Also, in the same district of Rakai, a study that sampled 20 learners in the upper grades of three primary schools (10 girls and 10 boys, 10 orphans and 10 not) revealed that half of the homes were headed by guardians, three had fathers still alive, and the other seven were headed by widows. Furthermore, it was reported that these learners stayed several days away from school so as to attend funerals of relatives (Shaeffer, 1994). However, other studies carried out in Uganda showed that, at national level, Uganda registered an increase in enrolment threefold due to the implementation of Universal Primary Education (UPE). This was at the time that HIV and AIDS reached its peak in terms of mortality (Bennell et al., 2002).

In Tanzania, studies carried out by Ndamugoba, et. al (2000) of the impact of HIV and AIDS on delivery of primary schooling showed that pupil attendance dropped from an average of 86.5 percent to 77 percent, and 92.5 percent to about 84 percent in Bukoba and Kinondoni districts respectively. Also, there were reports of low enrolment rates at primary level and the enrolment rate stood at 44.9 per cent of all children of school-going age of (7-13 years). This pattern has been observed in other parts of Tanzania, where high levels of the pandemic have been reported (Carr-Hill et al., 2002), though one cannot conclude that HIV and AIDS caused the stagnation or decline in enrolment.

In Botswana, a study conducted by Abt Associates indicated that the growth in standard one seemed to have been slowing for a while, and had declined by 3 percent in 1998. The projections also showed that by 2010 the number of school-going population would decrease by 20 percent (Abt Associates, 2001). A conclusion from a study by Bennell (2002), however, showed that pupil absenteeism, dropout and repetition, are not a significant problem in Botswana (Bennell et al., 2002).

In Kenya, a study conducted in four districts of Nyanza province revealed that enrolment in primary schools declined from 5.92 million in 1998 to 5.87 million in 1999 (Wasala et al., 2002). In Namibia, a study reported declining enrolment in Katima Mulilo from 1990 (Abt Associates, 2002), with similar reports in Zambia showing that primary education enrolment stagnated between 1990 and 1996, argued to be because of HIV-related causes (Foster & Williamson, 2000; Gachuhi, 1999).

2.3.2 Orphans

Studies also reveal that the number of orphans in schools in SSA has been increasing (Bicego et al., 2003; Dias da Graca & Tournier, 2007; Foster & Williamson, 2000; UNAIDS, 2005). It is not clear that the increase in orphans is entirely due to HIV and AIDS but a study that analyzed Demographic Household Survey (DHS) for Zimbabwe, Kenya and Tanzania, found a strong correlation between orphan prevalence and

national adult HIV prevalence estimates (Bicego et al., 2003). This supports the claim of orphan crises in those countries that have high prevalence of HIV.

In South Africa, a study in which data from a longitudinal study in Kwa-Zulu Natal (KZN) was used reported low school enrolment for children who had lost the mother or both parents (Case & Ardington, 2004). This study also showed that parental death had a moderately negative impact on children's school participation. Encouraging however was a report by a study carried out in Kenya which reported that participation was similar for orphans and non-orphans (Evans & Miguel, 2004). Similar findings have also been shown in studies conducted in Botswana, Malawi and Uganda (Bennell et al., 2002) that indicated a complexity in the relationship between parental status and school, and the impact of being an orphan on school attendance is often not as great as generally believed. It would be difficult, therefore, to conclude that low enrolment rates in orphans are the result of HIV and AIDS. However, one cannot rule out that the epidemic in some way contributed to low pupils' participation in schooling.

Recently, the International institute for Educational Planning (IIEP), in conjunction with the Malawi Ministry of Education, has designed a model for data collection at district level. This has been pilot-tested in one district and appears to capture some of the important data needed to measure the impact of the pandemic on education in relation to quality. On data related to orphans, the report indicates some disparities between rural and urban schools. In rural schools, it is reported that 9.8 percent of the pupils were orphans in January and 10.6 percent in August. Disparities were also

observed between schools, from 1.3 percent of orphans in one school to 30.4 percent in another. However, more orphans dropped out (10.5 percent) than non-orphans (3.3 percent). The situation was different in urban schools, where in February 12.8 percent of pupils enrolled and by the end of the year the proportion was reduced to 10 percent. This could have been due to dropout as it was revealed that dropout among orphans was 5.7 percent compared to 1.4 percent among non-orphans. (Dias da Graca & Tournier, 2007).

2.3.3 Number of teachers

Studies of the impact of HIV and AIDS on teachers agree that more teachers are dying, but few conclude that the deaths are caused by the pandemic. Neither is hard data available to show how the decline or trends in numbers of teachers have been for several years. A study conducted in Uganda, Tanzania, Kenya and Madagascar, and based on samples of three schools in four districts of each country, concluded that there were high levels of teacher deaths and retirement within a period of seven years (Mbwika et al., 2003). Also, a survey conducted in Mukoba and Kinondoni in Tanzania reported that a significant number of teachers had died because of HIV and AIDS (Ndamugoba et al., 2000). Likewise in Kenya, a study conducted in Nyanza province showed that the number of primary school teachers declined from 192,306 in 1998 to 186,612 in 1999. It was reported that this was largely attributed to retirement and HIV and AIDS. It was further reported that 3,000 teachers died of AIDS in 1999, with primary schools losing eight teachers per year (Wasala et al., 2002). In Zambia, the

number of teachers dying of AIDS is reported to have been greater than the output from all teacher training colleges. The Ministry of Education reported that 680 teachers (2.2 percent) died in 1996 and 1,300 teachers died in 1998. It was predicted that the number was expected to rise to approximately 2,000 a year by 2005 (Carr-Hill et al., 2002; Coombe, 2002). In Malawi, a study that assessed the reasons for attrition in the Ministry of Education at central, division and district level, revealed that resignation and retirement had been the main causes of attrition, followed by death at the central level. It was reported that at district level, there was no data available for proper interpretation (Chawani & Kadzamira, 2004).

In South Africa, a study among teachers was conducted, using a cross-sectional sample of national representatives of teachers. The survey found out that 12.7 percent of all teachers were positive, and HIV prevalence was highest in the 25-34 age group (21.4 percent), followed by the 35-44 age group (12.8 percent). The major racial difference, it is reported, was that black Africans had a prevalence of 16.3 percent, compared to whites, coloured and Indians, whose HIV infection rate was less than one percent. The prevalence for teachers was similar to that of the general public. The report further indicated that the number of public teachers declined from 386,735 in 1997/98 to 366,320 in 2002/2003. The redistribution of the teachers soon after the apartheid government was believed to have contributed to this decline. Worth noting is also the revelation by the study that the third largest cause of attrition after termination and resignation was mortality (Education Labour Relations Council, 2005).

The debate on the impact has also been strengthened by projections indicating that there would be decreases in the number of the teaching force in some countries with a high prevalence. The projections or estimations, however, took little consideration of the interventions being provided, especially the ART roll-out. In Zimbabwe, it was estimated that about 2.1 percent of educators would be lost to HIV and AIDS between 2000 and 2010. In Namibia it was estimated that the cumulative loss of educators to AIDS between 2002 and 2010 could be as high as 860-3,360 (Abt Associates, 2002; Carr-Hill et al., 2002). In Zambia, Kenya and Uganda it was projected that 1.7 percent, 1.4 percent and 0.5 percent of teachers respectively would be lost by 2010 (World Bank, 2000a). The World Bank further projected that 14,460 Tanzanian teachers would die by 2010, at a cost of 21 million USD in replacement training (Save the Children UK, 2001a).

2.3.4 Teacher Mortality

A study conducted in South Africa estimated mortality rate of teachers using different sources of data. This included the Government of South African's Personnel and Salary Administration System (PERSAL), the Department of Home Affairs' National Death Register and EMIS data from the National Department of Education. It was reported that the results suggested that 8.3 percent of HIV-infected teachers died of AIDS in 2004, and half of the estimated 3,976 AIDS associated death in teachers were concentrated in 34-45 age group (Education Labour Relations Council, 2005).

A survey conducted in six primary schools in Malawi reported that all lost at least one teacher through death. The report further found that the average mortality rate at these schools was 2.4 percent between 1996 and 1999. The mortality rate for female teachers in the survey of urban schools increased from 1.32 percent in 1996 to 4.05 percent in 1999, with the death peaking in the 19-29 and 30-34 age cohorts. This study also revealed that the mortality rate among teachers increased rapidly from 0.57 in 1995 to 1.32 percent in 1999 in 16 education districts (Kadzamira et al., 2001). In a separate study carried out to determine the annual death rate of primary school teachers in 4 primary schools nearest to 23 district and 17 mission hospitals, it was reported that out of a total of 4,367 teachers, 101 died, representing 2.3 percent. The highest death rate was among teachers aged 35 to 44 years. It was observed that chronic illnesses thought to be due to AIDS (49 percent) and TB (27 percent) were the common causes of death (Harries, Hargreaves, & Gausi, 2002).

Curiously, studies conducted in Uganda, Malawi and Botswana, reported that teacher mortality rates are generally much lower than adult population mortality as a whole in all three countries (Bennell et al., 2002). These findings concur with studies in Uganda in Gulu, Tororo, Rakai, Hoima, Mukono and Mbarara districts that indicated there was a decline in staff deaths, with the exception of Gulu district, which had high staff attrition as a result of death. This was linked to the ongoing conflicts in this area (Amone & Bukuluki, 2004).

2.3.5 Teacher absenteeism

Many studies have been conducted in SSA to assess the impact of the pandemic on teacher absenteeism. For instance, a survey conducted in Zimbabwe that assessed the impact of HIV and AIDS on the education sector revealed that absenteeism due to funeral attendance, illness and family responsibilities was seen as a major and increasing problem for education quality. The study further noted that the pandemic was leading to anxiety and stress among infected and affected staff. This posed a challenge to morale and the education process. Although this was so, it was noted that the pandemic appeared not to have destabilized the education system overall (Education Assessment Team, 2002).

In Botswana, Malawi and Uganda a comparative survey reported that teacher absenteeism among primary school teachers was relatively low. In all three countries female teachers had higher rates of absenteeism than males, but a reason for the differences was not provided. It was however reported in a group discussion that level of absenteeism had increased in these countries due to death and illness, accounting for 35-40 percent of absences. These studies also found out that there was low teacher morale, despite this not being directly attributable to the impact of HIV and AIDS. Low pay and poor working conditions were cited as the main causes of low morale (Bennell, 2003b).

In South Africa, a study was conducted to find the reasons for attrition and mortality among teachers. Although the study did not focus on teacher absenteeism *per se*, it did observe a steady increase in teachers' sick leave between 2000 and 2004. It observed that the bulk of sick leave, 57 percent, took place in KZN, a province with a high prevalence rate. However, this was not associated with the pandemic but rather other administrative issues. It is reported also that KZN could have misunderstood the instructions as to what constituted temporary and permanent incapacity leave, and this might have allowed the province to capture more data than the other province (Mobile Task Team, 2005). In another survey among South Africa teachers, it was found out "that the greater the number of days the teachers spent absent from school, the greater the likelihood that they were HIV positive" (Louw et al., 2009:208).

In Kenya, there is an indication that absenteeism is not a problem, but when it occurs it does so because of funerals and family responsibilities (Wasala et al., 2002). It is noted however that despite the increase in AIDS-related illness that results in absenteeism, very few sick teachers are found to be on leave or having taken early retirement. Some of the reasons discovered included the level of stigma and denial surrounding AIDS, such that most sick teachers continue to work. Even though this may seriously worsen their condition, teachers are concerned about loss of their income (Bennell et al., 2002). It is however not reported how effective these teachers are when carrying out their duties whilst they are sick.

In Malawi, a study conducted to assess the impact of HIV and AIDS on teachers found that a good comprehensive assessment of teacher absenteeism was difficult due to paucity of data. The study however identified that absenteeism was high amongst female teachers in primary schools. It was observed that high female absenteeism was mainly because women in Malawi were responsible for caring for the sick children and other family members. The study further revealed that although individual teacher absenteeism was low, the overall impact on learning process could be substantial and a cause of disruptions. This study revealed that teacher morale was low due to poor working conditions and not because of the pandemic (Kadzamira et al., 2001). These results concurred with results of another study that observed that, despite assertion from managers that HIV and AIDS was contributing to teacher absenteeism, the ministry did not have a proper way of measuring absenteeism. Thus, even in qualitative terms, the report found it was difficult to measure absenteeism. This was also marred with differences in the definition of absenteeism, however, if absenteeism happened, it was noted that personal sickness, sickness of a family member, funeral attendance and running personal errands, particularly searching for money, were cited as the most common causes (UNDP, 2002) . In a study by Dias da Graca and Tournier (2007), it was discovered that the main cause of teacher absenteeism was sickness of the teacher, sickness of a relative or attendance at funerals. It is reported that the rate of absenteeism in 2006 varied from 5.7 percent to 16 percent, which was the same as that of the global picture.

A deeper analysis of teacher absenteeism was carried out in Namibia in a case study of nine schools. The study revealed numerous incidences of teacher absenteeism that could be associated with the pandemic:

> On Monday, the fourth and fifth grade teachers were absent the entire day. The learners were left without teachers for all but one period-the period after break-when the third grade teacher came in as a substitute and worked with the learner. It was reported that one of the absent teachers was in hospital and the other at a funeral. On Tuesday, the second and third grade teacher was absent; one which was the principle. Both were reported to be attending a funeral (Castro et al., 2007:41)

Other surveys carried out in Gambia, Kenya, Lesotho, Uganda, Tanzania and Zambia, that investigated teacher supply, recruitment and retention, showed that teacher absenteeism was reported to be a problem but not of serious concern. The main causes were reported to be irregular pay days and illnesses, which could be associated with the pandemic (Sinyolo, 2007)

What the findings of these studies suggest is that many countries were experiencing teacher absenteeism. Attending funerals, sicknesses and poor working conditions appear to be the main reasons for absenteeism in most of these countries. Despite the difficulty in isolating HIV and AIDS as the cause for the absenteeism, high rates of absenteeism due to funeral attendance and sicknesses could be an indicator of severe

effects of the pandemic. This interpretation is however problematic in that there is no certainty that teachers who are absent do actually attend funeral services or are indeed sick? The claim that sickness was the major cause of teacher absenteeism also needs further monitoring. Also, the revelation that absenteeism reduced after it started being recorded could indicate laxity in monitoring and teachers taking advantage of it.

From these reports is also that it is unclear how the absenteeism rate is measured, whether as a proportion of total teacher absence or total days absent. For example, does a 10 percent absenteeism rate mean one teacher out of ten was absent in a particular day, term or year, or does it mean a teacher was absent for 10 days out of 100 teaching days per term, or year? Differences in these meanings could provide a different margin in the values and different scales for comparison purposes.

Nor do the results reveal a starting point to show how absenteeism has increased over the years, particularly in the years without HIV and AIDS. Thus, present absenteeism is measured without reference to the past. Sicknesses and funeral attendance could be the main cause of absenteeism, even in the past. In African culture, where extended and social networks are strong, there is widespread participation in funerals and visits to the sick. Thus, associating the impact of HIV and AIDS with funeral attendance would be more accurate if compared with the increase in attendance of funerals in the past.

In short, it is evident from the results that there were decreases in the number of school children and teachers. In addition, there were also notable increases in orphans, teacher

absenteeism and mortality rates, however, there were still some inconsistencies to warrant a generalization. There could be other reasons for the decline and increases, especially when it is difficult to isolate and certainly say HIV and AIDS is the main cause. The following section provides a detailed critique of the findings of the studies that assessed the impact of HIV and AIDS on education.

2.4 Critique of evidence

Studies on the impact of HIV and AIDS on supply and demand for education in SSA reveal that there are still several issues that need to be clarified to enhance an understanding of the effects caused by the pandemic. The diversity of effects and findings about the epidemic in different countries show that the understanding of many of the issues is still relatively undeveloped. The results of the studies indicate that generalizations could not be made regarding HIV and AIDS as a cause of the decrease in number of pupils and teachers. As a result, more studies and evidence are needed to substantiate the claim that education systems will collapse because of the pandemic. This critique singles out four issues that require attention with regard to assessing the impacts of HIV and AIDS on of education. Each is dealt with in turn below.

2.4.1 Methodological issues

Different methods are used in assessing the impact of HIV and AIDS, with surveys, interviews, case studies, projections and use of existing data being common. The effects caused by the pandemic are also complex, so methods beyond mere collection of figures are needed in order to understand how the pandemic affects individuals, families and societies. Triangulating information adds more weight to the findings, however it is noted that in most of the surveys undertaken the sample sizes were small, to the extent that one would question the generalizability of such studies. For example, in the case of Rakai district, 20 pupils would not give a good representation of all pupils in primary education. In Bennell et al.'s (2002) study, one wonders whether 361 learners sampled in Malawi would be representative of 3 million, or whether the 151 teachers sampled could represent 46,000 teachers and warrant a generalization.

Using a larger sample size should help to unfold more character traits than would smaller samples. In addition, the use of secondary data tends to report little about patterns or trends in enrolment or number of teachers within a specific period, for example 5 to 10 years. This appears to be the case because of scarcity of reliable data. Now that some relevant data has started to be collected, it would be ideal to integrate trend analysis of teachers, which could provide patterns that can show whether there is a decrease or an increase in the number of teachers as compared to the number recruited. Furthermore, trend analysis could expose demographic factors such as

gender, age and location, and this could then be compared with prevalence rates of HIV and AIDS in these categories.

2.4.2 Inconsistent findings

From the results of the studies, there are some traces of decreasing enrolment and the number of teachers. There are, however, inconsistencies that need to be clarified, the major one being that the pandemic is causing a decrease in the enrolment and number of teachers, whereas others report fewer effects. For example, although most of the studies indicate that the mortality rate for teachers has increased, studies by Bennell in Uganda, Malawi and Botswana indicate that teachers' mortality rates are generally low (Bennell et al., 2002; Risley & Bundy, 2007). Such inconsistency impedes generalizations of the problem, and this challenges researchers to conduct more accurate investigations.

Another inconsistency is that some reports attempt to single out HIV and AIDS as causing the decline in the number of teachers, while others only anecdotally suggest that it is one contributory factor in the decline. Still other studies fail to provide numbers that can conclude with certainty that the number of teachers and enrolment is decreasing. For example, apart from the study carried out in Kenya by Wasala, et al. (2002), which indicated that enrolment fell from 5.92 million to 5.87 million in the primary sector, and that the number of teachers who died of AIDS in 1999 was 3,000, few figures are presented in other studies. This, to an extent, shows that there is still a

challenge to single out what factors cause shrinkages in the numbers of teachers and whether HIV and AIDS is the cause.

2.4.3 Use of projections

With scarcity of real data, the use of projection models is an important tool for estimating the present and future impact of HIV and AIDS. However, it appears from the results of some studies and literature reviews that projections have been used to justify the collapse of the education system (Carr-Hill et al., 2002; Coombe, 2002, 2004). Projections are reported as facts. Despite projections or estimations having used, they carry several assumptions for projecting the future. The use of trend analysis, as mentioned above, usually helps in forming the basis for projection. Using real figures of teacher attrition for a period of 10 years, for example, one can calculate average teacher attrition within that period, and use this average teacher attrition rate to estimate future projections. Thus, trends analysis in this case could be used to observe the impact of HIV and AIDS on education for the period that the pandemic has existed, and project the expected future impacts.

The projection models that have been used are said to have exhibited some shortcomings. For example, teachers are assumed to be a homogenous group, thereby neglecting age, gender and other demographic variables relevant to the force of HIV infection. In addition, professionals in the education sector are assumed to have similar infection rates, as found for the general population in sentinel surveillance data. Also,

the future projections do not consider the benefits of antiretroviral therapy or adoption of protective sexual behaviour.

2.4.4 Use of aggregated data

As noted above, most of the studies so far conducted in assessing the impact of HIV and AIDS on education supply and demand treat teachers and pupils as homogeneous groups and, as a result, the reports carry aggregated data. With the exception of a few studies (Bennell et al., 2002; Education Labour Relations Council, 2005; Mobile Task Team, 2005), most studies have ignored characteristics of teachers, in particular, age, gender, educational qualification, grades, rank and culture. Sets of aggregated data in the context of the impact of HIV and AIDS fail to unpack the effects according to these categories. For example, one needs to observe the impacts on different age bands, such as 20-30, 31-40, 41-50, and compare these with the HIV prevalence rates for each of these categories. The age bands could also be disaggregated by gender, helping to reveal more about a particular group and link it to what HIV and AIDS theories say about that particular age group. Also useful to consider would be geographical regions, such as district, urban and rural areas. With HIV and AIDS, different regions portray different characteristics, and it would be reasonable to compare what study findings can show regarding different geographical categories to the HIV and AIDS theories about the groups.

2.5 The call for more studies

2.5.1 Need for more evidence

In spite of agreements that the education system faces challenges from the pandemic, researchers have become concerned about lack of relevant data to assess the impact of the pandemic (Badcock-Walters & Whiteside, 1999; Bennell et al., 2002; Carr-Hill et al., 2002; Coombe, 2001; Gachuhi, 1999; Jansen, 2007; Louw et al., 2009). Experts are now advocating for more research that would include disaggregated data. One expert commented:

> So discussion of the impact on supply and demand is of little use for planning purposes until figures are available that separate out the variety of factors, quantify them and give them a relative weighting (Carr-Hill et al., 2002:76)

Gachuhi, (1999) observed that there is little hard data about the impact of HIV and AIDS on the decreasing supply of education and this makes it difficult to identify how far this decline has been accelerated by HIV and AIDS. He then suggested that in order to limit susceptibility and reduce potential impact, the present paucity of hard data must be supplemented with at least some indicators in key groups known to experience more severe impacts in order to help focus and target interventions.

In addition, studies carried out by Bennell et al. (2002) in Botswana, Uganda and Malawi shifted the thesis from the collapse to a call for more evidence. In assessing the

impacts of HIV and AIDS on primary and secondary education, Bennell et al. (2002) observe that much work in HIV and AIDS is based on only scanty evidence. They affirm:

> The lack of hard evidence about what is actually happening in schools has resulted in anecdotalism and broad generalizations about the impact of the epidemic on the education sector, which although largely unsubstantiated, have already been widely accepted as received wisdom (Bennell et al., 2002:1).

Thus, Bennell has insisted that there are flaws in the evidence for the collapsing thesis, and teachers are not at high risk. Rather, they are a good resource in combating HIV and AIDS. With regard to the notion that the education system will have more orphans, Bennell noted that current and future projections of orphans per population are likely to be serious overestimates:

> A major part of the problem is that it is often difficult to establish whether a child, parent or career is ill with or has died as a result of an AIDS related illness. (Bennell et al., 2002:47)

Among the reasons Bennell advances against the collapsing thesis, four are presented below. Firstly, he notes that very little research has been undertaken on the impact of the epidemic on the teaching profession in SSA. Thus, most of the assessment studies so far carried out in SSA countries lack primary data with regard to the impact of the

epidemic on teachers. Secondly, he observes that most of the impact assessment contains no information about characteristics of the teaching profession in SSA, which are likely to predispose them to HIV infection. These include patterns of teacher deployment, the level of job turnover, marital status, the extent of spouse separation and relative status income. He upholds that most studies treat teachers as a homogenous, undifferentiated occupational category. Thirdly, Bennell notes that there is a similar paucity of hard data on the sexual behavior of teachers, and asserts that no knowledge, attitude or behavior surveys of teachers have yet been undertaken in any country in SSA. Lack of such knowledge leads to contemplation of a stereotype of male teachers who engage in relatively high-risk behavior compared to a view of a traditional teacher who acts as a model in a community. Finally, on projections about the effects of the epidemic on teachers, he observes that generally demographic models are used, but claims the assumptions that underpin these models are flawed in a number of key respects (Bennell et al., 2002).

Bennell creates an impression that ministries have started containing the epidemic, or that researchers have understated the figures. He observes that teachers' mortality rates are much lower than those for other adults. For example, in Malawi, mortality rates for primary and secondary teachers were 1.01 per cent and 0.8 per cent respectively in 1998, compared to overall mortality rate of 1.37 per cent for the 20-49 adult population. Actual mortality rates in other countries are "typically two to six times lower than projected mortality rates" (Bennell, 2005b:445).

Another contribution to the call for more evidence was made by Carr-Hill et al. (2002). While they accepted that HIV and AIDS would have an impact on education, they observed the difficulty in singling out problems arising from the pandemic when the major problems continue of dropout, illiteracy, population increase, poverty, high repetition rates and finding salaries for teachers. They suggested that assessing the impacts of HIV and AIDS on demand and supply for education should follow a holistic approach, targeting individuals, households, countries and nations or states in a cross-sector approach. Interestingly, they noted that a comparison of pupil-teacher ratio for SSA countries indicated, in some cases, a decreasing trend. This shows that any decline in the number of teachers in each country could have been more than the decline in the number of students (Carr-Hill et al., 2002).

2.5.2 Need for disaggregated data

The need and call for disaggregated data has been highlighted by several authors, with differences being suggested or requested. Sets of data are very brief (Coombe, 2004; Shaeffer, 1994) while others are detailed (Bennell et al., 2002; Carr-Hill et al., 2002; Kelly, 2000). For example, there is a request for data on absenteeism, sick leave and teacher transfer, classified by age, grade and gender. Carr-Hill et al. (2002), however, make a robust and straightforward request for the data that is needed. For instance, they requested number of colleagues who are affected by the pandemic, teachers falling sick with AIDS, and the number of teacher transfers due to HIV and AIDS. Below is a table summarizing the data requested by different education experts:

Table 2.1: Requested data by different experts

	Author's Details	Data Suggested
1	Shaeffer, 1994, p. 25	AIDS survivors, especially orphans (by age, grade level, and gender); absenteeism of both teachers and pupils (and the reasons for such absences); transfer of teachers; classroom or school closures; and community contributions to schools.
2	Kelly, 2000, p. 99	The extent and trends in teacher, ministry official and student mortality; The number of employees currently HIV infected or ill with an AIDS–related condition; The number of employees maintained on the pay roll but unable to work; The number of employees with HIV/AIDS in their immediate families; The extent of HIV/AIDS- related sporadic absenteeism, sick leave and compassionate leave; The impact of such absenteeism/ leave on the ministry's ongoing activities, both in schools and colleges and in the various ministry offices; The number of employees, especially females, in need of more flexible timetables that will facilitate their provision to care to sick household members; The number of hours or days given to funerals; The funeral costs which the education ministry bears
3	Coombe, 2004, p.109	Composition of teaching force in terms of age, gender and marital status, relative salary levels, teacher perceptions for marketability, teacher education and qualification levels, levels of unionization, and ethnicity.
4	Carr-Hill et al., 2002, p. 82-83	Number of colleagues who are affected by the pandemic; pupils who drop out of school because of AIDS; Time lost by teachers on matters related to AIDS (e.g. attending AIDS patients, attending funerals where the cause of death is AIDS; Teachers falling sick with AIDS-related diseases; number of children remaining absent because of AIDS-related problems (e.g. death of a parent/relative attending an AIDS patient; hours lost as a result of teacher's absence because of AIDS problems; Constantly kept record of school pupils who become orphans

		because of AIDS; Number of schools closed because of reduced number of children (probably due to AIDS); number of teacher transfers because of AIDS, (e.g. after losing a parent); establish the extent to which family incomes have been reduced; establish a reduced education budget as a consequence or reallocation of funds for health/medical care at family/ house hold level and national level.

The methods used in gathering information on HIV and AIDS also receive support (Van de Ven & Aggleton, 1999), and over the past 15 years educators have learned what works and what does not work in HIV and AIDS research, through personal experience, intuition and educated guesses to get the programmes underway. Through these processes, they affirm, educators have accumulated knowledge. They also argue that many sources of evidence have contributed with their own strengths and limitations, and no single source has been sufficient to determine appropriateness and effectiveness of different strategies. They caution the focus on experimental studies and the call for empirical evidence could have one hidden trap, notably a diversion of attention from important emerging issues in HIV and AIDS education.

2.6 Conclusion

In conclusion, debates about the impact of HIV and AIDS on education started soon after the emergence of the pandemic. Since then efforts have been made to understand how the pandemic is affecting the education sector. This process started with the development of frameworks for analyzing the impact. To an extent, these frameworks

have been used in assessing the impact of the pandemic on education systems in many countries with high prevalence. Uses of existing data, surveys and case studies have usually been the approaches employed in assessing the impact of the pandemic in the education sector. Due to complexities in understanding the effects of the pandemic, different approaches are recommended. There is need to go beyond counting the numbers of teachers or pupils who are infected or affected and try to understand the effects at household and school levels.

Despite that many studies carried out to assess the impact of the pandemic on the education sector, the understanding of the impact is still unclear and debatable. It is still not clear whether the impact will collapse the education sector. Although there are signs of decline in enrolment and number of teachers, and an increase in the number of orphans, teacher absenteeism and mortality rates, there is little evidence to show that HIV and AIDS is causing the decline or mortality of the teachers. Uses of aggregated data, inconsistent findings, and use of projections, are some of the impediments to understanding the impact of the pandemic on the education sector. There is a call therefore to disaggregate the data by gender, age, and location. In addition, there is a need to collect data that would attempt to measure directly the impact of the pandemic on pupils and enrolment. For example, data on teachers who have died of AIDS, teachers who are currently positive, and teachers who are frequently absenting from work could help in understanding the extent of the effect.

Methods than could enhance the collection of relevant data are therefore advocated. There is need to integrate other approaches, such as the use of trend analysis. The use of projections needs to be replaced by empirical data that has been collected over the years. Most importantly, there is a need to integrate other theories that have for long articulated how pupil enrolment and teacher loss in the education system could be accounted. These have to be integrated with HIV and AIDS theories about the loss of teachers. The following chapter therefore reviews theories of teacher attrition, in line with the focus of this study.

CHAPTER 3

LITERATURE REVIEW

Theories of teacher attrition

3.1 Introduction

The loss of teachers in the education sector either through death or through other causes could better be explained by theories of attrition. This study employed some of these theories in order to build on the existing knowledge and link the new dimension that HIV and AIDS could be a contributory factor in teacher attrition. From these theories, a framework of teacher attrition related to HIV and AIDS is developed to provide direction in analyzing the impact of HIV and AIDS on teacher attrition.

As the literature on teacher attrition testifies, it is not a new phenomenon, with much research having been conducted in this area. Before presenting teacher attrition theories, I therefore first present the methods that are commonly used in researching it. Later I will provide a definition and outline the impact of teacher attrition on the education sector. There then follows some study findings on teacher attrition globally, and in SSA in particular. Attention is also given to studies conducted on teacher attrition related to HIV and AIDS.

3.2 Methodologies of the studies reviewed

Several studies have been conducted to find out why teachers leave the profession, using methodologies that are predominantly cross-sectional surveys, although longitudinal surveys at times have also been used (Borman & Dowling, 2008; Brownell & et al., 1997; Darling-Hammond, 2003; Macdonald, 1999; Marlow & Inman, 1997; Stinebrickner, 2001). Recently, EMIS and personnel data available in ministries of education has also been used to understand teacher attrition (Hall, 2005; Halliday & Hogan, 1994; Ingersoll, 2001; Ingersoll, 2003; Mobile Task Team, 2005). The use of existing data, such as EMIS, payroll or personnel data, is recommended, particularly in cases where the effects of HIV and AIDS on teachers are being investigated (Boler, 2003; Carr-Hill et al., 2002). To get reliable and timely EMIS data is a challenge, but if available, it could provide a broader picture of teacher attrition, particularly, if a trend analysis is made. That way one could reduce reliance on estimations, and provide a more realistic picture of the effects of the epidemic.

3.3 Definition and impact of teacher attrition

The term ‘attrition’ has been associated with many other terms, such as ‘turnover’, ‘burnout’ and ‘exit’ (Billingsley, 1993; Chapman, 1994). Teacher attrition does not refer to teachers who are moving from one working district or region to another, since they continue working within the teaching profession but are a loss only to a particular region, province, or district (Billingsley, 1993). Other authors, however, feel that the

term ‘attrition’ has no single appropriate definition (Kirby & Grissner, 1993). In this study it refers to teachers who are leaving the entire education system for any particular reason.

Teacher attrition has been a concern in education systems around the world, at least for the past two decades. The concern, it has been argued, is due to a rapid increase in educational demand and the decline in national resources available to respond to it. Thus, it is viewed that schools have more pupil enrolment than the number of teachers trained to meet the demand (Billingsley, 1993; Chapman, 1994; Ingersoll, 2001; Kirby & Grissner, 1993). Other views have also emerged which posit that high teacher attrition is a result of an excess number of pupils, caused by teachers departing their jobs for reasons other than retirement (Ingersoll, 2001, 2003).

The impact of HIV and AIDS on education has revived the debate on teacher attrition in SSA (Bennell et al., 2002; Kelly, 2000), with the need to attain the ‘Education For All’ (EFA) goals raising fears that the number of teachers required to provide the needed education will not be met, should HIV and AIDS continue to reduce the number of teachers as reported below:

> In 2000 there were 2.49 million public primary schools teachers in African primary schools and to meet the goals, there should be 3.85 million in 2015. The required numbers of new teachers are actually larger than the difference between 3.85 and 2.49 due to retirement of old teachers and death of HIV/AIDS infected teachers (Nilsson, 2003:12).

It is further reported that since 1985 the average growth rate of public school teachers in Africa has increased by 2 percent per year, but to meet the demands there has to be an annual increase of 3 percent (Nilsson, 2003). With financial constraints and other challenges that HIV and AIDS is causing to the education sector in SSA, it is unlikely that the target will be met.

While the reasons teachers leave the system are numerous, the impact this may have on the education system includes an escalating cost of the teaching force and deterioration of education quality (Chapman, 1994; Jansen, 2007; Risley & Bundy, 2007). When experienced teachers leave, the investment in teacher training is lost. However, others have argued that investments in teacher training are not totally lost, as they form an important ingredient in the national economy, if teachers move to other sectors within the country (Ingersoll, 2001).

Teacher attrition, thus, has its own merit. It is argued that while high turnover can signal low teacher morale, as a result of poor conditions of service, too little turnover can indicate stagnation in the teaching force. Effective organizations, it is asserted, promote and benefit from a limited degree of turnover by eliminating low-caliber performance and bringing in new blood to facilitate innovations (Chapman, 1994; Ingersoll, 2001). A Low level of turnover is therefore expected in education. The challenge with the education sector insofar as attrition is concerned, is that most of the teachers who leave are believed to be active or of a high educational level. Conversely,

those who stay are considered weak (Addi-Raccah, 2005; Chapman, 1994; Ingersoll, 2001). The literature, however, is silent on what rate of teacher attrition should be tolerated in the education system.

3.4 Theories of teacher attrition

Theories and models have been developed that attempt to explain teacher attrition. Four will be employed in this study, namely the human capital theory, the appeals theory, Chapman's model and Billingsley's model (Billingsley, 1993; Chapman, 1994; Kirby & Grissner, 1993; Lortie, 1975).

3.4.1 Appeals theory

The appeals theory posits that there are certain inherent appeals in the teaching profession that attract people to work in schools. When such appeals do not exist, teacher attrition occurs. Lortie (1975) identifies the following appeals: *Interpersonal appeal*: some people like to work with young people who are extremely disadvantaged. *Service appeal*: others think that teaching is not just a profession but they see it as a service to the nation. *Continuation appeal*: some people enjoy the environment of the school and they choose to remain in it. *Material appeal*: others are attracted by the unique features that teaching offers compared to other professions such as fewer working hours. *Socioeconomic appeal*: others think that education institutions such as colleges and schools are economically accessible for many, thereby increasing the

number of teachers. *Safety net appeal*: some who fail to enter their line of work find teaching an alternative choice of work. *Second career appeal*: to others, teaching provides an opportunity to serve two professions. Thus, teaching will remain an attractive job to others.

3.4.2 Human capital theory

Kirby and Grissner, (1993) affirm that the fundamental tenet of the human capital theory of occupational choice is that individuals make systematic assessments of the net monetary and non-monetary benefits from different occupations, and make systematic decisions throughout their career to enter or leave an occupation. The monetary benefits include the stream of likely income in that profession, promotion opportunities and value of benefits. The non-monetary benefits include working conditions, support of peers and superiors, compatibility of hours and schedules with family and leisure needs, availability of adequate materials, learning attitudes of students and parental support.

As individuals remain in a profession, they accumulate human capital that translates into wage premiums. Kirby et al. (1993) describe two types of capital: *generic*, which could be transferred to other occupations fairly easily, and *specific*, which is relevant to that profession only. The greater the amount of *specific* capital, the less likely it is that the individual will consider leaving the profession. Examples of such capital are: home ownership, knowledge of contacts for other employment within the education sector, institutional or specialized knowledge, seniority/status in the system and, perhaps most

importantly, the retirement system. This is why teacher movements are more likely early in the career than in mid-career, as the greater the amount of specific capital one accumulates with age or experience, the greater the barrier to leaving the occupation (Kirby & Grissner, 1993).

3.4.3 Chapman's model

Chapman (1994) identifies two types of factors that he refers to as *root* causes and *enabling* factors to teacher attrition. Root causes are those that can be addressed if attrition is to be reduced. Enabling factors are those that do not themselves cause teacher attrition, but are conditions which allow it to continue once it has started. He established that the root causes that directly lead to teacher attrition include: economic incentives that encourage attrition, lack of incentives, government policies that encourage attrition, poor working conditions, limited alternative access to higher education, reforms, relevance of teacher training and community apathy.

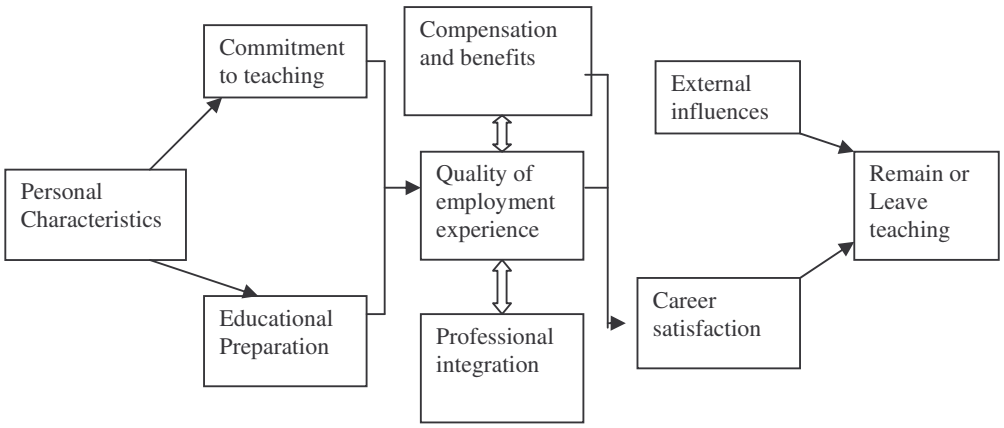
Chapman suggested a model (Figure 3.1) that summarizes factors associated with teacher retention. He notes that teacher retention is a function of six factors:

- Teachers' personal characteristics
- Education preparation
- Commitment to teaching
- Compensation and benefits

- Professional integration into teaching
- External influences

He established that these factors influence career satisfaction which in turn relates to a teacher's decision to remain or leave the teaching profession (Chapman, 1994).

Figure 3.1 Model of the influences of teacher retention



(Adapted from Chapman., 1994:15)

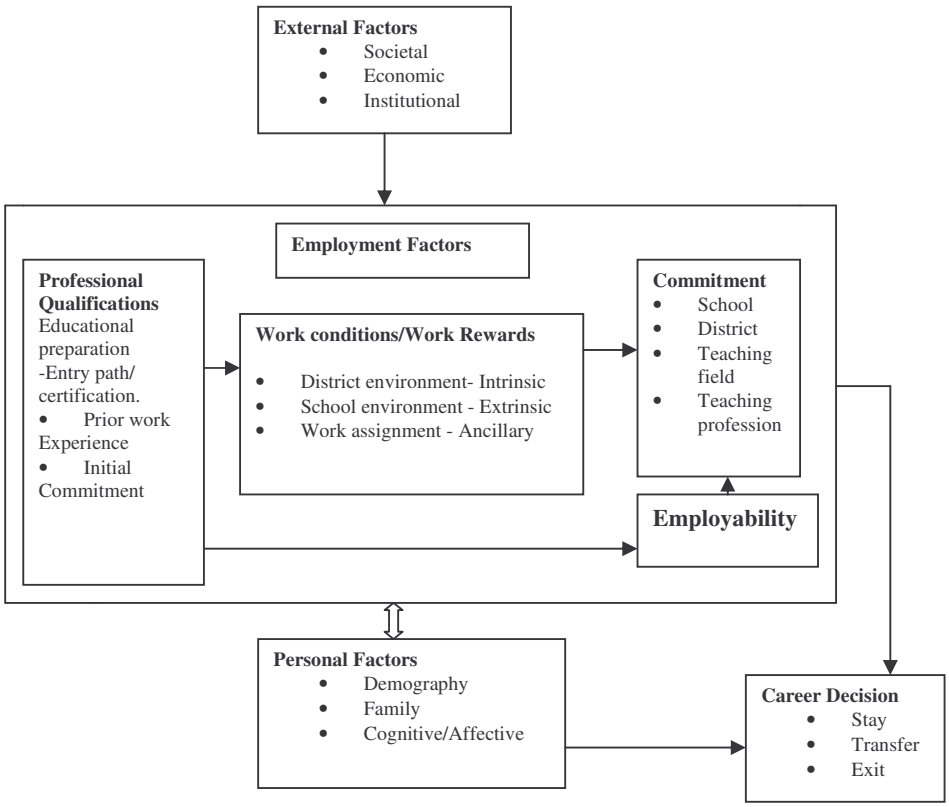
3.4.4 Billingsley's model

Finally, Billingsley, (1993) introduced a model which suggested that 'personal', 'employment' and 'external' are three elements that influence teacher attrition. Personal factors make up the first component of Billingsley's model and encompass demographic, family, and cognitive or affective variables. External factors include societal, economic and institutional variables that are external to the teacher and the employing organization. An example of the societal factor is lack of respect from the

community that is associated with the teaching profession. Economic factors include those that attract teachers to stay or decide to leave the profession. Good salaries, wages and other benefits provided by other organizations may attract teachers to leave their profession. Institutions that may influence a teacher's decision to leave or stay in the profession include colleges, universities and teachers' unions. Also, modifications or reforms introduced by the institutions may add extra work to teachers and as a result this may lead to demoralization of those who may want to leave.

Employment factors include professional qualifications, work conditions and rewards, and commitment. Professional qualification is generally linked to the importance of teachers' educational preparation before entry into the profession. It is observed that inadequate preparation leads to some teachers leaving the profession during their early career period. Other theories assert that the teaching profession provides an easier way of gaining entry to higher education (Chapman, 1994; Easley, 2000; Ingersoll, 2001; Macdonald, 1999). Teachers proceed with their studies and later leave the profession to join another. Poor working conditions and rewards in the teaching profession contribute to high rates of teacher attrition (Billingsley, 1993). Figure 3.2 (below) shows Billingsley's model:

Figure 3.2 A conceptual model of the influences of teachers' career decisions



(Adapted from Billingley, 1993:147

3.5 Studies on teacher attrition

A number of studies have been carried out on teacher attrition, and as these concur with Billingley's factors are dealt with in turn below.

3.5.1 Personal factor

Studies conducted so far agree that teacher attrition is strongly correlated with the individual characteristics of teachers. It is reported that the greatest cause of teachers exiting the profession is personal. Pregnancy, child rearing, health problem and family norms are major personal reasons that are cited. Studies also confirm that married women are more likely to quit teaching than unmarried. It is reported in a study that two-fifths of newly appointed teachers stated that they were told by family members that teaching was not a prestigious job and that they would be well-advised to quit (Ingersoll, 2001; Marlow & Inman, 1997; Stinebrickner, 2002).

Studies have also established that age and academic fields are related to teacher attrition. In relation to academic fields, teachers who teach Sciences and Mathematics are believed to leave the profession more than those in other fields (Ingersoll, 2001). Rates of attrition are then said to be more telling when they are mapped with respect to teachers' career and age. In relation to age, Kirby et al. (1993) suggested that a relationship between age and attrition is U-shaped, with the probability of attrition likely to be much higher during the early stages of the career. During mid-career it becomes low and rises as the teacher approaches retirement. They affirm that this theory holds true not only for a single cohort but over time as well. This theory has been recognized by several other commentators (Huberman, 1993; Arnold, 1993; cited by Macdonald, 1999:838). Thus, attrition is higher among teachers aged 20-24 years and lower among teachers of age 45-54. It becomes higher again among teachers aged

55 and above. The age range may vary in SSA countries due to reductions in life expectancy.

3.5.2 Employment factors

Working conditions as a factor that enhances teacher attrition has also been researched (Brownell & al., 1997; Ingersoll, 2003; Kadzamira, 2006; Macdonald, 1999), with most of these studies concluding that working conditions play a vital role in teachers' decision to quit teaching. Teachers who quit because of lack of job satisfaction indicated that student discipline, lack of support from school administration, and lack of teachers' influence on school rules as some of their reasons (Ingersoll, 2003). In his study, Macdonald (1999) established that in most countries where the study was carried out there was a strong concern that conditions within schooling and those shaping it had deteriorated, and consequently were causing teacher attrition. A revelation by Brownell (1997) asserted also that working conditions often precipitated disgruntled teachers' decision to leave. Class size, student behavior, lack of administrative support and lack of personnel and teaching and learning materials were also cited as major concerns.

Research findings also show that low salaries contribute to decisions to leave teaching. In her study, Darling-Hammond (2003) established that teachers' salaries were 20 percent lower than those of other professions, and this was supported by three-quarters of the teachers in a survey conducted by Ingersoll (2003), who indicated that lower salary made them quit. Other teachers believe that the remuneration is not a just one for

the job they do, and they reconsider the decision to become a teacher (Stinebrickner, 2002). Ingersoll (2001) reported of research that has shown that in addition to individual and personal characteristics of employees, the overall conditions of workplaces significantly affect the attachment of employees to the organization. He argues that working conditions set by the Ministry of Education make a strong contribution to whether teachers can stay or leave the profession.

Research into teacher turnover indicates also that the single most important predictor of retention is teachers' initial commitment to teaching as a career (Ingersoll, 2003; Kirby & Grissner, 1993). Thus, teachers with stronger commitment are believed to be more likely to remain in teaching. Chapman (1994) suggests that the most effective means to ascertain commitment is directly to ask the applicants about their long-term interest in teaching as a career. He observes that applicants who appear to have given little thought to teaching as a career are probably at higher risk of leaving the field than those who have eagerly anticipated becoming teachers.

In summary, a recent meta-analysis of 34 quantitative studies related to teacher attrition and retention, conducted with the aim of understanding why attrition occurs or what factors moderate attrition outcomes, used the odds ratio[1] to confirm that the above factors are critical for teacher attrition (Borman & Dowling, 2008). The study found

[1] The odds ratio is an appropriate summary statistic for dichotomous outcomes that are reported in a variety of ways but that most frequently take the form of relative frequencies or proportions. An odd ratio generally compares the relative odds of two groups. For instance, if the odds of attrition for female teachers are .22, or 2 to 9, and the odds for male teachers are .11 or 1 to 9, the ratio of these two odds is .22/.11, or 2. The odds ratio of 2 for this hypothetical comparison suggests that the odds of teacher attrition among women are 2 times greater than the odds for men. (See Borman and Dowling, 2008, p. 382-384)

that the odds of attrition are higher among teachers who are female, white, young and married and who have a child. Regarding teachers' qualifications, the odds of attrition are greater among those who have no degree, have specialized degrees in Mathematics and Science, have regular certifications and have more years of experience. Simply put, Borman and Dowling, (2008) found that attrition appears to be influenced by a number of personal and professional factors that are prone to change across the life span and career path. They affirm that the characteristics of teachers' working conditions are more salient for predicting attrition than previously noted in the literature. They further observed that various other conditions, such as higher salaries, teacher collaboration and networking, and administrative support, are related to retention and quite amenable to change.

3.5.3 Global patterns on teacher attrition

The literature reveals some variation in teacher attrition across countries, with developed countries appearing to have higher teacher attrition than developing ones. The USA seems to have higher figures of attrition than other countries, whilst SSA lacks comprehensive reports that might have shown trends in teacher attrition.

In the USA, while the figures for teacher attrition vary greatly from one state to the next, the problem seems to be grave. An analysis of teacher attrition that used data obtained from the National Centre for Education Statistics (NCES), Schools and Staffing Survey (SASS), and the Teacher Follow up Survey (TFS) indicated that:

> For example, 191,179 teachers newly entered the occupation for the 1990-1991 school year, however, in the following 12 months, 173,994 teachers-equivalent to 91 percent of those just hired-left the occupation altogether (Ingersoll, 2001:15).

Proper reasons for such turnover were not given by the report. In Germany, it has been reported that less than 10 percent of teachers reach normal retirement age, and in the United Kingdom (UK) the attrition rates for primary and secondary school teachers in 2004 were 10 and 7.2 percent respectively (Bennell, 2005c). The OECD (1996) reported that in the Czech Republic about 25 percent of newly qualified teachers did not even enter the profession (Macdonald, 1999).

In SSA, it has been expected that teacher attrition would increase in the face of the pandemic. Available reports however seem to suggest otherwise. It has been reported that in Botswana, Malawi, South Africa and Uganda, teacher attrition has been declining or has stabilized since alternative employment opportunities for trained teachers became scarce (Gottelmann-Duret & Hogan, 1998). Another research report from South Africa, by the Mobile Task Team (MTT), shows that teacher attrition in 1997/98 was 9.3 percent, dropping to 6.4 percent in 1999 and declining again to 5.5 percent, before rising to 5.9 percent in 2002/2003 (Mobile Task Team, 2005). In Namibia, total annual attrition rates among teachers are report to have increased from 7.2 percent in 1999/2000 to 8.2 percent, and then declined to 6.8 percent in 2001/2002. In other countries, the attrition appears low. For example, in Lesotho it is reported that

between 258 and 380 teachers, representing 3 and 4 percent of the teaching force, leave the profession within a year. In Mozambique, teacher attrition is estimated at 7 percent (Mulkeen & Chen, 2008). The Ministry of Education in Malawi estimated teacher attrition to be 4.5 percent of the primary teaching force (Ministry of Education, 2001). Table 3.1 (below) compares some teacher attrition figures.

Table 3.1: Teacher attrition in selected countries

Country	Attrition	Year	Source
UK	10	2000	Bennell, 2005
Czeck Republic	25	1996	Macdonald, 1999
USA	15.7	2000-2001	Ingersoll, 2003
South Africa	5.9	2002/2003	MTT, 2005
Lesotho	3-4	2008	Mulkeen and Chen, 2008
Namibia	6.8	2002	Bennell, 2005
Malawi	4.5	2001	Ministry of Education, 2001

Recently, mortality has become one of the factors of teacher attrition in SSA. However, recent work by Bennell (2005) established that teacher mortality rates (from all causes) did not exceed one percent in Southern African countries (Botswana, Lesotho, South Africa and Swaziland) during 2003-2004. The mortality rates are below one percent in Tanzania and Uganda, and around two percent in Malawi and Zambia. Actual mortality rates for teachers are reported to be generally much lower than the estimated mortality rates for teachers generated by standard AIDS-adjusted demographic projections. Furthermore, teacher deaths are said to account for less than 20 percent of total teacher

attrition in most countries, and less 10 percent of total teacher turnover. Teacher mortality rates are said to be falling or are reasonably stable in a significant number of countries (Bennell, 2009).

3.6 HIV and AIDS teacher attrition related studies in Malawi

The Ministry of Education in Malawi has been concerned about teacher attrition not only as a result of the epidemic, but as one of the factors that causes the quality of education to deteriorate further (Ministry of Education, 2001). The fact that HIV and AIDS is reducing the number of educators has aroused interest in researching this area, however little research has been carried out.

Some studies have been conducted but not solely on teacher attrition (Chawani & Kadzamira, 2004; Kadzamira et al., 2001; Moleni & Ndalama, 2004). A survey conducted in four districts indicated an overall attrition rate of 4.7 percent, although the rates are said to be higher (over six percent) in the other three predominantly rural districts (Karonga, Mulanje and Ntcheu). The study attempted to answer the following questions:

- What have been the extent, cause and impacts of teacher absence and attrition in primary schools, over the past year?
- What contribution does HIV and AIDS make to teacher absence and attrition?
- What would be suitable mitigation strategies to tackle problems of attrition and absence?

This study used a stratified random sample of 320 schools across four districts: Blantyre urban, Karonga, Mulanje and Ntcheu. A total of 1,941 teachers completed self-administered questionnaires. The study also carried out focused group discussion at 16 schools which were participated in by teachers, pupils and school committee members. District data was also collected. The study revealed the following:

- The overall attrition rate of schools visited was 4.7 percent, although rates were reportedly higher in the three predominantly rural districts.
- Teacher attrition in Blantyre (which is urban) was relatively low at 2.6 percent.
- Overall transfers accounted for 67 percent of teachers who had left their schools over the previous twelve months.
- Excluding transfers, the study reported that deaths accounted for 52 percent.
- Apart from a spike in death rates amongst 30-39 year olds, the study found it difficult to establish a clear pattern of higher death rates across the young age groups.
- The highest death rates are found amongst teachers over 50 years.
- The attrition rates are higher for male teachers and a greater percent of female teachers leave school on transfer following their husbands.
- Low pay, lack of other financial incentives and poor leadership and community relationship were also cited as reasons why teachers choose to resign.
- An estimated overall teachers' death rate of 2.5 percent was comparable to that of the adult population of 2.2 percent.

- 58 percent of teachers who died in the previous 12 months did so following an extended period of sick leave (Moleni & Ndalama, 2004).

In 2004 a study was also carried out on the impact of HIV and AIDS on the education sector (Chawani & Kadzamira, 2004). This study, however, examined the impact of the epidemic on governance in the education sector, focusing on staff at the central level, division and district offices. It used both quantitative and qualitative method, using interviews conducted with MOE employees at different levels, ranging from directors to clerical officers. Quantitative data is reported to have been collected from human resources and financial records. This study however, did not collect data from teachers, as it was concerned with support staff. Among others, the study revealed the following related to teachers' attrition:

- Death was the highest cause at 2.6 percent, followed by retirement at 1.7 percent.
- In most cases retirement staff had attained the age of 55 or had served the 20 years stipulated in the regulations.
- 47 percent of employees who left the Ministry had reached the age of 50, followed by 24.9 percent of employees between 30 and 34 years old.
- Between 1997 and 2000, 1.7 percent of annual attrition was due to primary school teachers who left the service, mostly on medical grounds.
- Death was the main cause of temporary teachers, which accounted for 85 to 95 percent of total attrition between 1995 and 2000.

- Attrition for female workers was highest in the 20-29 age groups, while male attrition exceeded female attrition from the age of 30 upwards.
- Most deaths, 77.4 percent, were among lower managers and support staff who made up the majority of the workforce.

In 2001, a report of another study was released (Kadzamira et al., 2001), having employed a variety of research methods. Primary data from a sample of primary and secondary schools in both urban and rural areas were collected, and interviews with key informants in education, health, finance, labor and other ministries conducted. Secondary data from a variety of sources, including demographic and statistical data, were used, and a sample of 11 schools (6 primary and 5 secondary) in Chiradzulu and Blantyre urban surveyed.

The study revealed the following among primary school teachers:

- In Malawi teachers are reported to be already dying at a faster rate than they can be replaced, although reliable, up-to-date staffing data was very hard to come by.
- 80 percent of primary school teachers were below 40 years old.
- The average annual mortality rate at the survey schools was 2.4 between 1996 and 1999.
- Mortality rates for female teachers in the surveyed urban schools had been increasing rapidly from 1.32 percent in 1996 to 4.05 percent in 1999.

- Mortality rates increased rapidly at urban primary schools from 1.09 percent in 1996 to 4.60 percent in 1999.
- Among female and male teaching staff, deaths peaked in the 19-29 and 30-34 age cohort respectively.
- According to EMIS data, total attrition of primary teacher staff has been around 5-6 percent per annum from 1997 to 2000.
- In 2000, the total of teacher deaths from all causes was less than 20 percent of total attrition.

Other studies on attrition have also been carried out in other sectors (UNDP 2002) and reported that the average attrition among qualified teachers and support staff in the MOEST was 1.6 percent from 1990 to 2000. Curiously, this was the lowest attrition among other ministries, as shown in table 3.2. (below):

Table 3.2: Staff attrition in different sectors in Malawi

Sector	**Average attrition rate (%)**
Ministry of Water Development	15.0
Ministry of Agriculture and Irrigation	4.8
Ministry of Health and Population	2.2
Malawi police service	6.1
Ministry of Education	1.6
Total	2.3

Source: UNDP, 2002: 107

3.7 How teacher attrition theories provide a framework for the study

Theories and studies on teacher attrition reviewed suggest that personal, employment and external factors are pivotal to teachers' decisions to leave the profession. This has been observed through revelations by the theories and studies reviewed above. Factors underpinning the appeals and human capital theories are similar, and it can be noted that the appeals theory articulates about personal factors. Interpersonal, service, safety, continuation and career appeals, express individual teachers' motives to remain or quit teaching. Human capital explains employment factors that contribute to teacher attrition. Non-monetary and monetary concerns, as examined by the theory, generally raise and provide issues about working conditions. Thus, good salaries, promotions, good housing, loan facilities, and access to higher education, are major concerns of the theory. Notably, Billingsley (1993) and Chapman (1994) have expounded on these same factors by isolating the issues in the theories and classifying them in the three categories, namely personal, employment and external factors. To this end, personal, employment and external factors were employed in this study in an attempt to understand teacher attrition in relation to HIV and AIDS in Malawi. These factors will be expanded to provide a working framework for the study.

To begin with, demographic, family and cognitive factors are personal ones that influence teachers' decisions to quit the profession. The studies conducted so far show that teachers, particularly women, do so because of pregnancies, child-caring and health problems. Similarly, it is said that young teachers of ages 20-30 are those who leave the

profession most frequently. These reasons need to be considered in association with the pandemic, particularly in relation to the issue of health problems. There is a need to determine whether teachers leave because of illness of a spouse. Some teachers who are infected or affected need to be close to home, where they can experience love from relatives, and health facilities where they can access anti-retroviral therapy. On the revelation that most young teachers tend to leave the profession, there is need to investigate whether this is done under the influence of the challenges caused by the pandemic. For example, would it be that their families want them to get well-paying jobs so that they can better assist in taking care of the orphans or relatives who are infected?

In addition, employment factors such as professional qualifications, work conditions, rewards and commitment have been cited as major issues that determine teachers' decisions to quit or remain in the profession (Borman & Dowling, 2008; Kadzamira, 2006; Mulkeen & Chen, 2008). With the spread of the pandemic, these factors require further research. A poorly trained teacher has a higher probability of quitting the profession due to lack of skills to cope with the demands of teaching. In the face of HIV and AIDS, more teachers would quit the profession because of the complex effects caused by the pandemic. Without proper skills to help orphans, children with HIV and AIDS and children who have taken responsibilities to take care of their families, it is likely that teachers will find the profession tough and may decide to quit. Pre-service and in-service training on skills to handle issues arising from HIV and AIDS would be

essential and there is a need to find out whether lack of such skills makes teachers decide to quit.

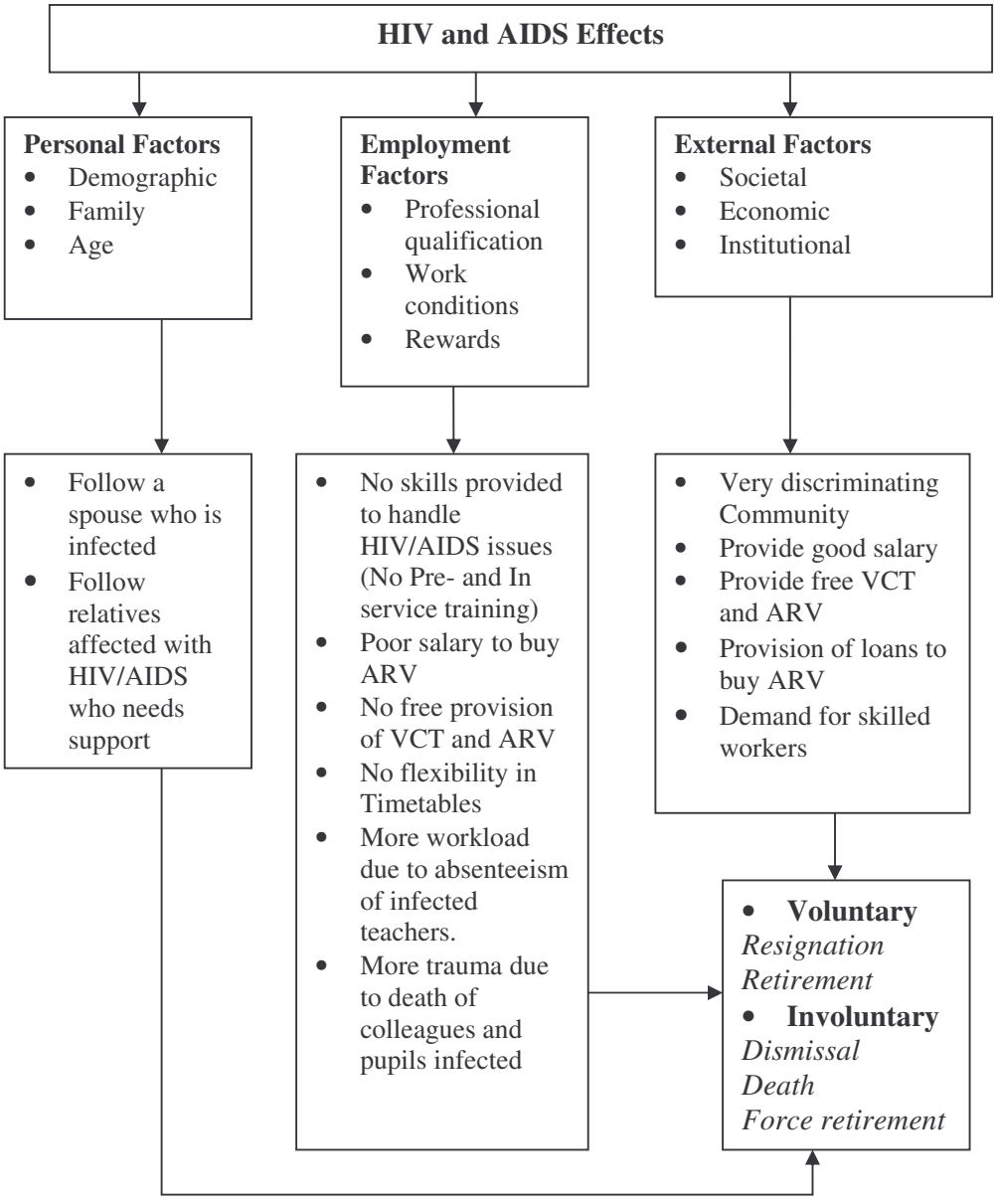
Also, studies on work conditions have revealed that teachers quit because of poor salaries, poor teaching and learning materials and lack of other benefits (Kadzamira, 2006; Moleni & Ndalama, 2004). In the face of HIV and AIDS, good working conditions would be essential to the teachers. Some teachers who are infected and affected would need a better salary to access ART. Teachers will also need to access nutritious food, thereby boosting their immune system. Some teachers who have taken on the responsibility of caring for orphans would need other amenities, and availability of loan facilities could help them. Denying access to these facilities may lead them to think of quitting. Policies that would allow provision of free VCT and ART to teachers who are infected appear lacking in most of the ministries of education in countries with high prevalence. This might also be the reason why teachers quit the profession. There is a need to investigate whether teachers are quitting because of poor working conditions in relation to HIV and AIDS.

Societal, economic and institutional arrangements are dominant external factors that could lead the teachers to quit the profession. On the societal level, studies have revealed that some communities are not friendly to teachers, while others look down upon the teaching profession, consequently making them decide to quit. There is however a need to investigate further whether lack of community support could be a result of HIV and AIDS. It is necessary to find out whether some of the characteristics

of the communities enhance stigmatization to the infected or affected teachers. For example, teachers who are HIV positive or have a spouse with AIDS might experience rejection from a community which believes that AIDS is a disease of people with promiscuous behavior. To some teachers this can also make them decide to move away from such communities, let alone out of teaching as a profession.

On the economic side of the external factors, the theories establish that some organizations provide better facilities or conditions that attract teachers. Thus, in an environment of HIV and AIDS, teachers who are infected or affected would find it better to move to such organizations so that they can access better facilities that could help them cope with the pandemic. For example, some organizations have established VCT services and also provide free ART. These facilities could attract teachers away from the teaching profession. Innovations that are happening in different Non Governmental Organizations (NGOs), as a result of HIV and AIDS, also could drive teachers away from the teaching profession to join those organizations. Several organizations have now institutionalized HIV and AIDS workplace policies that protect their employees from the epidemic. Some teachers therefore may move to such organizations in a quest for good facilities.

Figure 3.3: A model of HIV and AIDS influence on teacher attrition



3.8 Conclusion

The aim of this chapter was to review teacher attrition theories in an attempt to exploring what have been the pivotal factors that contribute to teacher attrition. The quest to understand how the impact of HIV and AIDS is affecting the education sector would be enhanced by integrating teacher attrition theories. Teacher attrition has been a concern for education ministries and has been researched.

Teachers do have certain appeals that attract them to join the teaching profession. If these are not found they usually tend to move to other organizations. These appeals could be personal, working conditions and other external factors. Poor working conditions and other rewards, such as poor salaries, lack of better working facilities, lack of professional training, are some of the factors that exacerbate teacher attrition. Teachers do then make systematic assessment of the net monetary benefits from different occupations and make systematic decisions to enter or leave a career. Such choices could also be influenced by family members, for example, when they encourage a relative to choose a well-paying job other than teaching.

Thus, teacher attrition has root causes which could be aggravated by the effects of HIV and AIDS pandemic. The challenge lies therefore in how to integrate these root causes of teacher attrition to theories of the impact of HIV and AIDS to education sector. Thus, one of the objectives of this study was to enhance that integration. The following chapter therefore explains how the study was conducted.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 Introduction

As has been mentioned, the purpose of the study was to examine primary teacher attrition in Malawi from 1996 to 2007, and find out what proportion of that attrition could be attributed to the pandemic. This was done by analysis of secondary data available in the Ministry of Education and a survey of primary school teachers in two districts. This chapter details the way the study was conducted, presenting the research design used, the population sample, methods of data collection and analysis, and issues of validity.

4.2 Research design

In an attempt to respond to the two research questions, the study employed two quantitative methods of data collection. A quantitative method was chosen because the study was for descriptive, explanatory and exploratory purposes, and used individuals as unit of analysis (Creswell, 1994; McMillan & Schumacher, 2001). First, the study used Education Management Information System (EMIS) and Human Resources Department (HRD) data available from the Ministry of Education to respond to the first research question: *what has been the primary teacher attrition between 1996 and 2007?* With this data, calculations and descriptions of patterns of teachers' age structure were drawn up for that period of nine years, and exploration of the causes of such patterns

undertaken. As mentioned, the use of available EMIS and HRD data is one of the methods recommended by researchers.

The second research question: *what proportion of the attrition could be attributed to HIV and AIDS?* was addressed by a survey of teachers in two districts, one with high prevalence (Blantyre), and the other with low prevalence (Dedza). The survey aimed to determine teachers' opinions and understanding about the effects of HIV and AIDS on teacher attrition. The survey borrowed some lessons from a study conducted by (Alkaabi, 2005), in which factors affecting teacher attrition in public schools were investigated in the United Arab Emirates. While Alkaabi looked at the factors that enhance teacher attrition, this study further aimed to link teacher attrition factors with HIV and AIDS.

Like other approaches, the use of EMIS or HRD data and school-based survey are reported to have some shortcomings (Boler, 2003; Desai & Jukes, 2005). For example one criticism of the use of EMIS data is that it only measures teachers who have died in service and thus misses out the number of teachers who die after leaving education on medical grounds. Nor does the information indicate AIDS as cause of death, and the use of school-based surveys are said to be characterized by high level of non-response, particularly on the questions of teacher mortality. In addition, the approach is potentially biased by the 'healthy-worker' effect. The healthy-workers effect describes a continuing selection process such that those who remain employed tend to be healthier than those who leave employment. To this effect, information collected from

people who are working could be influenced by their perceptions that they are healthier than those who are sick. This study does not address these shortcomings, however the methods do remain relevant as necessary sources of information

4.3 Population and sample

Two districts, one in the central region and one in the southern region, were purposefully selected for convenient and economical reasons. For convenience, low and high HIV prevalence districts were selected. The southern region had a high HIV prevalence of 17 percent, and the Blantyre district was chosen because it had the highest HIV prevalence, estimated at 27 percent (National AIDS Commission, 2005). One district in the central region, Dedza, was selected because it had a low prevalence rate, estimated at 8 percent.

Basic statistics from the Ministry of Education for 2006 indicate that Blantyre had 4,007 teachers and Dedza had 1,508 teachers, which made a total of 5,515 primary school teachers (Ministry of Education, 2006). This was therefore the population for the study. Blantyre district had more female teachers compared to Dedza, and had both rural and urban settings. In contrast, the Dedza district was more rural. The two districts were chosen for financial reasons, notably to minimize transport and accommodation costs.

4.4 Data collection and analysis

4.4.1 EMIS and HRD data

The electronic version of the national EMIS dataset for 1997, 1998, 2001, 2004, 2005 and 2006 was obtained from the Ministry of education. Electronic version of EMIS dataset for 1999, 2001, 2002 and 2003 was not available in electronic version. From the EMIS dataset I therefore extracted teachers' names, dates of birth and regions where they worked. After sorting the data by name, date of birth and regions, there were some data with missing information as illustrated in table 4.1 (below) and this data was not included in the analysis.

Teachers' ages were categorized in the following bands: 35 and younger, between 36 and 45, between 46 and 55 and between 56 and 65. The choice of these categories aimed to include the most affected groups in one category. In addition this was chosen to concur with global analysis for comparison purposes. Many studies that have analyzed teachers' age structure have used these categories (Siniscalco, 2002). In Malawi the retirement age is 65, and this is also the reason of including this age category. Teachers in these categories were counted and summed up at regional and district level and percentages calculated.

Table 4.1 Number of Teachers analyzed

Age Band	1997	1998	2001	2004	2005	2006
35 and below	36535	32101	37720	24768	23775	19196
36-45	6660	6329	10501	13045	14282	16064
46-55	3401	2613	3545	4056	4796	5776
56-65	633	452	1470	1966	2039	1851
Above 65	11	7	46	48	139	276
Missing data	130	132	162	69	43	34
Total	**47370**	**41634**	**53444**	**43952**	**45074**	**43197**

Source: Ministry of Education

As mentioned, Malawi has three regions and each region was assigned a code: 1, 2 and 3. Teachers were also coded according to gender (Male, 1 and female, 2). Since the EMIS dataset had teachers' date of births, these were converted into ages. An SPSS computer programme was used to analyze the entire dataset, with frequency and cross tabulation tables then generated and percentages calculated.

From HRD data, a total of 1,818 deaths were recorded between September 2000 and June 2006 (the time of data collection). Before 2000, the Ministry of Education appears to have had no complete data, and what was available was not disaggregated by region, gender or age band, thus handicapping the study. The intention of the study, as noted above, was to focus on disaggregated data. The HRD records only the name, date of death and the registration number of the deceased teacher. It was difficult to isolate teachers' gender by name. However despite these limitations, the available data still provided an insight into the causes of deaths of primary teachers in Malawi.

4.4.2 The survey

The questionnaire was designed by the researcher, reviewed by educational experts in teacher attrition and later pilot tested (Appendix 4.1). The questionnaire consisted of items on personal, employment and external factors. The items focused on HIV and AIDS issues that could contribute to teacher attrition. Research questions 5 to 7 were responded to by the questionnaire. Items numbered PF1 to PF19 collected personal demographic data such as age, gender and educational qualification of the respondents. The second set of questions collected employment factors, and these were numbered EmF1 to EmF19. The third set of questions collected external factors that could contribute to teacher attrition, and were covered by items ExF1 to ExF6

As has been mentioned above Blantyre and Dedza district were conveniently chosen because of high and low prevalence respectively. In addition, Blantyre provided an urban setting whereas Dedza provided a rural setting, useful for depicting the different patterns in HIV prevalence in Malawi. With the help of the Primary Education Advisors in the two districts, 60 schools were purposefully selected based on the following characteristics (a) schools that were accessible in terms of having a road which is passable during rainy season and (b) a combination of schools in urban and rural setting were selected. In Blantyre 32 schools were selected out of a total of 247 school representing 13 percent and in Dedza 28 schools out of a total of 212 schools were selected representing 13 percent. Out of these, 26 schools in Blantyre and 23 schools in Dedza making a total of 49 schools were visited, owing to a shortfall in funds. All teachers in the selected schools completed a self-administered questionnaire,

making a total of 819 teachers, with 536 in Blantyre (140 male and 396 female) and 283 in Dedza (129 male and 154 female).

The questionnaires were administered by the researcher. The researcher visited all the 49 schools twice. It proved difficult to administer the questionnaire on the same day since teachers were on duty at the time of the visit. The researcher suggested therefore leaving the questionnaires and collecting them on an agreed day. After briefing the purpose of the study to Head teacher, the questionnaires were left. This was more effective because teachers had their own time to complete the questionnaire and this might have helped in privacy. All questionnaires left in the visited schools were collected.

The analysis of the data collected was done by using SPSS computer programme. This was done by the researcher. As can be seen from the questionnaires, all the items were already coded and this meant the questionnaire were ready to be captured. Thus after having defined the characteristics in the programme, capturing of data started.

As a study which has used purposeful sampling, caution needs to be taken in using the findings to generalize for all teachers in Malawi. Although the schools were carefully selected, they might not be representative of all the teachers, due to other factors such as geographical, tribal and cultural differences between the districts and among schools.

Table 4.2 (below) illustrates the distribution of the sampled teachers in terms of gender and age. The sampled data shows that the majority of the teachers were aged between 36 and 45, followed by those aged between 26 and 35. This concurred with the secondary data analysis, thus, the number of teachers aged 35 and below have declined whereas teachers aged between 36 and 45 have relatively increased. Very few sampled teachers were in the age category of younger than 26 years, indicating that the system does not have many teachers in this category. This pattern appears similar to that of other developing countries where around 50 percent of the teachers are aged between 26 and 45 (Siniscalco, 2002).

Table 4.2: Respondents by age bands and districts

	Blantyre				**Dedza**			
	Male		**Female**		**Male**		**Female**	
Age	n	%	N	%	N	%	N	%
66 and above	0	0.0	0	0.0	2	1.5	0	0.0
56-65	3	2.1	9	2.3	13	10.1	10	6.5
46-55	14	10.0	49	12.4	13	10.0	18	11.6
36-45	71	50.7	169	42.8	56	43.0	56	36.1
26-35	50	35.7	164	41.5	44	34.7	68	43.8
Less 26	2	1.4	4	1.0	1	0.8	3	1.9
Total	140	100	395	100	129	100	155	99.9

4.5 Validity and reliability

Issues of validity and reliability were taken care of by using a random selection method in choosing the teachers, though this was distorted as mentioned above (Fraenkel & Wallen, 1990; McMillan & Schumacher, 2001). The questionnaires were sent to the experts in this field to look at the format and content and judge whether or not they were appropriate. After including the comments from the experts, the questionnaire was pilot tested in a primary school in Zomba district, which was not taking part in the survey. Eleven teachers took part in the pilot testing at the school. After going through the questionnaire the teachers observed that the questions were straight forward and did not see any ambiguity in the items.

4.6 Ethical considerations

Studies of HIV and AIDS that deal with human subjects must ensure that ethical issues are seriously taken into consideration. First, the researcher sought approval from the University of the Witwatersrand, and the Ministry of Education in Malawi to conduct the research. The researcher obtained written approvals from the University, under protocol number 2006ECE29 and the Ministry of Education in Malawi (Appendix 4.2). The Ministry of Education approved the conducting of the research in the two educational districts and also the use of the data in the Ministry (Appendix 4.3). Separate approvals were also obtained in the Central West Education Division, which is responsible for Dedza district, and in South West Education Division, which is

responsible for Blantyre district as well as from the District Education Managers for both districts (Appendices 4.4 and 4.5).

Before the interviews were carried out, there was a covering letter in the questionnaire seeking the consent of the respondents. The researcher ensured that before the interview began, the respondent had signed the consent form. The respondents were informed that participation was voluntary and if they felt like withdrawing from the study at any time they could do so. Confidentiality of the information collected was also assured. First, the data that was collected by the Ministry of Education was only analyzed by details other than names. Thus, names were erased from the data. Second, the informants remained anonymous by not writing or mentioning their names on the questionnaires.

4.7 Conclusion

In summary, this is a quantitative study that has used secondary data available in the Ministry of Education and carried out a survey among primary school teachers. The secondary data analysis provided responses to the first research question: *what has been the trend in primary school teacher attrition between 1996 and 2007?* The survey responded to the second research question: *what proportion of this attrition could be attributed to HIV and AIDS?* Education Management Information and Human Resources and data collected by the Ministry of Education since 1996 were analysed to find trends in age profile, teacher attrition and mortality, and causes of deaths. In the survey, 820 teachers completed a self-administered questionnaire to respond to items

that were related to the impact of HIV and AIDS. The next chapter presents detailed results of the secondary data analysis.

CHAPTER 5

RESULTS AND DISCUSSION

Primary teacher age structure and attrition in Malawi

5.1 Introduction

In the face of high HIV prevalence, teacher attrition is expected to rise, particularly for young female teachers living in urban areas. Education analysts in sub-Saharan Africa, where HIV prevalence is the highest globally, have predicted that the teaching profession would be incapacitated because of chronic illnesses and eventual deaths of large numbers of teachers (Castro et al., 2007; Coombe, 2002; Gachuhi, 1999; Jansen, 2007; Kelly, 2000; World Bank, 2000a). In countries like Malawi, with a prevalence rate estimated at 14 percent in 2005, it was expected therefore that many teachers would die or exit the education system for reasons related to HIV and AIDS.

As has been noted in Chapter 1, HIV prevalence has differential distribution according to age, geographic location and gender. The projected effects indicate therefore that females below the age of 35, and those residing in urban areas, would be more severely affected. Given the particular matter of infection, one would therefore hypothesize a significant reduction in teachers in these groups, mainly in high prevalence regions. More teachers would resign, retire, be dismissed or die because of AIDS illnesses or AIDS-related deaths.

For Malawi, the disturbing teacher attrition rate from all possible causes should be more than 5 percent, because, in the past, teacher attrition has been increasing by up to 5 percent (Ministry of Education, 2006; UNDP, 2002). Teacher attrition of more than 5 percent would possibly indicate adverse effects of the pandemic, although this could not automatically signify that HIV and AIDS is the main cause. In many other developing countries, teacher attrition has been as high as 10 percent without HIV and AIDS (Table 3.1). There are other factors that aggravate resignation, dismissals and even death. For example, poor working conditions in the teaching profession have recently been singled out as one major contributor to teacher attrition in Malawi, as well as other low income countries (Kayuni & Tambulasi, 2007; Moon, 2007; VSO, 2002). It requires, therefore, a careful analysis of teacher attrition to verify that teachers are exiting the system because of HIV and AIDS.

One approach to establishing a more reliable and valid picture of the effects of the pandemic on education is to carry out a trend analysis of teachers, focusing on the 'vulnerable group', that is female teachers aged 35 and below. As one focuses on the 'vulnerable group', one has to compare patterns among regions with different prevalence rates. Under conditions caused by the pandemic, one would expect declining numbers of teachers to be significant, particularly in the vulnerable group and in high prevalence regions. For Malawi, one would expect that in the period between 1996 and 2007, the effects of the pandemic should be clearly evident. Given the normal trajectory of the disease, in the absence of ART, teachers who contracted the virus in the late 1980s and early 1990s would be expected have full-blown AIDS, or to have died. Thus,

one would expect to see many younger women teachers exiting the system for reasons related to the demographics.

One important caveat needs to be reiterated, that is the difficulty in establishing reliable estimates of the number of teachers who resigned, retired or died because of HIV and AIDS. The trauma and stigmatization associated with the pandemic fosters secrecy and, as such, information should be interpreted with caution. Undoubtedly, however, if the mortality of teachers has increased over time, one would presume that HIV and AIDS provides one explanation. Although it is known that many other factors can contribute to mortality, such as accidents and other diseases, HIV and AIDS is the most likely factors that would explain dramatic shifts of the teaching force in the period of the late 1990s and the early 2000s. In this study I have therefore endeavored to examine the level and causes of teacher mortality and its causes for the past years. In doing so, this could give a holistic picture of the impact of HIV and AIDS on teacher attrition.

This chapter presents age structure, teacher attrition, mortality rates and causes of deaths of teachers in Malawi between 1996 and 2007. It has three sections, the first of which analyses the age structure of teachers. It begins with trends in numbers of primary schools to elucidate some of the nuances that exist in the counting of teachers, and exposes what could be the limitations in the interpretation of the results. The section then examines trends in age structure at national, regional and district level by gender. Analyzing and presenting data in this way is vital since this has usually been overlooked in many studies that have analyzed the impact of HIV and AIDS on

teachers. In many of these studies, aggregated data has been used. Providing disaggregated data at regional and district level therefore addresses one of the impediments in understanding the impact of HIV and AIDS on teachers, as requested by researchers (Table 2.1).

The second section illustrates and compares trends in teacher attrition, mortality and its causes across regions. Teacher attrition has been calculated by regions and by gender in an attempt to compare the trends among high and low HIV prevalence regions. As mentioned above, the southern region has a high prevalence whereas the northern and central regions have relatively low prevalence. The focus has also been on two districts, one with high prevalence, Blantyre (in the southern region), and the other with low prevalence, Dedza (in the central region).

The final section is a conclusion which locates the findings in the context of the impact of HIV and AIDS. Generally, the outcome of the analysis suggests that there has been a shift in the age structure of teachers in Malawi, from one dominated by under-aged teachers in the mid-1990s, to one 9 years later that shows a more even distribution, and with a higher proportion of teachers in the middle age band. What does the age structure analysis suggest about the impact of HIV and AIDS on the Malawi primary teacher corps? The age structure analysis shows that the great influxes of new young teachers in the mid-1990s are now aging into their mid-careers. This is in contrast to a 'collapse' scenario, which would suggest that a system constantly trains and recruits new young teachers to replace whose who have suffered from AIDS.

5.2 Primary teacher age structure

5.2.1 Trend in primary school teachers

Primary schools in Malawi are owned by government, Local Education Authorities (LEA), Religious Agencies (RA) and individuals. Trends in ownership show that the government does not own many primary schools but schools owned by LEA, government and RA are considered public. Schools that belong to individuals and some agencies are private.

Table 5.1 (below) shows the status of primary education in Malawi in terms of school, enrolment, teachers and pupil-teacher ratio. The table illustrates that there has been a dramatic increase in the number of schools as well as enrolment, and this could be a result of FPE introduced in 1994. The increase in pupils seems to have put pressure on a number of teachers. Subsequently, the increase in teachers has not necessarily followed the increase in learners, as evidenced by the increase in pupil–teacher ratio. While the table shows some incompleteness and inconsistency in the data, there is evidence that many teachers left the system between 1997 and 1998 as well as between 2001 and 2004.

The number of teachers increased between 1999 and 2000, with reports suggesting that this increase was as a result of 4,000 teachers being recruited in 2000 (Actionaid, 2007; Kunje, Lewin, & Stuart, 2003). It is also reported that between 2000 and 2004, 4,000 teachers left the service and a further 2,071 left in 2006 (Actionaid, 2007). This is supported by other studies (Bennell et al., 2002; Kadzamira et al., 2001; Moleni &

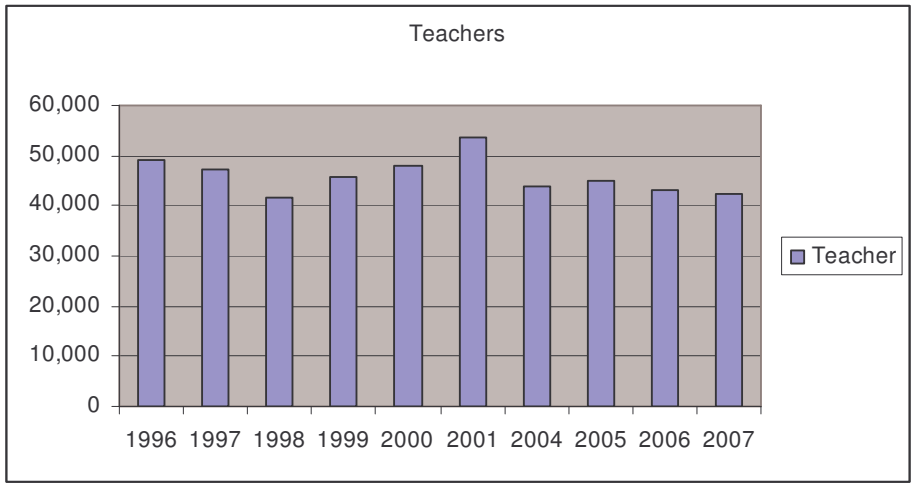
Ndalama, 2004; UNDP, 2002), which show that primary school teacher attrition has been a concern for many years. For example, analysis of teacher attrition by UNDP (2002) indicates that attrition has been increasing since 1994, from one percent to about 1.6 percent in 2000. The common reasons cited for teacher attrition were deaths, retirements, resignations and dismissals (UNDP, 2002).

Table 5.1: Trends in primary schools, pupils and teachers, 1996-2007

Year	Schools	School % Change	Pupils	Teachers	Teacher % Change	Pupil Teacher Ratio
1996	3,706		2,887,107	49,138		59
1997	3,761	1	2,905,050	47,370	-4	61
1998	4,025	7	2,805,785	41,634	-12	67
1999	4,481	11	2,896,280	45,812	10	63
2000	4,525	1	3,016,972	47,840	4	63
2001	4,857	7	3,187,835	53,444	12	60
2004	5,113	5	3,166,786	43,952	-18	72
2005	5,159	1	3,200,646	45,074	3	71
2006	5,231	1	3,280,714	43,197	-4	76
2007	5,307	2.0	3,306,926	42,330	-2	78

Source: Ministry of Education data, 1996 to 2007

Figure 5.1 Trend in primary teachers, 1996-2007



Source: Ministry of Education data, 1996 to 2007

A further breakdown of teachers is displayed in Figure 5.1. (above), with the figure suggesting that Malawi was experiencing a steady decline in the number of teachers between 1996 and 1998. This began to change with a massive recruitment drive which led to a dramatic increase in number of teachers beginning in 1999, reaching a highpoint in 2001. The hiring of new teachers stopped after 2001 and the number of teachers in the system declined dramatically in the next few years, to levels comparable to those before the surge in new hiring.

One possible interpretation of these statistics would be that the decline in number of teachers could be a result of the effects of the pandemic. Many teachers exited the system, either because of death or because of sickness. Massive recruitment was necessary, but when new recruitment stopped, the effects of the pandemic again became evident. This interpretation however could be wrong. Firstly, it is not certain

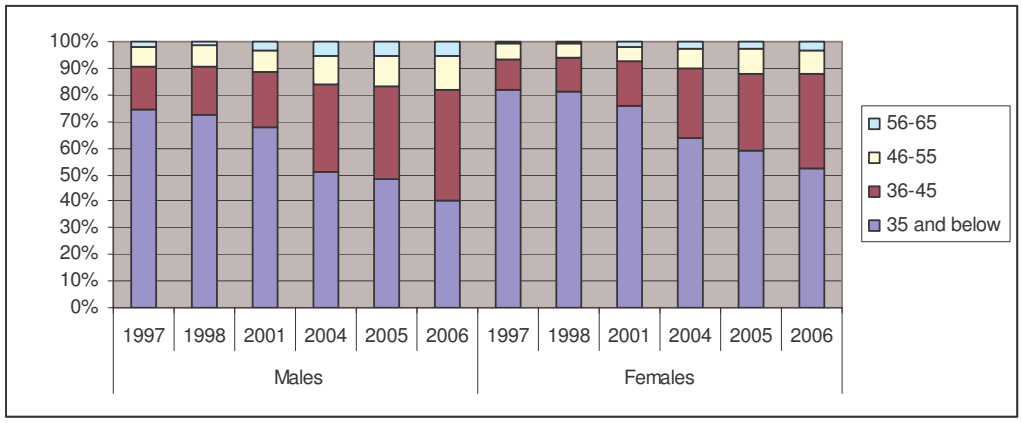
that the statistics are reliable, due to fluctuations in the number of teachers. It is possible that the inconsistencies in the data could be a result of flaws in collection. There is also a possibility that some schools, together with teachers, were left uncounted. There is also a problem of 'ghost teachers', which the Ministry has been experiencing, these being teachers who have left the system for various reasons but who have not been deleted from the payroll (Ndala, 2003). District education offices, for example, would maintain names of the teachers who left the system on the payroll to benefit from their salaries. The appearance of these names in the system could contribute to variations in the numbers.

A second, equally likely interpretation is that the decline associated with the period 2001 to 2004 is a result of teacher disillusionment. The implementation of poor teacher training that was effected with FPE, in addition to poor working conditions, could have frustrated the teachers and caused them to leave the system. As evidenced from a report, many of the teachers who were recruited due to FPE dropped out either due to poor conditions or because they could not complete the course through failure (Kunje et al., 2003). This cohort had recruited teachers with only a Junior Secondary Certificate of Education which is a weak qualification because it is written at the mid of secondary education unlike Malawi Schools Certificate which is a final certificate for secondary education. Given these alternative reasons, it would be necessary to be cautious in concluding that the patterns associated with the increases and declines of teacher numbers illustrates the impact of the pandemic.

5.2.2 National primary teacher age structure

The primary sector in Malawi has been dominated by male teachers (about 61.6 percent), at least for the past ten years. Current trends, however, show a shift towards female dominance. The percentage ages of the teachers reveal that the largest category is of age 35 and below, and these have been declining. The second category belongs between 36 and 45. The third category is aged 46 to 55 years, and the final category constitutes 56 to 65. Figure 5.2 (Below) shows the national teacher percentage age structure by gender.

Figure 5.2: National primary teacher percentage age structure by gender, 1997-2006



Source: Ministry of Education: 1997-2006

One can observe a declining proportion of teachers aged 35 and below, and an increasing pattern in those aged between 36 and 45, for both male and female teachers. In particular, the percentages of both male and female teachers aged 35 and below have declined by about 30 percent, whereas those aged between 36 and 45 appear to have

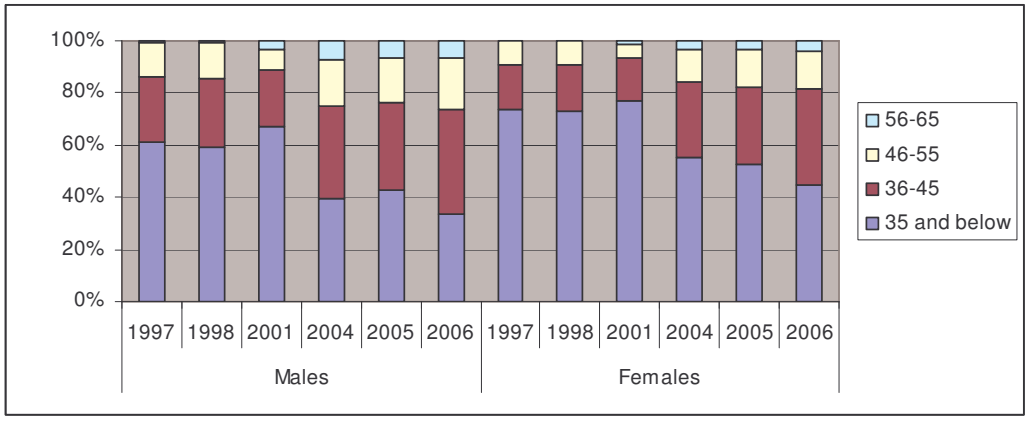
increased by 25 percent, for both males and females. This could demonstrate aging of the teaching corps aged 35 and below. Thus, teachers who were young in 1997 have aged and are integrated in the next age cohort between 36 and 45. Teachers aged between 46 and 55, and those aged between 56 and 65 appear to have increased, but slowly. It is likely that a generation of teachers employed soon after FPE are gradually growing and moving into the age band of 36 and 45.

5.2.3 Regional primary teacher percentage age structure

Figure 5.3 (below) shows the trend in percentage age structure by gender in the northern region. As can be seen, the four main categories of teachers who dominate at national level also appear at regional level. Both percentages of male and female teachers aged 35 and below have declined by 20 percent from 2001 to 2004, and later declined, though very slowly. Both male and female teachers aged between 36 and 45 have generally increased by 15 percent.

Percentage of teachers aged between 46 and 55 appear to have increased but very slowly like those aged 56. As with the national level, the trend in the northern region show aging of teachers.

Figure 5.3: Northern region primary percentage teacher age structure by gender, 1997-2006

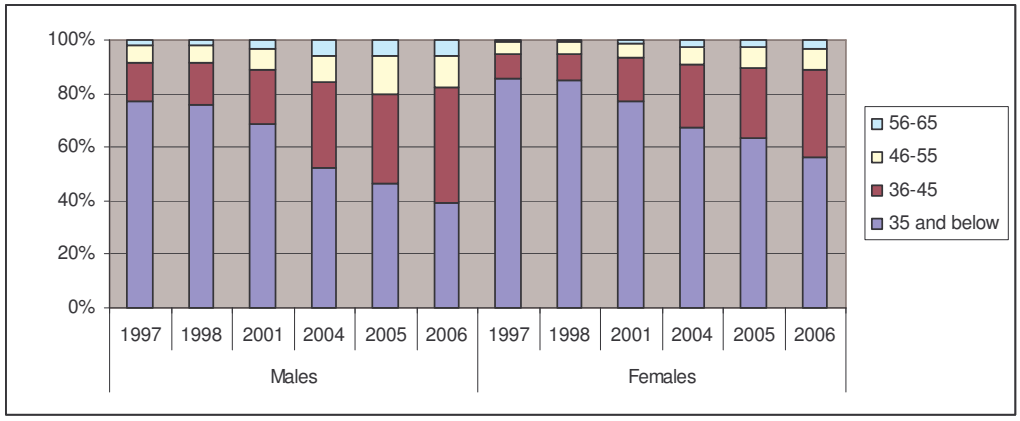


Source: Ministry of Education: 1997-2006

Figure 5.4 (below) demonstrates the percentage age structure of teachers in the central region. The figure shows that both male and female teachers aged 35 and below have generally declined. Male teachers have declined by 40 percent and female teachers by 30 percent from 1997 to 2006.

Percentages of teachers aged between 36 and 45 have increased. Male teachers have increased by 25 percent whereas female teachers have increased by 20 percent. The rest of the categories have also increased but very slowly. Also the pattern for the central region shows aging of the teaching corps.

Figure 5.4: Central Region primary teacher percentage age structure by gender, 1997-2006

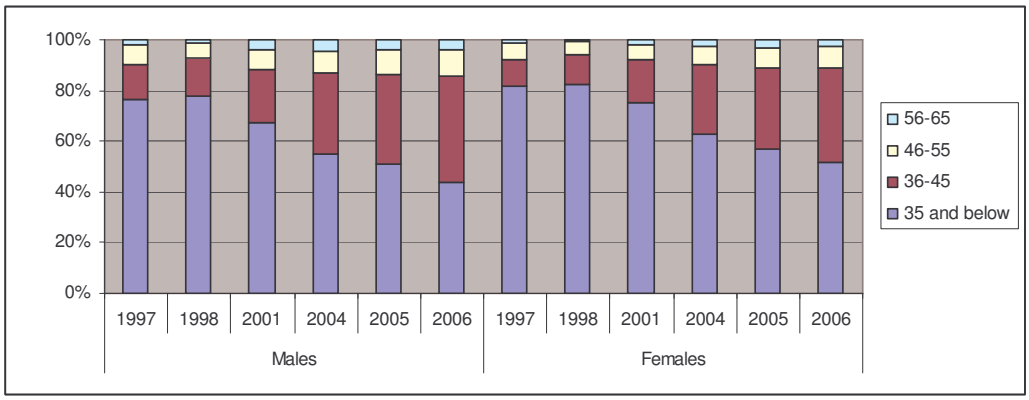


Source: Ministry of Education: 1997-2006

Figure 5.5 (below) illustrates the trends in teacher percentage age structure in the southern region. The figure shows that both female and male teachers aged 35 and below have declined steadily, with a notable decline in 2001. Male teachers have declined by 35 percent whereas female teachers have declined by 30 percent.

Percentages of teachers aged between 36 and 45 have increased, with male teachers increasing from 15 percent to 40 percent and female teachers increasing by 25 percent. Teachers aged between 46 and 55 appear stable and those aged above 56 have slightly increased. Thus, there is also an aging pattern being displayed in the southern region.

Figure 5.5: Southern region primary teacher percentage age structure by gender, 1997-2006



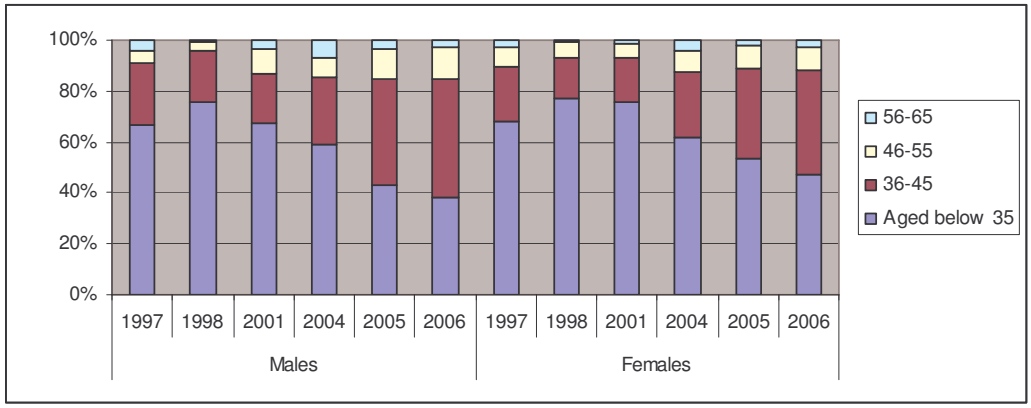
Source: Ministry of Education: 1997-2006

5.2.4 Blantyre and Dedza districts primary teacher percentage age structure

This section compares the percentage age structures between the two districts: Blantyre and Dedza. Figure 5.6 (below) shows the age structure of teachers in Blantyre district. As can be seen, the number of teachers aged 35 and below have generally decreased, but with a notable increase in 1998. Both male and female teachers in this category have declined steadily, by 20 percent.

Noticeably, male teachers aged between 36 and 45 appear stable from 1997 to 2001, whereas female teachers in this category show a slightly declining trend from 1997 to 2001 and later increased since 2004. The other categories, for both male and female teachers, appear stable.

Figure 5.6: Blantyre primary teacher percentage age structure by gender, 1997-2006

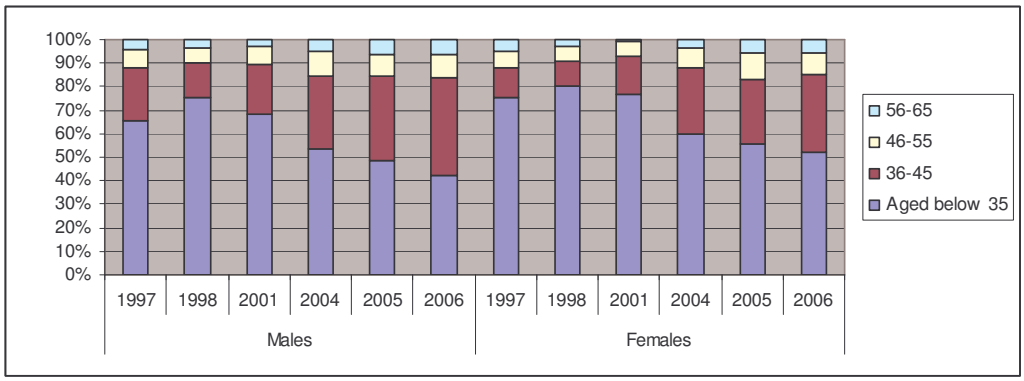


Source: Ministry of Education: 1997-2006

Figure 5.7 (below) shows the trends in teacher percentage age structure in Dedza district. As can be seen, there has been a decline in male and female teachers aged 35 and below with a slight increase in 1998. As with the regional level, there is a decline in these teachers between 2001 and 2004. Overall percentages of both male and female teachers in this category have declined by 20 percent from 1997 to 2006.

Percentages of teachers aged between 36 and 45 have also increased steadily from 20 percent to 40 percent in males and from 10 to 20 percent in females. The other categories have remained stable. Thus, there are no significant differences in decline between male and female teachers in Dedza.

Figure 5.7 Dedza primary teacher percentage age structure by gender, 1997-2006



Source: Ministry of Education: 1997-2006

The results from this analysis demonstrate little difference in percentage age structure patterns between areas with high and low HIV prevalence. What comes out is that the decrease in proportion of teachers aged 35 and younger has been observed at both regional and district levels. Generally, the patterns are similar, with decline in teachers aged 35 and below, and increase in teachers aged between 36 and 45. Also, there are few differences in declining patterns between male and female teachers. What the patterns illustrate is a typical age cohort transition that is taking place. Young teachers who joined the system before 1997 are aging and transitioning into the next age bands. It is seen that the declining proportion of age band of teachers younger than 35 is being transformed into the corresponding increasing proportion of teachers aged between 36 and 45.

5.2.5 Teacher age structure and the collapsing thesis

The first and most important insight that frames this analysis of teachers and AIDS in Malawi is the recognition that the age structure underwent a significant shift in the nine year period from 1997 to 2006. In the initial period, prior to 1997, the vast majority of teachers in the system (80 percent) were in the youngest age band. Over the period of review, the average age increased from 27 years of age in 1997 to 37 years in 2006, and the majority of teachers changed from the age band of 35 years or younger to age band of between 36 and 45 years. The proportion of male teachers below the age of 35 declined from 80 percent to 40 percent in the period, whereas female teachers in this age band declined from 80 percent to just over 52 percent. In other words, the education system as a whole, in 1996, shortly after the rapid expansion that followed the abolishing of school fees and the rapid expansion of the teacher corps, employed teachers who were very young, mostly in their middle twenties. Nine years later, the teaching corps numbers had stabilized and the typical teachers, both male and female, where now in their mid-thirties.

If the assumption about AIDS devastating the education system was accurate, one would have expected a far different pattern. If large percentages of teachers were infected, then by the mid 2000s many would be dying, and the education system would have experienced a dramatic decline in the total number of teachers. It is likely that the Ministry of Education would have considered short-term stop-gap measures such as employing retired or unqualified teachers. That way, one would have expected either a drop in the average age of teachers or an increase in the overall proportion of those in

the youngest or the oldest age band. This would be particularly noticeable amongst female teachers and those in the regions or districts with high prevalence rates. However, the analysis of the data certainly does not support this assumption. At regional and district level the pattern is similar.

As demonstrated, in the northern region, the proportion of male teachers aged 35 and younger has declined from 60 percent in 1997 to 35 percent in 2006. A similar pattern is evident amongst female teachers, with the proportion of total teachers in the youngest age band declining from 70 percent in 1997 to 42 percent in 2006. Male teachers aged between 36 and 45 have increased from 23 percent to 40 percent, whereas females in this category have increased from 18 percent to 40 percent. In other ways this demonstrates an overall loss of 8 percent males and 6 percent female teachers from all causes, and this includes teachers who might have moved from one region to another. It is clear that these figures do not portray a serious loss of teachers in the transition from one category to the other within a space of nine years.

While the starting point of the transition in the age structure varies across regions, the overall trend is consistent. In the central region, male teachers aged 35 and younger have declined from 79 percent to 40 percent, whereas female teachers have declined from 89 percent to 58 percent. Male teachers aged between 36 and 45 in this region have increased from 17 percent to 41 percent, whereas females have increased from 10 percent to 30 percent. The central region shows an overall loss of more teachers in the age transition than the northern region, with 15 percent males and 11 percent females.

The transition of the age structure in the southern region shows that male teachers aged 35 and younger have declined from 78 percent to 45 percent from 1997 to 2006, whereas female teachers have declined from 82 percent to 50 percent. Male teachers aged between 36 and 45 in this region have increased from 18 percent in 1997 to 40 percent in 2006, whereas female teachers in this category have increased from 10 percent to 38 percent. This demonstrates a transitional loss of male teachers aged below 35, around 12 percent, and a relatively small transitional loss of female teachers, around 3 percent. Evidently more male teachers leave the profession than females, and in the southern region this can be further enhanced by economic activities, as in the central region. A transitional loss of 12 percent for males therefore appears plausible in the Southern region, just as the 15 percent in the central region. What seems unusual is the 3 percent age transition for female teachers.

The resultant age transition rate in teachers in the two sampled districts portrays similar trends, with female resultant teacher loss being the same, around 4 percent and 5 percent to male teachers. Thus district age transition provides a teacher loss of about 5 percent, which corresponds to teacher attrition revealed by EMIS data.

In cases where HIV and AIDS is causing a ‘crisis’, one would expect a different profile, with more teachers aged 19-45 years getting out of the system and, simultaneously, new ones, aged less than 20 years, being recruited annually. One would therefore expect more teachers younger than 25 to be dominating the profession. At the same time one would have few teachers in the ages above 46 years. This is not the case, as

demonstrated by the age structure. Most of the teachers are over 30 years, signifying that there has not been a large recruitment of teachers. Teachers, who were recruited in 1994/1995, after the introduction of FPE, have remained in the system and are now aging. It is unlikely, therefore, that the age profile for the past ten years has been greatly influenced by HIV and AIDS, and certainly not to the extent of a constituting a 'crisis'.

Besides, the age profile revealed by this analysis seems typical of other countries' teacher structures (Siniscalco, 2002). The percentage age structure indicates that Malawi has over 50 percent of its teachers aged less than 35 years. This is in line with a global analysis which asserts that the proportion of younger teachers in the system is highest in many of the least developed countries, ranging between 55 and 65 percent (Siniscalco, 2002). It is suggested that this pattern is a result of demographic growth and expansion of enrolment, and unattractive working conditions that are leading to high rates of departure from the teaching profession for better paying jobs. This is also attributed to lower average life expectancy. The percentage age structure portrayed by Malawian teachers suggests a global pattern which might be influenced by other factors, including HIV and AIDS.

What does the transition of age structure suggest about the thesis that education would collapse due to HIV and AIDS? As has been mentioned above, teacher age structure does not provide robust evidence about the impact of HIV and AIDS compared to mortality rates. It does however still provide some insights that suggest the pandemic had little impact in the past nine years. First, it would be naïve to suggest that the

pandemic had no impact on teachers, but it would also be exaggerating to suggest that the resultant teacher losses in the age transitions are a result of the effects of the pandemic only. As mentioned above, it is likely that other factors, such as seeking better jobs, following spouses, and transfers, could have contributed to the loss of teachers in the regions. Possibly the effects of the pandemic were felt in the central region where the loss appears higher. However, this is not a valid conclusion because the southern region, including Blantyre district, with high prevalence rates, shows relatively low teacher losses. Besides, it is apparent that more male teachers have been lost in the transition than female teachers, contrary to the expectations. More female teachers were expected to be lost because of the higher prevalence rate among young females. The loss of more male teachers than female teachers could be normal and typical in an environment without HIV and AIDS.

As has been revealed by some studies on attrition (Ingersoll, 2001; Kirby & Grissner, 1993; McCreight, 2000; Siniscalco, 2002), teaching as a profession is dominated by female teachers, particularly in developed nations, and many women appear to stay in the profession. In Malawi, although the profession could be dominated by males, female teachers remain in the profession for long periods because it provides them with time to do other household chores (Mulkeen & Chen, 2008). This could be the reason female teachers stay longer in the profession. Female teachers are also encouraged to remain in the profession to motivate girls. Male teachers, especially those under the age of 35, are more likely to leave since they would want to get well-paying jobs (Kirby & Grissner, 1993). Although teaching is highly regarded by women, to men it is usually a

steppingstone to other well-paying and prestigious jobs. With these explanations, it is unlikely that the pattern observed in the age transition portrays a situation adversely affected by the pandemic.

In addition, as has been explained, the selection of Blantyre and Dedza district was to compare patterns of age structure transition between these high and low prevalence districts. In a severe crisis in the teaching profession resulting from AIDS epidemic, one would have observed declining patterns in female teachers aged 35 and younger and those aged between 36 and 45, these being the age categories of adults who have high prevalence rates in Malawi (National AIDS Commission, 2005). Any unusual decline would have been noticed more in Blantyre district than Dedza district. Not only were there no declining patterns of teachers but also an increase in the number of young teachers, as well as old teachers in Blantyre, due to new recruitments. In the worst-case scenario, the Ministry of Education would have allowed retired teachers to remain in the system and hired more young teachers to replace those who had left. The patterns as revealed above do not support this interpretation. It is unlikely that the impact of HIV and AIDS has adverse effects. What is revealed here is therefore a typical aging of teachers who were recruited soon after introducing FPE and a gendered pattern that has dominated the teaching profession in Malawi. This has consistently been demonstrated in all the regions, including the two selected districts.

Two factors worth mentioning as we sum up this section, the first is that the distribution of teacher age is not only influenced by the actual chronological age of teachers, but

also the age at which teachers start teaching. The analysis in this study has tended to focus on teachers who start their teaching training at early ages than those who start later in life or who were recruited later. This is because Malawi has maintained a system of recruiting secondary school graduates to go for teacher training.

The second is that the ageing pattern observed in the data could probably be driven mainly by a combination of age transition and attrition. But a tracer study may be needed to pronounce a more confident judgment on the relative impact of these two factors. Such a time and resource consuming methodology was clearly beyond the scope of this study.

5.3 Primary teacher attrition and mortality in Malawi

This section analyses teacher attrition and attempts to link it to HIV and AIDS. To calculate teacher attrition I obtained the number of teachers who left the ministry for various reasons, either in a particular region or district, disaggregated by gender. Teacher attrition is the number of teachers left in a particular year divided by total number of teachers in that year and multiplied by a hundred (Bennell et al., 2002; UNDP, 2002). To obtain numbers of teachers who left the system for various reasons from 1996 to 2007 was not possible. Malawi had no proper records of teachers who exited the system stating their reasons until 2004. While the newer dataset provided important information on causes of death, it was limited since the ages of teachers were not captured, making the age structure analysis impossible. However, one can still observe the trend of teacher attrition over the past four years.

5.3.1 National teacher attrition by cause

Table 5.2 (below) presents the statistics on teacher attrition by deaths and retirements from 1996 to 2007 at national level. Data from 1999 to 2000 was obtained from an analysis done by UNDP (2002), whereas the rest of the data is EMIS data collected from the Ministry of Education. As can be seen, deaths and retirements were some of the causes of teacher attrition in Malawi, rising from 0.8 percent in 1996 to 2.3 percent in 2004. The table illustrates a dramatic increase in the annual number of teachers who died, marking a threefold increase from 246 in 1996 to 787 in 2004, before declining to 500 in 2007. In percentage terms, the mortality rate of teachers increased from 0.5 percent in 1996 to 1.6 percent in 2004, representing a 1.1 percent increase. This is very noticeable, despite the emergent declining trend. The number of teachers retiring also increased, but this is not as noticeable as the number who died. Teacher retirement was below one percent since 1996, with a noticeable rise in 1998. Teacher retirement increased over the years and has started declining. Thus, since 1996, comparing retirements and deaths as main contributing factors to teacher attrition, death was the main cause of teacher attrition.

Table 5.2: National teacher attrition by cause, 1996-2007

Reason		1996	1997	1998	1999	2000	2004	2005	2006	2007
Total teachers in post	N	49,138	47,370	41,634	45,812	47,840	43,952	45,074	43,197	42,330
Death	N	246	302	472	531	453	787	737	618	500
	%	0.5	0.6	1.1	1.2	0.9	1.6	1.6	1.4	1.2
Retirement	N	168	228	332	294	218	217	280	239	203
	%	0.3	0.5	0.8	0.6	0.5	0.5	0.6	0.6	0.5
Attrition	N	415	531	805	826	672	1004	1019	858	704
	%	0.8	1.1	1.9	1.8	1.4	2.3	2.3	2.0	1.7

Source: UNDP, 2002, p, 34; MOE, Basic Statistics, 1996-2007

Table 5.3 (below) demonstrates teacher attrition by gender, giving various reasons from 2004 to 2007 at national level. Evidently, teacher attrition was higher (4.0 percent) for male teachers than females (3.5 percent), though it appears to have declined noticeably in male teachers. Death has been the main cause of teacher attrition, with the same average death rate (1.5 percent) for both males and females. The good news is that there has been a declining trend in the number of teachers dying in both gender groups. Worth noting also is that dismissal has been the second main cause of attrition for both male and female teachers, and surprisingly it is increasing. This is unusual because resignation and retirement have usually been on increase than dismissal. It is likely that the Ministry of Education has taken strong measures in dealing with undisciplined teachers. These are teachers who abuse pupils, abscond from duties and run businesses. It is however unlikely that increase in dismissal is because of the effects of the pandemic. This requires close monitoring to find out what is causing the increase in dismissal.

Table 5.3: National teacher attrition by gender and cause, 2004-2007

National		Males				Females			
		2004	**2005**	**2006**	**2007**	**2004**	**2005**	**2006**	**2007**
Total Teachers in post	n	27,104	28,278	26,983	26,341	16,842	16,797	16,304	15,989
Died	n	471	451	378	320	316	286	240	180
	%	*1.7*	*1.6*	*1.4*	*1.2*	*1.9*	*1.7*	*1.5*	*1.1*
Dismissed	n	99	256	274	154	98	137	147	75
	%	*0.4*	*0.9*	*1.0*	*0.6*	*0.6*	*0.8*	*0.9*	*0.5*
Prolonged illness	n	105	85	102	54	76	70	47	46
	%	*0.4*	*0.3*	*0.4*	*0.2*	*0.5*	*0.4*	*0.3*	*0.3*
Resigned	n	173	184	169	175	71	65	61	80
	%	*0.6*	*0.7*	*0.6*	*0.7*	*0.4*	*0.4*	*0.4*	*0.5*
Retired	n	217	195	162	164	97	85	77	39
	%	*0.8*	*0.7*	*0.6*	*0.6*	*0.6*	*0.5*	*0.5*	*0.2*
Total Attrition	n	1065	1171	1085	867	658	643	572	420
	%	*3.9*	*4.1*	*4.0*	*3.3*	*3.9*	*3.8*	*3.5*	*2.6*

Source: Ministry of Education: 2004-2007

5.3.2 Regional teacher attrition by cause

Table 5.4 (below) illustrates teacher attrition by cause in the northern region, from 2004 to 2007. As with the national level, there has been a declining trend in teacher attrition for both male and female teachers, for certain reasons. Overall, since 2004 teacher attrition has been almost the same, with 3.4 percent for males and 3.3 percent for female teachers. Death has been the main cause of attrition in the region with more

women dying than men, but these have since declined. Retirement has been the second cause of teacher attrition in the northern region, with a relatively similar pattern for both male and female teachers. Markedly, the number of teachers who became ill for a long time decreased, as did the number of teachers who resigned.

Table 5.4: Northern region teacher attrition by gender and cause, 2004-2007

Northern Region		Males				Females			
		2004	**2005**	**2006**	**2007**	**2004**	**2005**	**2006**	**2007**
Total Teachers in post	n	5,331	6,244	5,628	5,521	2,546	2,728	2,547	2,553
Died	n	71	73	52	57	45	43	34	19
	%	*1.3*	*1.2*	*0.9*	*1.0*	*1.8*	*1.6*	*1.3*	*0.7*
Dismissed	n	36	24	12	25	13	12	11	13
	%	*0.7*	*0.4*	*0.2*	*0.5*	*0.5*	*0.4*	*0.4*	*0.5*
Prolonged illness	n	37	20	17	15	16	12	7	5
	%	*0.7*	*0.3*	*0.3*	*0.3*	*0.6*	*0.4*	*0.3*	*0.2*
Resigned	n	28	26	20	19	12	11	7	3
	%	*0.5*	*0.4*	*0.4*	*0.3*	*0.5*	*0.4*	*0.3*	*0.1*
Retired	n	70	52	40	82	32	15	27	4.
	%	*1.3*	*0.8*	*0.7*	*1.5*	*1.3*	*0.5*	*1.1*	*0.2*
Total Attrition	n	242	195	141	198	118	93	86	44
	%	4.5	3.1	2.5	3.6	4.6	3.4	3.4	1.7

Source: Ministry of Education: 2004-2007

Table 5.5 (below) shows teacher attrition by reason and gender in the central region from 2004 to 2007. As can be seen, slightly more male teachers (3.7 percent) appear to have left the system than female teachers (3.3 percent). Evidently, death has been the main cause of teacher attrition, with more females dying than males. However, the good news is that the number of teachers dying has started declining in both male and female groups. More male teachers appear to retire than females over the years. The

number who resigned started increasing in both gender groups, whereas the number of hose dismissed has declined.

Table 5.5: Central region teacher attrition by gender and causes, 2004-2007

Central Region		Males				Females			
		2004	**2005**	**2006**	**2007**	**2004**	**2005**	**2006**	**2007**
Total Teachers in post	n	11,329	11,349	10,954	10,881	7,408	7,182	7,110	7,015
Died	n	150	177	118	100	135	126	93	79
	%	*1.3*	*1.6*	*1.1*	*0.9*	*1.8*	*1.8*	*1.3*	*1.1*
Dismissed	n	24	176	142	72	20	64	94	39
	%	*0.2*	*1.6*	*1.3*	*0.7*	*0.3*	*0.9*	*1.3*	*0.6*
Prolonged illness	n	32	37	35	18	30	29	20	21
	%	*0.3*	*0.3*	*0.3*	*0.2*	*0.4*	*0.4*	*0.3*	*0.3*
Resigned	n	75	59	61	81	21	17	28	48
	%	*0.7*	*0.5*	*0.6*	*0.7*	*0.3*	*0.2*	*0.4*	*0.7*
Retired	n	91	87	67	48	25	33	20	22
	%	*0.8*	*0.8*	*0.6*	*0.4*	*0.3*	*0.5*	*0.3*	*0.3*
Total Attrition	**n**	372	536	423	319	231	269	255	209
	%	**3.3**	**4.7**	**3.9**	**2.9**	**3.1**	**3.7**	**3.6**	**3.0**

Source: Ministry of Education: 2004-2007

Table 5.6 (below) shows teacher attrition by reason in the southern region from 2004 to 2007. As can be seen, more male teachers (average of 4.3 percent) left the system than females (average of 3.7 percent).

As with the other regions, death has been the main cause of attrition, with more males dying than females, but there has been a decrease in the total number of teachers dying.

Resignation has been the second cause of attrition in males, whereas dismissal has been the second cause of attrition in females.

Table 5.6: Southern region teacher attrition by gender and cause, 2004-2007

Southern Region		Males				Females			
		2004	**2005**	**2006**	**2007**	**2004**	**2005**	**2006**	**2007**
Total Teachers in post	n	10,442	10,679	10,311	9,939	6,888	6,887	6,647	6,421
Died	n	250	201	208	163	*136*	*117*	*113*	*82*
	%	*2.4*	*1.9*	*2.0*	*1.6*	*2.0*	*1.7*	*1.7*	*1.3*
Dismissed	n	39	56	120	57	*65*	*61*	*42*	*23*
	%	*0.4*	*0.5*	*1.2*	*0.6*	*0.9*	*0.9*	*0.6*	*0.4*
Prolonged illness	n	36	28	50	21	*30*	*29*	*20*	*20*
	%	*0.3*	*0.3*	*0.5*	*0.2*	*0.4*	*0.4*	*0.3*	*0.3*
Resigned	n	70	99	88	75	*38*	*37*	*26*	*29*
	%	*0.7*	*0.9*	*0.9*	*0.8*	*0.6*	*0.5*	*0.4*	*0.5*
Retired	n	56	56	55	34	*40*	*37*	*30*	*13*
	%	*0.5*	*0.5*	*0.5*	*0.3*	*0.6*	*0.5*	*0.5*	*0.2*
Total Attrition	n	451	440	521	350	309	281	231	167
	%	4.3	4.1	5.1	3.5	4.5	4.1	3.5	2.6

Source: Ministry of Education: 2004-2007

5.3.3 Blantyre and Dedza teacher attrition by cause

Table 5.7 (below) shows teacher attrition by cause for Blantyre district for the past four years. A close observation shows that teacher attrition increased in both male and

female teachers. Noticeably, more males (average of 4.6 percent) have exited the profession than females (average of 3.2 percent) in the past four years. Resignation has been the main cause of teacher attrition in males, whereas death was the main cause of attrition in females.

The number of teachers dying has increased within these years, noticeably more among males than females. It is also observed that the number of teachers resigning, as well as those being dismissed, has increased in males over the years whereas in females there has been a decline.

Table 5.7: Blantyre teacher attrition by gender and cause, 2004-2007

		Males				Females			
Blantyre		**2004**	**2005**	**2006**	**2007**	**2004**	**2005**	**2006**	**2007**
Total Teachers in post	n	1,268	1,273	1,346	1,193	2,877	2,794	2,734	2,586
Died	n	10	14	20	24	35	38	44	35
	%	0.8	1.1	1.5	2.0	1.2	1.4	1.6	1.4
Dismissed	n	6	8	11	13	28	20	10	13
	%	0.5	0.6	0.8	1.1	1.0	0.7	0.4	0.5
Prolonged illness	n	4	5	6	3	4	5	11	9
	%	0.3	0.4	0.4	0.3	0.1	0.2	0.4	0.3
Resigned	n	10	29	28	18	9	17	15	8
	%	0.8	2.3	2.1	1.5	0.3	0.6	0.5	0.3
Retired	n	3	4	7	9	13	20	12	4
	%	0.2	0.3	0.5	0.8	0.5	0.7	0.4	0.2
Total Attrition	n	33	60	72	67	89	100	92	69
	%	2.6	4.7	5.3	5.6	3.1	3.6	3.4	2.7

Source: Ministry of Education: 2004-2007

Table 5.8 (below) illustrates teacher attrition for Dedza district for 2004 to 2007. Although it appears that teacher attrition has slightly increased in both males and females over these years, there are few differences if compared to Blantyre district.

Death has been the main cause of teacher attrition, with slightly more males dying than females. There is a decline in the number of teachers dying in both groups.

Surprisingly, dismissal was the second cause of teacher attrition in females, with retirement being the third cause. There were no notable differences between dismissal and retirement in males, and these were the second main cause of attrition. Prominently, resignation and prolonged illnesses are low in Dedza district. If HIV prevalence is low in Dedza, then prolonged illnesses resulting from the opportunistic infections associated with AIDS would be far fewer.

A deeper analysis and comparison of teachers attrition for Blantyre and Dedza shows that there are notably differences in the attrition caused by death. Blantyre district shows an increase of attrition caused by death for males from 1.8 percent in 2004 to 2.0 percent in 2007. The attrition for females due to death has also increased but relatively higher compared to males from 1.2 percent in 2004 to 1.6 percent in 2006, showing a different percentage points of 0.4 percent compared to 0.2 percentage points in males. This is quite contrary to Dedza which is showing declining teacher attrition caused by death from 1.8 percent in 2004 to 1.2 percent in 2007 for males and 1.7 percent in 2004 to 0.2 percent in 2004 for females. It is clear that more female teachers have died in Blantyre between 2004 and 2007 than in Dedza. This pattern which shows more teachers dying in Blantyre than in Dedza needs further investigation because it could be a result of the influence of HIV and AIDS, since Blantyre has high prevalence than Dedza.

Table 5.8: Dedza teacher attrition by gender and cause, 2004-2007

Dedza		Males				Females			
		2004	2005	2006	2007	2004	2005	2006	2007
Total Teachers in post	n	1,034	1,034	1,051	1,011	478	472	487	496
Died	n	19	17	16	12	8	7	5	1
	%	1.8	1.6	1.5	1.2	1.7	1.5	1.0	0.2
Dismissed	n	0	6	9	7	0	7	7	5
	%	0.0	0.6	0.9	0.7	0.0	1.5	1.4	1.0
Prolonged illness	n	3	3	3	2	1	2	0	4
	%	0.3	0.3	0.3	0.2	0.2	0.4	0.0	0.8
Resigned	n	4	6	3	5	1	2	1	1
	%	0.4	0.6	0.3	0.5	0.2	0.4	0.2	0.2
Retired	n	6	9	6	8	2	5	5	3
	%	0.6	0.9	0.6	0.8	0.4	1.1	1.0	0.6
Total Attrition	n	32	41	37	34	12	23	18	14
	%	3.1	4.0	3.5	3.4	2.5	4.9	3.7	2.8

Source: Ministry of Education: 2004-2007

5.3.4 Teacher attrition and the collapsing thesis

The overall quantitative analysis of the age, gender and regional pattern of the teaching corps provides pointers, but a systematic analysis of teacher attrition, mortality rates and reasons for the death could provide insights into the impact of the pandemic on the teaching corps. As illustrated above, at the most basic level, teacher attrition due to deaths and resignations at national level has increased dramatically from 0.8 percent in 1996 to 2.3 in 2004 and declined to 1.7 percent by 2007. Attrition due to death or mortality alone has increased from 0.5 in 1996 to 1.6 in 2004 but has since declined to 1.2 by 2007. Put differently, in 1996 one in every 200 teachers died in service. By

2004, the number had increased to just less than one teacher in every fifty, representing 260 percent increase. Together, the overall picture of the attrition from both deaths and resignations show a dramatic rise in the period of the study from a very low level in 1996 to its highest in 2004. While the percentage increase is nothing short of dramatic, it is an increase of a very low base and even at its highest point in 2004, the attrition rate from deaths and resignations and these factors combined is not cataclysmic. At the highest point in 2004 an attrition rate of 2.3 percent remains considerably lower than those in other countries (Billingsley, 1993; Borman & Dowling, 2008; Ingersoll, 2001; McCreight, 2000).

What the figures suggest is that, before 2004, teacher attrition had been increasing and that it has since stabilized if not declined. Based on attrition figures for retirement and death from 1996 to 2004, it is plausible to suggest that teacher attrition from all causes during this period has been increasing. In other words, 2004 marked the highest level of teacher attrition from all causes, reaching 5.2 percent, and the trend has stagnated. This demonstrates a high rate of attrition if one considers a starting point attrition of 1.1 percent in 1996 as reported by UNDP in 2002 (UNDP, 2002). Put differently, from 1996 to 2004, attrition has increased over 372 percent in a decade. It is likely that the pandemic exacerbated the situation. This was ten years after the emergence of the virus in 1985, and the effects of the pandemic could have started to manifest themselves early 1990s.

The effects of the pandemic on teacher attrition are more revealing when death is taken into consideration. It is evident that high attrition is largely due to a disproportionately high number of teacher deaths. As has been revealed by the study, although death rates appear to have stagnated or started to slow down, they have been the main cause of teacher attrition in all the regions since 1990 and continued to 2004 (Mulkeen & Chen, 2008; UNDP, 2002). These figures demonstrate the overwhelming impact of HIV and AIDS on teachers. The rate at which teachers have died over the period under analysis demonstrates an unusual situation which could have been propelled by the pandemic However, despite the increase in the number of teacher deaths, mortality rates have remained relatively low. First, the death rates experienced by both male and female teachers are below the average national death rate of 11.1 percent (National Statistical Office, 2004). Using Standards Mortality Rates (SMR), which measure the extent to which mortality is above average for a particular group, UNDP (2002) found that SMR for primary school teachers was 43, well below 100, indicating that it was less than average mortality compared to the general population (UNDP, 2002). Thus, despite mortality rates having slightly increased over the years, they are still lower than that for 20-49 adult population as a whole. Given the magnitude of the prevalence rates one would have expected higher mortality rates among teachers than those of the adult population as a whole.

Second, the proportion of female teachers dying has been more in all the regions except the southern one, where HIV prevalence is high. It is logical to conclude that the pandemic has probably reached some level of crisis since the region or the district with

high prevalence rates showed that female teachers were dying at a greater rate compared to the other regions with low prevalence. This trend requires a follow-up to identify why more female teachers are dying in almost all the regions. It could be inferred that HIV and AIDS is the main cause of female death, but this requires further investigation as the pattern seems to apply in all the regions, despite differences in prevalence rates. This pattern concurs with a study by UNDP in 2002 which concluded that women teachers were generally dying faster than men (UNDP, 2002).

Thus, that the education system would collapse does not hold at present. To begin with, although the attrition rate appeared to increase and later stabilize or decline, the figures are still much lower than attrition rates in other countries. The attrition taking place appears to be lower than expected. It would be difficult to associate such attrition with the impact of the pandemic, especially if it is in line with global figures. For example, attrition of around 10 percent appears normal in many developing countries, and to an extent the rates in sub-Saharan Africa appear lower than those of the developing countries (Bennell, 2005c; Education International, 2007; Mulkeen & Chen, 2008). Thus, in cases where countries with high HIV prevalence have lower attrition compared to those with low prevalence, it is not valid to associate the small rate of attrition in the high prevalence countries with the impact of HIV and AIDS. In addition, as revealed in Chapter 3, factors that influence teacher attrition appear the same for both developing and developed countries, in spite of death being more the cause of teacher attrition in Malawi than in other developing countries.

In addition, though the increase in death rates could be partly attributable to the epidemic, it is obscured by the fact that the proportion of teachers dying is similar in all the regions, in spite of differences in HIV prevalence rates. This interpretation is carefully made knowing that the relationship between HIV prevalence and mortality vary significantly according to socio-economic status of the districts, as well as of the teachers. Teachers from better-off districts, for example, will be able to access better medical treatment and eat recommended foodstuffs which can prolong life. This notwithstanding, it would have been logical to conclude that the impact has increased the proportion of number of teachers dying if this was conspicuous in regions or districts with high rather than low HIV prevalence rates. The fact that death has increased in all the regions suggests that there are common factors affecting teachers, other than the prevailing pandemic. Thus, the revelation by the study that the proportion of teachers dying in the southern region is more in males than in females distorts the pattern because the southern region has high prevalence and one expected more female deaths than males.

Besides, this weak link between the HIV prevalence rates and teacher mortality is also manifested in teacher attrition across regions. For example, female teacher attrition in the southern region has declined from 5.2 percent in 2004 to 3.3 percent in 2007, whereas attrition for female teachers in the northern region has declined from 5.3 percent to 2.2 percent. Considering Blantyre district with high prevalence, one observes that female attrition has declined from 3.6 percent in 2004 to 2.9 percent in 2007. This demonstrates inconsistency between attrition and prevalence.

It is likely that other factors associated with urbanization are contributing. For example, working conditions in rural schools in Malawi have persistently been poor and many teachers would want to work in urban areas. This has resulted in many teachers moving to the urban areas for better resources (Bennell & Akyeampong, 2007; Kayuni & Tambulasi, 2007; VSO, 2002). It has also been revealed, for example, that many women teachers in Malawi are placed in urban schools for matrimonial reasons, and some women take advantage of fake marriages in order to be transferred (Mulkeen & Chen, 2008). Apparently, this is causing the urban schools to be overstaffed and teachers having relatively light teaching loads. Thus, teachers may not experience heavy teaching loads resulting from absenteeism of teachers affected by the pandemic. Furthermore, the availability of good health facilities in urban areas could enhance movement to the urban areas of teachers who are infected. In rural schools, Voluntary Counseling and Testing (VCT) centres are at a distance and teachers have to travel far to access them. If rural areas continue to be lacking in resources that can help in coping with the pandemic, it is likely that some teachers in rural areas would want to relocate to urban areas for better access to these facilities.

In conclusion, although teachers' deaths have been the main cause of teacher attrition, and have dramatically increased since 1990 before stabilizing in 2004, the lower mortality rates are to be associated with the collapsing of the education system. In addition, there is a weak link between teacher attrition together with mortality rates and HIV prevalence rates across the regions. The statistics have revealed that it is not

obvious that high prevalence areas will experience high death rates due to the pandemic, particularly in women who are at a greater risk of the infection. The revelation that more women are dying across all the regions indicates a likelihood that other factors are playing themselves out, not necessarily just the pandemic.

5.4 Causes of deaths of primary teachers

After examining teacher attrition by cause among the regions, and noting that death has been the main cause of teacher attrition, the next step involved investigating the cause of these deaths. As has been explained in chapter 4 dataset from the Human Resource Department (HRD) in the Ministry of Education was therefore collected on the number of teachers who died by cause from 2000 to June 2006, (the time I collected the data). The HRD collects this data to use it when preparing benefits for the deceased families.

When a teacher dies while in service, the deceased family is paid an amount of money relative to the sum the deceased teacher had contributed towards a pension fund. The causes of death appear reliable because the Ministry would wish to know what had caused the deaths before paying the money. Thus, in cases where a teacher dies in hospital, medical doctors ascertain what caused the death. As pointed out above, the dataset, however, was not disaggregated by districts, regions, age or gender, but it still provides an insight into what caused the deaths.

As is the case with the general population, teachers die from many diseases, and a list of diseases that appeared most is therefore provided. Other diseases were grouped as

'*others*'. This category included illnesses such as swelling of body, diarrhoea, heart disease, hypertension, kidney and liver failure, mental disturbances, cholera, candiasis oesophagus, immuno suppression and kapposi sarcoma. Causes of other deaths were not known. This meant either the doctors could not ascertain what caused the deaths, or the Ministry did not know the cause because the teacher died at home not in hospital. Table 5.9 provides number of teachers who died and the causes of deaths.

Table 5.9 Number of teachers died by cause, 2000-2006

Reason	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Total**
Abdominal Pain	1	0	1	6	7	7	3	
Anaemia	1	1	5	4	9	10	8	38
Malaria	7	6	17	21	96	93	55	295
Ulcers	1	0	2	2	2	1	2	10
Cancer	1	1	7	5	21	19	10	64
Meningitis	3	1	1	6	15	31	18	75
TB	11	16	31	30	87	80	45	300
Pneumonia	2	0	3	8	21	28	13	75
Natural death	2	3	3	2	13	22	18	63
Body pains	0	1	1	4	9	10	8	33
Accident	1	0	1	1	2	9	2	16
Asthma	0	0	1	4	4	10	2	21
Headache	1	1	1	6	3	11	10	33
Long illness	1	7	7	4	10	29	6	64
Diabetes	0	0	0	0	0	0	3	3
Others	4	5	22	12	56	83	46	228
AIDS	0	0	0	1	1	5	0	7
No information	10	9	25	29	100	133	162	468
Total	**46**	**51**	**128**	**145**	**456**	**581**	**411**	**1818**

Source: Ministry of Education, Human Resources Dept, 2007

As can be seen, Tuberculosis (TB) and Malaria have been among the main causes of teachers' deaths in Malawi for the past seven years and have started declining recently. The statistics shows also that many teachers died between 2004 and 2005, which concurs with high attrition rates illustrated above. A high proportion of teachers have died of diseases associated with the pandemic and from unknown causes. It is likely that these teachers could have died of HIV and AIDS-related sicknesses. Notable also is that some teachers died after a long illness, which has usually been associated with HIV and AIDS.

5.4.1 Causes of Teachers' death and the collapsing thesis

Finally, the third piece of evidence of the collapsing thesis is drawn from examination of official statistics that I collected about the causes of deaths. While the existing literature suggest caution in the interpretation of these kinds of statistics, specifically suggesting that AIDS is often not reported as the cause of death (Coombe, 2004; Kelly, 2000), a nuanced analysis of the trends is consistent both with the other indicators in this and other studies. While data has been collected for only a short period and additional analysis would need to be done in years to come, the available data suggests that there was a dramatic increase in teachers' deaths from diseases directly linked to the pandemic. As revealed by the study, most of the diseases are among the known opportunistic diseases given by UNAIDS (UNAIDS, 1998), in particular tuberculosis (TB), Malaria, Candidiasis, Immuno-Suppression, Kaposi Sarcoma and Cryptococcosis.

As the previous section has shown, the number of teachers' deaths increased dramatically since 2000 and reached its peak in 2004, a trend supported by absolute number of deaths of teachers. In a space of four years, from 2000 to 2004, the number of teachers who died of TB rose from 11 to 87, those from Malaria rose from 7 to 96, those from 'other' diseases from 4 to 56, and those from unknown causes or without information from 10 to 100. In all, these represent an over 600 percent increase, which is extremely high. Since 2005, there are noticeable declining trends but it is not wise to draw conclusions from only two year's data.

In percentage terms, although there is a notable declining trend in deaths caused by TB, it remains the main cause of the deaths, followed by 'unknown' and then Malaria. Unlike deaths caused by TB, deaths caused by Malaria increased up to 2004 then recently started leveling off. These are teachers' deaths of which the causes are known, but disquieting is the rapid increase in number of teachers whose cause of deaths is not known. Since 2000, the number has increased from 21.7 to 39.4 percent, representing an increase of 17.7 percent in 5 years. This is not normal and there should be some underpinning reason behind the increase. It is likely the pandemic had contributed. The following sections will attempt to interrogate this revelation.

Causes of deaths reveal that HIV and AIDS could have undermined the education system. As can be observed above, many deaths caused by TB, Malaria, and 'other diseases' or unknown causes could be associated with HIV and AIDS. HIV and AIDS, and TB are closely connected, with the term 'co-epidemic' often being used to describe

their relationship. It is estimated that one-third of people living with HIV and AIDS worldwide are co-infected with TB. Furthermore, without proper treatment, approximately 90 percent of those living with HIV die within months of contracting TB (WHO, 2008). For Malawi, as shown by this study, it would be logical to conclude that TB has indeed worsened the death rate. As evidenced also by another study, TB cases rose rapidly from 5,334 in 1985 to 28, 000 in 2006. This was attributed to HIV and AIDS because 77 percent of the TB patients were HIV-positive (Simwaka, Bello, Banda, Chimzizi, & Theobald, 2007).

The impact of HIV on Malaria has also been researched and there is increasing evidence that in areas of high-intensity transmission, HIV increases the incidence of clinical malaria among adults. Further, it has been discovered that across 41 countries in SSA, the HIV epidemic increased the incidence of Malaria by 1.3 percent and Malaria death by 4.9 percent (Korenromp, Williams, & de Vlas, 2005). It is likely that the increase in teachers' deaths caused by Malaria was also exacerbated by HIV and AIDS. Thus, although not all cases of TB and Malaria could be linked to HIV and AIDS, it is however logical to conclude that the increase in these diseases from 2000 to 2004 was largely due to the pandemic.

The category of 'other' diseases, as has been suggested above, contains diseases that are linked to the pandemic. It is likely that the appearance and rapid increase of these diseases had been induced by the pandemic. It is uncommon to have 4 teachers die in 2000 of a particular disease and, in five years' time, in 2005, the number leap to 83.

This revelation highlights the need to pay attention to other opportunistic diseases, not only Malaria and TB. Although many opportunistic diseases are treatable and drugs are relatively cheap (UNAIDS, 1998), they are not a priority for many governments. Faced with limited resources, most healthcare systems in highly affected countries opt for frameworks that take into account both the costs and the spin-off value of intervention for HIV-related opportunistic diseases. TB is therefore a priority for governments' public spending. From this study, it is evident that other opportunistic diseases could also be fatal if not taken care of, highlighting the need for attention to be paid to these diseases. It is probable that many teachers, especially from the rural areas, do not have effective treatment against opportunistic diseases. Opportunistic diseases require not only the appropriate drug but also the infrastructure necessary to diagnose the conditions, monitor the intervention and counsel the patients. These facilities are either not accessible or completely available in most rural areas in Malawi. It is not therefore surprising to see that opportunistic diseases were among the leading cause of death of many teachers from 2000 to 2004. This needs close monitoring. Although the figures have started declining, they are still relatively high.

Other evidence that HIV and AIDS has exacerbated the number of teachers' dying is the discovery that the causes of many of these deaths are not known. As explained, 'not known' could have two interpretations: first that the disease was not identified by the doctors and second that the teacher died outside the hospital and the Ministry could not know what killed the teacher. Simply put, the ministry could not gain information. Both these interpretations could be linked to the pandemic. In the first instance, AIDS is

usually associated with very unusual and uncommon diseases that have erupted because of the virus (UNAIDS, 1998). It could be possible that many of the teachers died because of complications that came as a result of such diseases.

Lack of information, may be a further factor as not all teachers die in hospital. Teachers who are in typical rural areas and sick usually suffer at home while being attended to by traditional medicine. If such teachers die, it would be difficult to know the cause of death. With unavailability of treatment in the past, many teachers were stigmatized and did not seek medical help in hospitals. It is likely therefore that many died because of the virus. It is worrying that there is an increase in the number of teachers who die from unknown diseases or have no information regarding their death, although the rate of increase seems to be declining. This also requires further monitoring.

In conclusion, arising from this analysis is evidence that many of the teacher deaths could have been influenced by the pandemic. But does this demonstrate a collapsing system of education? Although many of the diseases that caused teachers' deaths, as argued above, have a strong association with the pandemic, but overall mortality rates are still too low to be linked to the collapsing of education.

5.5 Conclusion

The study analyzed data by age bands, with an assumption that the effects of the pandemic would appear more clearly in those ages considered vulnerable. Four major

categories of teachers were considered: those aged 35 and below, between 36 and 45, between 46 and 55, and those between 56 and 65. The analysis indicates that the largest category has been teachers aged 35 and younger, and apparently this category has declined for both sexes at all levels. The second largest category consisted of teachers aged between 36 and 45 and has increased for both sexes also at all levels. There are no noticeable differences in the age structure of teachers among regions, despite differences in prevalence rates. The age structure seems similar for the northern, central and southern region, as well as for the districts.

The analysis of teacher attrition and mortality rates shows that the annual number and proportion of teachers who died in the profession increased dramatically over the past nine years. While data were incomplete, it is clear that the system has to cope with increasing deaths in the teaching fraternity. Thus, even at its high point in 2004, the mortality rate was relatively modest at 1.6 percent, and appeared to have declined since that point to 1.2 percent. Factoring in resignations and dismissals, that later appeared to be on the rise in urban centers, the proportion of teachers exiting the system even on the highest years was relatively modest by international standards.

While HIV and AIDS are not likely to collapse the education system, the study does reveal some important insights into the teacher corps in Malawi. First, the obvious finding needs to be repeated, and that is that while there was a brief period of recruitment of new teachers to meet the dramatic increase in enrolment, the recruitment and hiring pattern has been sustained. There has not been more recruitment, but the

primary sector seems remains relatively well-staffed, as evidenced by the trend in pupil to teacher ratio. Also, a system in crisis would be signaled by the great teacher dependency rate, with a large proportion of teachers in the youngest age band. One would assume that, in a crisis, teachers constantly need to be recruited and that few remains in the system into middle age. An analysis of the age structure of Malawian teachers does not show this pattern. On the contrary, an aggregate analysis and a disaggregated analysis by gender, region, and urban status suggest that Malawian teachers are increasingly middle-aged.

A second finding is that there are some unique gendered and regional patterns that need to be monitored closely. At the regional level, it has been observed that more female teachers are dying, and this pattern is observed also in the northern, central region as well as Blantyre district. Although the southern region shows that more male teachers are dying than females, the death rate of female teachers however is similar to that of the other regions. One therefore has to monitor why there are so many more female deaths than men. Knowing that women are the vulnerable group, it is likely that HIV and AIDS is contributing to these deaths. Worth monitoring also is the number of teachers dying in Blantyre, have increased for both males and females. Mortality is the main cause of female attrition, whereas resignation is the main cause of male attrition. Thus, Blantyre being a district with high prevalence rate, it is likely that these deaths are aggravated by HIV and AIDS. Likewise, Blantyre being an industrial city, one would not rule out the possibility that more males teachers resign and look for better paying jobs.

A third significant finding is that the most important indicator, and the one most frequently cited as evidence of AIDS crisis, is teacher mortality. Here the evidence is clear. The rate of death of Malawian teachers has tripled in the past ten years. From 246 teachers dying per year, the number climbed to over 700. This is very noticeable, given the combined proportion of teachers who die, resign, are dismissed and retire has been consistently less than five percent. Many systems in the developed world have teacher attrition rates (a rate that combines all four factors) often exceeds 10 percent (Table 3.1). That said, there is an extremely worrying trend amongst urban female teachers, where the mortality trend remains high and might actually be growing.

The fourth finding comes from my analysis of teachers' causes of deaths. Since 2000, most teachers have died of Tuberculosis or Malaria. Surprisingly, the causes of deaths for 20 percent of the teachers are reported as unknown. It is unclear whether the doctors could not diagnosis the cause of these deaths or that they occurred at home, where the doctors could not verify the cause. Other diseases claimed about 10 percent of the teachers' lives, and reported cases of AIDS deaths appear minimal. Here the evidence is also clear. Most of the deaths have been caused by diseases associated with HIV and AIDS. That many other deaths were caused by unknown diseases, or lacked informed diagnosis, it could be that these were also influenced by the pandemic.

The final relevant finding is the revelation that death has become the main cause of teacher attrition in Malawi. This is different from other teacher attrition studies, where

retirement and resignation had been the main cause of teacher attrition (Borman & Dowling, 2008; Brownell & al., 1997; Ingersoll, 2001; Kirby & Grissner, 1993; Macdonald, 1999). This emerging pattern is becoming a threat to the teaching corps in Malawi, particularly in the high prevalence district of Blantyre. That the number of teachers dying in Blantyre increased for the past four years for both male and female teachers shows how serious the effects of HIV and AIDS could be. Thus, instead of seeing many teachers leaving the system due to resignation or retirement, one sees many of them departing because of death. This is contrary to a district with low HIV prevalence, Dedza, where the number of teachers dying has decreased. Thus, one would be justified in concluding that a proportion of teachers are exiting the system because of HIV and AIDS.

CHAPTER 6

RESULTS AND DISCUSSION

Teachers' perceptions on attrition

6.1 Introduction

Chapter 5 has demonstrated that, for the past nine years, the number of primary teachers in Malawi aged 35 and younger has declined, whereas that between 36 and 45 has increased. There has been an approximately 30 percent loss of teachers aged 35 and younger, and a gain of 25 percent aged between 36 and 45. This shows a 5 percent resultant loss of total teachers aged less than 45 years. This pattern is evident in all the regions as well as the two selected districts, suggesting that there has been a growth of younger teachers who were employed in 1994, soon after the introduction of FPE. The teachers are now being integrated into the next age band, and the age structure suggests that since recruiting teachers after introducing FPE, the Ministry of Education in Malawi did not have a major recruitment drive at least until 2005. As revealed, the sector does not have many teachers who are under the age 25, demonstrating that there has been less recruitment taking place. Usually, new recruits are teachers who have completed secondary education and are often under 25 years.

Chapter 5 has also shown that for the past 5 years teacher attrition has been high in male teachers, around 4 percent, more than in females, around 3.5 percent. Death has been the main cause of teacher attrition, accounting for about 1.5 percent in all the

regions. More female teachers appear to have died than males. However, few differences have been noticed in teacher attrition between high and low prevalence regions, with the exception of death amongst teachers in Blantyre, which has increased and remains the main cause of female attrition. Chapter 5 has further revealed that since 2000 many teachers have died of TB, Malaria, and other opportunistic diseases that could be associated with HIV and AIDS. Also, the causes of many of the teachers' deaths are not known.

To further interrogate the way HIV and AIDS could have affected the teaching profession, I conducted a survey in the two districts: Blantyre, with high prevalence, and Dedza, with low prevalence. The aim was to seek teachers' opinions on the impact of HIV and AIDS. Besides triangulating the result obtained by the secondary data analysis, the survey sought to find out how the pandemic has affected the teachers with respect to their teaching services and the working environment. In doing so, attempts to associate the teachers' opinions and the observed patterns of age structure, teacher attrition and causes of death would be made.

In seeking these views, the study was informed by known theories of teacher attrition reviewed in Chapter 3 (Billingsley, 1993; Chapman, 1994; Kirby & Grissner, 1993; Lortie, 1975). Specifically, the survey was designed to find out whether and in what ways HIV and AIDS has influenced personal, employment and external factors of teacher attrition. This was done by seeking teachers' views on general questions about teacher attrition and specific or direct questions linking HIV and AIDS to teacher

attrition. As demonstrated by the questionnaire (Appendix 4.1), items that enquired into general issues about personal, employment and external factors of teacher attrition were raised alongside items that directly linked HIV and AIDS to these three categories. By doing so, teachers' perceptions on attrition in general were sought, as well as their opinions on the effects of HIV and AIDS.

The integration of these standard factors in analyzing the impact of HIV and AIDS is crucial, in that most of the proponents of the collapsing thesis tended to overlook these other typical factors associated with teacher attrition. Family commitments, and searching for a better working environment, for example, have remained major factors that enhance attrition in the teaching profession (Borman & Dowling, 2008). Thus, despite the number of teachers dying having remained the main focus in analyzing the impact of HIV and AIDS on teacher attrition, there is a need to link the effects of HIV and AIDS to retirement, resignation and dismissal, which appear to be major influences of teacher attrition. The survey therefore attempted to consider this dimension and explore the linkage (Figure 3.3).

This chapter therefore presents results of the survey in four sections. The first section presents teachers' opinions on the impact of HIV and AIDS on teachers or work-related matters. Here I present the number of teachers the respondents estimated to have died because of HIV and AIDS, as well as the estimated number of teachers who were on ART. In addition, teachers' experiences on the impact of HIV and AIDS related to absenteeism and work overloads are expressed. The section assesses how aware the

teachers are of the impact of HIV and AIDS. The second section demonstrates teachers' opinions on leaving or quitting the profession. It intends to assess the attrition that could arise because of HIV and AIDS, interrogating relevant factors that could make teachers leave or quit teaching. The word 'leave', 'quit' or 'exit' have been used synonymously. The third section presents teachers' opinions on factors that motivate them to remain in the teaching profession. It aims to cross-examine factors that could persuade teachers to leave teaching, with a focus on external influences. The final section synthesizes the evidence so far obtained in this survey, to make meaning of the debate about the impact of HIV and AIDS and the collapsing thesis.

6.2 Are teachers dying because of AIDS or are they on ART?

One of the indicators of the impact of HIV and AIDS could be the increase in the number of teacher deaths (Kelly, 2000). This increase is expected to be noticeable at least after 12 years of the contracting the virus, and so in teachers who contracted the virus in the early years of the epidemic in Malawi. Without proper intervention, a good proportion of teachers who were infected in the early years of the pandemic in Malawi would have started dying by 1997. By 2006, when I collected the data, teachers in the system would have witnessed many deaths. The study therefore sought teachers' perceptions on the number of teachers who could have died or were on treatment because of the pandemic. This cannot provide exact numbers of the teachers or exact cause of the deaths, but at least it could illustrate teachers' views on the effects of the pandemic. Where a crisis has existed because of the pandemic, one would expect to

have poor estimates, and if so many teachers are dying then large numbers of the teachers would be estimated.

Table 6.1 (below) provides estimated (overall) numbers of teachers who the respondents thought have died because of the pandemic in the previous two years. As can be seen from the table, 55.1 percent of the male sample and 57.2 percent of the female sample in all the districts indicated that they know no one who has died of AIDS. This could emanate from the fact that it is difficult to say with certainty that someone has died of AIDS without a medical report. A person infected by the virus is not necessarily noticeable by appearance. A person might look thin or fat but that is not conclusive evidence that the person has the virus. With this in mind, people tend to say they know no one who has died of AIDS because they are not sure, especially if the person is also of distant relationship and has not confided in them.

However, 21.7 percent of the male sample and 23.7 percent of the female sample from Blantyre indicated that they know at least 10 teachers who have died because of the pandemic in the past two years. In Dedza district, 20 percent of the male sample and 22.7 percent of the female sample indicated that they knew at least 10 teachers who have died of AIDS in the previous two years. Also, over 10 percent of the sample of both male and female teachers in Dedza did indicate having known over 20 teachers who had died of AIDS in the previous two years. By contrast, 5.1 percent of the male sample and 8.7 percent of the female sample in Blantyre knew over 20 teachers who had died of AIDS.

Question: *How many teachers (overall) do you know who you think have died because of AIDS for the past two years?*

Table 6.1: Estimated number of teachers died of AIDS

Estimated number of teachers died of AIDS	Blantyre					
	Males (n=140)		Females (n=396)		Total (n=536)	
	N	%	n	%	N	%
None	66	47.8	216	55.5	282	54.1
3 to 10	30	21.7	92	23.7	122	23.4
11 to 20	11	8.0	17	4.4	28	5.4
21 and above	7	5.1	34	8.7	41	7.9
Don't know	19	13.8	29	7.5	48	9.2
Total	133	96.4	388	99.7	521	100.0
Estimated number of teachers died of AIDS	**Dedza**					
	Males (n=129)		**Females (n=154)**		**Total (n=283)**	
	N	**%**	**n**	**%**	**N**	**%**
None	74	59.2	91	60.7	165	61.1
3 to 10	25	20.0	34	22.7	59	21.9
11 to 20	3	2.4	5	3.3	8	3.0
21 and above	14	11.2	16	10.7	30	11.1
Don't know	5	4.0	3	2.0	8	3.0
Total	121	96.8	149	99.3	270	100

The availability of ART is prolonging the lives of some infected people. In areas where many teachers have been infected, access to ART would lessen the anticipated impact. This could be noticed by a number of people accessing ART. I therefore asked the sampled teachers to estimate the number of teachers they thought could be accessing ART. Assumptions were that in areas where the prevalence was high and the teaching

community was experiencing severe impacts of the pandemic, many teachers would be on treatment. Despite it being difficult to know that someone is on treatment because of the secrecy attached to the disease, at school level, if a teacher is accessing ART could somehow be identified. Teachers were therefore asked a question about how many teachers (overall) they thought were on ART.

Table 6.2 (below) shows the teachers' opinions on the numbers of teachers accessing ART. 47.4 percent of the male sample in Blantyre and 71.7 percent of male sample in Dedza indicated having known no one who was on treatment. Comparatively, 55.2 percent of the female sample in Blantyre and 62.3 percent of female sample in Dedza indicated having known no one who was on treatment. Here one observes that more teachers sampled in Blantyre are likely to know more teachers who are on treatment than teachers in Dedza. This also concurred with 26.3 percent of the male sample in Blantyre and 7.9 percent of the male sample in Dedza who indicated that they knew between 3 and 10 teachers who were on treatment. This pattern is also affirmed by the female samples. About 22.5 percent of the female sample in Blantyre and 15.9 percent of female teachers in Dedza indicated that they knew between 3 and 10 teachers who were on treatment. Thus, there is a possibility that a higher proportion of teachers were accessing ART in Blantyre than in the Dedza.

This revelation could be true for two reasons. First, Blantyre being a district with high prevalence it is plausible to suggest that many teachers are infected than in Dedza and consequently many teachers are on treatment than in Dedza. Second, it could also be

argued that teachers who are accessing ART in Blantyre are not only teachers from Blantyre but from other surrounding districts. With its high prevalence, Blantyre could have more ART clinics than Dedza and this could encourage infected teachers from other districts to access the treatment in Blantyre. What this means is the increase in number of teachers who are accessing ART in Blantyre can not only be attributed to infected teachers in Blantyre alone. From this we cannot generalize that more teachers are accessing ART in Blantyre because of their high prevalence.

Question: *How many teachers (overall) do you know who you think are on ARTs?*

Table 6.2: Estimated number of teachers who are on ART

Estimated number of teachers on ART	**Blantyre**					
	Males (n=140)		**Females (n=396)**		**Total (n=536)**	
	N	%	N	%	N	%
None	65	47.4	216	55.2	281	54.5
3 to 10	36	26.3	88	22.5	124	24.0
11 to 20	2	1.5	4	1.0	6	1.2
21 and above	7	5.1	28	7.2	35	6.8
Don't know	22	16.1	48	12.3	70	13.6
Total	132	96.4	384	98.2	516	100
Estimated number of teachers on ART	**Dedza**					
	Males (n=129)		**Females (n=154)**		**Total (n=283)**	
	N	%	N	%	N	%
None	91	71.7	94	62.3	185	70.1
3 to 10	10	7.9	24	15.9	34	12.9
11 to 20	3	2.4	11	7.3	14	5.3
21 and above	5	3.9	6	4.0	11	4.2
Don't know	9	7.1	11	7.3	20	7.6
Total	118	92.9	146	96.7	264	100

Two findings could be taken from the opinions of the teachers with regard to their experiences on the impact of HIV and AIDS. First is a recognition by them that their colleagues had died because of HIV and AIDS, and that others were on ART. This shows that teachers are aware of the effects of the pandemic. A reasonable number of the sample from high prevalence district knows more teachers who are on ART than a sample from the low prevalence district. This could mean either more teachers in the high prevalence district are on ART than the low prevalence district or that the treatment is more available in the high prevalence district than low prevalence district and people who have AIDS travel to this district to access the treatment. Both interpretations could demonstrate that the effects of HIV and AIDS are felt more in the high prevalence district.

A second finding from the opinion of the teachers is that many teachers said they did not know teachers who either had died of AIDS or who were on treatment. This is astonishing. A superficial interpretation is to accept this opinion, but doing so is problematic in two ways. Firstly, it would have made sense if the sample had consisted only of newly recruited teachers, who might have not stayed in the teaching profession for more than a year. That way, I would have argued that they might not have yet experienced the effects of the epidemic in the profession. Secondly, it appears unreasonable that a teacher can say he or she does not know a colleague who has died of AIDS in Malawi, a country where the pandemic has existed for over two decades. The opinions of such teachers require further interrogation. One possibility is that such sentiments emanate from deliberate denial of the effects of the pandemic. People may

use uncertainty as an excuse to ignorance in the absence of testing. Without a medical report, one might not be sure that someone is on ART or died of the pandemic, and this tends to encourage people to ignore the obvious effects. For example, a teacher can die of a particular disease other than AIDS and this may encourage someone to mention that disease. Therefore, it is likely that most of the teachers who indicated knowing no one who had died of AIDS or was on treatment were influenced by the uncertainty issue. This promotes lack of proper information needed to assess the impact of the pandemic and may give a false impression about its effects. Thus, what this study has revealed about many deaths of teachers with unknown causes (in section 7.2.3) could be a result of denial.

Thus, although one might not record the exact number of teachers who have died or are on treatment, the study reveals that a relative proportion of teachers who died of AIDS and others were and/or are on treatment. This has disturbed the teaching corps but not catastrophically. It is clearly seen that the proportion of the number of teachers who had died or are on treatment, as estimated by the sample of the teachers, does not demonstrate a depressing situation. Although the high prevalence district of Blantyre may have more teachers on treatment than Dedza; and also after having argued that many teachers were in denial, these combined do not show that so many teachers have died or are sick as to warrant closing schools.

In addition to assessing the impact of the pandemic by using estimations of teachers who have died and those who are on ART, teachers were then asked to express their opinions on some statements directly related to the effects of the pandemic. The statements were linked to teachers' experiences during work and assertions that were made on the effects of the pandemic on teachers. Table 6.3 (below) provides a percentage count of teachers' opinions in the two districts. As illustrated, over 70 percent of the sample in Blantyre disagreed that their teaching loads had increased during the past five years, and indicated that they were thinking of quitting. Furthermore, over 57 percent of this sample disagreed that their teaching loads had increased due to absenteeism of teachers infected by HIV and AIDS. Further still, over 83 percent of the female sample and over 76 percent of the male sample in Blantyre did not agree that HIV and AIDS had negatively affected their morale, or that they were thinking of quitting the profession. Relatively though, a sizeable proportion of the sample, 41.2 percent males and 32.1 percent females, did agree that HIV and AIDS had contributed to a number of teachers leaving the profession.

Likewise, a sample of teachers in the Dedza district appeared to have similar opinions to those expressed by a sample of teachers in Blantyre. More male, (65.6 percent) than female (58.7 percent) members of the sample disagreed that their teaching loads had increased due to absenteeism of teachers infected by HIV and AIDS in the previous five years. Also, 78.6 percent of males and 78.5 percent of females in Dedza did not agree that HIV and AIDS had negatively affected their morale, and felt that they were thinking of quitting teaching. As with the Blantyre district, a significant proportion of

the sample, 40.7 percent males and 31.2 percent females, agreed that HIV and AIDS had contributed to a number of teachers leaving the profession.

Table 6.3: Teacher opinion on absenteeism and morale

Blantyre District													
		Male teachers (n=140)						**Female teachers (n=396)**					
STATEMENTS		**SA**	**A**	**U**	**D**	**SD**	**Total**	**SA**	**A**	**U**	**D**	**SD**	**Total**
Teaching load has increased due to absenteeism of teachers affected with HIV/AIDS	**n**	26	22	10	58	23	139	48	57	31	153	99	388
	%	*18.7*	*15.8*	*7.2*	*41.7*	*16.5*	100	*12.4*	*14.7*	*8*	*39.4*	*25.5*	100
HIV/AIDS has negatively affected my morale and am thinking of quitting	**n**	9	7	16	68	37	137	16	23	22	191	132	384
	%	*6.6*	*5.1*	*11.7*	*49.6*	*27*	100	*4.2*	*6*	*5.7*	*49.7*	*34.4*	100
HIV/AIDS has contributed to numbers of teachers leaving the profession	**n**	29	27	18	38	24	136	54	69	23	141	95	382
	%	*21.3*	*19.9*	*13.2*	*27.9*	*17.6*	100	*14.1*	*18*	*6*	*36.8*	*24.8*	100
The support that teachers who are HIV positive receive from fellow teachers make them remain in the teaching profession	**n**	18	36	27	24	35	140	59	98	42	95	96	390
	%	*12.9*	*25.7*	*19.3*	*17.1*	*25*	100	*15.1*	*25.1*	*10.8*	*24.4*	*24.6*	100
Dedza District													
		Male teachers (n=128)						**Female Teachers (n=154)**					
STATEMENTS		**SA**	**A**	**U**	**D**	**SD**	**Total**	**SA**	**A**	**U**	**D**	**SD**	Total
Teaching load has increased due to absenteeism of teachers affected by HIV/AIDS	**n**	15	21	7	47	35	125	20	20	22	55	33	150
	%	12	16.8	5.6	37.6	28	100	13.3	13.3	14.7	36.7	22	100
HIV/AIDS has negatively affected my morale and am thinking of quitting	**n**	10	8	9	68	31	126	4	12	16	73	44	149
	%	7.9	6.3	7.1	54	24.6	100	2.7	8.1	10.7	49	29.5	100
HIV/AIDS has increased numbers of teachers leaving the profession	**n**	28	24	17	40	19	128	14	33	17	55	32	151
	%	21.9	18.8	13.3	31.3	14.8	100	9.3	21.9	11.3	36.4	21.2	100.1
The support that teachers who are HIV positive receive from fellow teachers make them remain in the teaching profession	**n**	21	19	28	25	32	125	19	44	29	18	41	151
	%	*16.8*	*15.2*	*22.4*	*20*	*25.6*	100	*12.6*	*29.1*	*19.2*	*11.9*	*27.2*	100

Key: SA=Strongly Agree; A=Agree; U=Uncertain; D=Disagree; SD; Strongly Disagree

Teachers' opinions in these statements clearly contradict what had been anticipated about the impact of HIV and AIDS on teachers. With expected trauma, absenteeism and deaths among teachers, one would have had more teachers expressing their depressing views on the impact of the pandemic. Surprisingly, the majority of the teachers felt that HIV and AIDS had not overwhelmed their teaching loads or morale. Such sentiments could arise for two reasons. First, the percentage of teachers who are infected at school level is likely to be low. For example, if one considers the national prevalence of 14 percent to be the same as that of teachers, it could imply that 1 teacher in every 10 teachers could be infected at a school. Many schools in rural areas have about 10 teachers, as evidenced by low pupil to teacher ratio for urban areas (51:1) and high pupil to teacher ratio (81:1) for rural areas (Ministry of Education, 2006). It is therefore unlikely that a school could be severely affected by a sickness of one teacher. Besides, traditionally, many of these schools have been operating without the required number of teachers, as per the pupil to teacher ratio stipulated by the Ministry of Education. The Ministry fails to employ the required number of teachers due to lack of resources. Thus, the primary education system has become accustomed to operate without adequate teachers, and many teachers are used to coping under such situations. Thus, even in cases where the pandemic is causing some teacher absenteeism it could be difficult for them to associate such absenteeism with HIV and AIDS.

Second, the availability of ART has enhanced positive thinking among teachers. Teachers who are infected and are accessing ART are becoming productive. They are likely to avail themselves for work every day to make sure that they are not losing out

on funds. Antiretroviral therapy requires nutritious foods and this means teachers who are on the dosage should have money at hand. Infected teachers who rely on their salary as a source of income would take the effort to be present for work. Thus, it is likely that the impact of the pandemic is there, but that teachers are coping.

What the opinions of these teachers suggests is that the teaching corps has not been overwhelmed by high teaching loads to the extent of losing their morale, although at times they had been stressed. While many teachers had been adversely affected by increasing levels of teacher mortality, it appears that the overall incidence of AIDS-related deaths and illness were too low in most schools to have major impacts on teachers' morale. Notable however is that the views of the sampled teachers demonstrate that the pandemic had enlarged their responsibilities which were not part of their core business in the teaching and learning process. As evidenced above, their teaching workloads had not increased. This could mean, as has been demonstrated by other studies, that teachers are nowadays expected to go beyond their professional job descriptions (Jansen, 2007).

In schools, teachers are now, inter alia, working as counselors, carrying out pastoral work, and taking care of orphans. These other responsibilities require new skills that most of them lack. For example, other teachers would find it difficult to teach sex education because they were trained to teach Mathematics. Besides, these responsibilities are usually enlarged but with little or no additional remuneration. Thus, the revelation by this study that failure to meet what is expected of the teachers with

regard to HIV and AIDS has a greater effect on their decision to leave teaching. To an extent, it shows that the challenges experienced by teachers are due to pressure of work outside their profession. Put differently, the burdens that the teachers are experiencing are not related to the pedagogical issues but rather are due to HIV and AIDS issues being added onto their work. This clearly shows that teachers' professional work has been less affected by the pandemic, but that the profession is overwhelmed by work related to HIV and AIDS. This could as well be stressful and it is unlikely therefore that the impact of HIV and AIDS has distressed the profession to an extent of it collapsing.

6.3 Are teachers leaving because of HIV and AIDS?

In trying to assess the possibility of teachers leaving the profession, teachers were asked a question: *have you ever considered leaving teaching profession?* Table 6.4 (below) provides teachers' responses by gender and age band expressed as percentages of the respondents in the districts. Clearly, the table shows that as teachers get older in the profession, they would not want to leave, whereas young teachers would want to leave. As observed, over 60 percent of the sampled teachers aged above 46 have never considered leaving the profession. Slightly more female teachers would consider remaining in the teaching profession than male teachers. Both male and female teachers in Dedza district consider remaining in the teaching profession than teachers in Blantyre.

Question: *Have you ever considered quitting teaching profession?*

Table 6.4: Opinion on leaving teaching profession

	Blantyre males					Blantyre females				
Age	**N**	**R**	**O**	**F**	**A**	**N**	**R**	**O**	**F**	**A**
56 and 65	66.7	33.3	0	0	0	88.9	0	0	0	11.1
46 and 55	38.5	38.5	0	0	23.1	51	16.3	22.4	2	8.2
36 and 45	29.7	17.6	29.7	6.8	16.2	40.2	13.6	20.1	7.1	18.9
26 and 35	33.3	12.5	20.8	10.4	22.9	29.2	11.7	20.1	7.1	31.8
less than 26	0	50	50	0	0	50	0	25	0	25
	Dedza males					**Dedza females**				
Age	**N**	**R**	**O**	**F**	**A**	**N**	**R**	**O**	**F**	**A**
56 and 65	91.7	0	8.3	0	0	85.7	0	0	0	14.3
46 and 55	28.6	14.3	28.6	0	28.6	62.5	0	25	12.5	0
36 and 45	33.3	22.8	19.3	8.8	15.8	40.8	12.2	20.4	12.2	14.3
26 and 35	30.8	20.5	12.8	10.3	25.6	35.4	16.9	26.2	13.8	7.7
less than 26	30	20	30	10	10	28	20	12	20	20

Key: N=Never, R=Rarely; O=Occasionally; F=Frequently; A=Always

Noticeably, teachers aged between 26 and 35 (51 percent) in Dedza district appear more likely to consider remaining in the profession than their counterparts (40 percent) in Blantyre district. More striking is that about 31.8 percent of the female sample in Blantyre always considered leaving compared to 7.7 percent of female sample in Dedza district. Blantyre being an urban district it has alternative work opportunities which may influence teachers more to think of quitting the profession than those in Dedza.

What these results suggest is that unlike the teacher in many developed countries, where teachers would want to leave the profession, those in Malawi seem to be happy. Many who would want to leave the profession are young teachers who have not served

for many years and usually look for other better paying jobs. Teachers who have been in service for more than five years seem to feel secure, and expect to enjoy some benefits that come with long service. Thus *appeals* and *human capital* theories, as described in chapter 3, could be playing a part here. As teachers stay long in the service, *continuation appeal* becomes prominent. Teachers would start enjoying the service and would choose to remain in it. As they remain for longer, they accumulate some monetary benefits through promotions. Eventually long-serving teachers accumulate specific capital in terms of the pedagogies which could be relevant to the teaching profession alone. Teaching as a profession, therefore, is still attractive.

I then wanted to find perceptions of teachers as to whether the impact of HIV and AIDS had reached stages where it was causing many teachers to leave the profession. I therefore put forward a series of questions directly linked to HIV and AIDS. Table 6.5 (below) presents teachers' opinions on the statements. Over 40 percent of the sample in the districts felt that teachers were likely to leave the profession because they were HIV positive. More teachers sampled in Dedza felt that teachers were leaving the profession because they were HIV positive than teachers sampled in Blantyre. Also, more male teachers in Dedza (about 66 percent of the sample) than female teachers (about 52 percent of the sample) felt that denial of access to ART made teachers leave the profession. By contrast, fewer teachers about 34 percent of the male sample and 41 percent of the females sample in Blantyre felt that teachers were leaving the profession because they were denied access to the treatment.

These results are the opposite of what was anticipated in the discussion above. The revelation above had to an extent demonstrated that the impacts of the pandemic are felt, but not seriously. Yet here a sizeable proportion of the sampled teachers were expressing a belief that HIV and AIDS could cause many teachers to leave the profession. It appears from the table that teachers who were on treatment could be more likely to remain in the profession than those who were denied ART. These results support the idea that teachers who are infected in Blantyre have better access to the treatment relative to teachers in Dedza. As has been revealed, many respondents in Dedza felt that teachers were leaving the profession because of HIV and also because of lack of ART. The results to an extent show the presence of HIV and AIDS in the teaching profession and the desperate need for the treatment.

Question: *Indicate which of the following reasons likely influence teachers to quit from the profession*

Table 6.5: Opinion on why teachers quit

BLANTYRE													
Reasons why teachers leave		**Male teachers (n=140)**						**Female teachers (n=396)**					
		ML	**L**	**U**	**LL**	**NL**	**Total**	**ML**	**L**	**U**	**LL**	**NL**	**Total**
They retire	**n**	50	21	1	6	2	80	146	51	10	7	12	226
	%	***62.5***	***26.3***	***1.3***	***7.5***	***2.5***	***100***	***64.3***	***22.5***	***4.4***	***3.1***	***5.3***	***100***
They are HIV positive	**n**	21	14	13	13	21	82	56	53	22	32	40	203
	%	***25.3***	***16.9***	***15.7***	***16.7***	***25.3***	***100***	***27.6***	***26.1***	***10.8***	***15.8***	***19.7***	***100***
They are on ART	**n**	3	11	18	18	29	79	11	19	37	45	75	187
	%	***3.8***	***13.9***	***22.8***	***22.8***	***36.7***	***100***	***5.9***	***10.1***	***19.7***	***23.9***	***39.9***	***100***
They are denied ART	**n**	12	21	15	20	18	86	50	64	29	31	42	216
	%	***13.8***	***24.1***	***17.2***	***23.0***	***21.7***	***100***	***22.9***	***29.4***	***14.3***	***14.2***	***19.3***	***100***
DEDZA													
Reasons why teachers leave		**Male teachers (n=129)**						**Fe male teachers (n=154)**					
		ML	**L**	**U**	**LL**	**NL**	**Total**	**ML**	**L**	**U**	**LL**	**NL**	**Total**
They retire	**n**	99	20	3	2	4	128	130	12	1	4	5	152
	%	***77.3***	***15.6***	***2.3***	***1.6***	***3.1***	***100***	***85.5***	***7.9***	***0.7***	***2.6***	***3.3***	***100.0***
They are HIV positive	**N**	20	23	6	3	23	75	32	34	11	18	12	107
	%	***26.7***	***30.7***	***8.0***	***4.0***	***30.7***	***100***	***29.9***	***31.8***	***10.3***	***16.8***	***11.2***	***100.0***
They are on ART	**N**	8	12	17	20	11	68	4	16	17	16	39	92
	%	***11.8***	***17.6***	***25.0***	***29.4***	***16.2***	***100***	***4.3***	***17.2***	***18.3***	***17.2***	***42.9***	***99.9***
They are denied ARV	**N**	24	26	9	7	9	75	26	26	10	18	17	97
	%	***32.0***	***34.7***	***12.0***	***9.3***	***12.0***	***100***	***26.5***	***26.5***	***11.0***	***18.4***	***17.3***	***99.7***

Key: ML=Most likely; L=Likely; Uncertain; LL=Less likely; NL=Not likely

As mentioned in the literature (Mobile Task Team, 2005), there are factors that are known to influence teachers' decision to leave teaching. I then presented some of these factors to the teachers to find out which ones they thought could affect their decision to leave teaching. Table 6.6 (below) illustrates the percentage of teachers' responses to the statements. As observed from the table, it appears over half the sample felt *failure to meet additional responsibilities related to HIV and AIDS* is likely to have influenced

teachers' decision to leave. Thus, over 50 percent of the sample felt that failure to meet additional responsibilities related to HIV and AIDS contributed highly to their decisions to leave teaching. Furthermore, the notion that teaching has been considered as not just a profession but a service to the nation seemingly is eroding away. As can be seen from the table, both male and female teachers sampled in Blantyre are likely not to be affected by this thought.

The survey further reveals that the sampled teachers considered teaching as a *stressful job.* As demonstrated by the responses, over 60 percent of the sample (with the exception of female teachers in Blantyre, about 37 percent) considered teaching as a '*stressful job',* and that this affects their decision to leave the profession. Although teaching has been known to be stressful (Ingersoll, 2001), one cannot rule out the possibility that the pandemic has contributed. This concurs with a proportion of teachers who thought that HIV and AIDS were likely to have high effects on their decision to leave teaching. Thus, although a high percentage of teachers (over 50 percent of the sample) were not likely to have been affected by HIV and AIDS in their decision to leave, over 30 percent expressed that they were. Over 17 percent of the sample in both districts indicated that they were likely to leave the profession because of HIV and AIDS effects.

The results suggest that teachers' work has been increased due to the presence of HIV and AIDS, and teachers are expected to do much of the work which might not have been envisaged in their career. It is no wonder that teaching is now becoming more

stressful and the belief that teaching was considered a service to the nation, with money not necessarily the motivator, is now being reversed. Demand for better salaries and working conditions are more commonplace.

Question: *Indicate how likely the following items would affect your decision to quit teaching*

Table 6.6: Opinion on some factors that may affect teacher decision to quit teaching

BLANTYRE											
Factors that can affect teachers' decision to leave teaching		**Male teachers (n=140)**					**Female Teachers (n=396)**				
		NL	**LL**	**L**	**ML**	**Total**	**NL**	**LL**	**L**	**ML**	**Total**
Teaching profession is more of a help than a job	**n**	41	18	12	24	95	91	51	43	51	236
	%	*43.2*	*18.9*	*12.6*	*25.3*	*100*	*38.4*	*21.5*	*18.1*	*21.5*	*99.5*
Failure to meet what you are expected to do with respect to HIV and AIDS	**n**	18	15	13	59	105	50	43	31	157	281
	%	*17*	*14.8*	*12.5*	*55.7*	*100*	*17.6*	*15.2*	*11.9*	*55.3*	*100*
Teaching is a stressful job	**n**	26	35	22	6	89	74	52	51	26	203
	%	*29.2*	*39.3*	*24.7*	*6.7*	*100*	*36.3*	*25.5*	*25.9*	*12.7*	*100*
DEDZA											
Factors that can affect teachers' decision to leave teaching		**Male teachers (n=129)**					**Female Teachers (n=154)**				
		NL	**LL**	**L**	**ML**	**Total**	**NL**	**LL**	**L**	**ML**	**Total**
Teaching profession is more of a help than a job	**n**	28	25	23	14	90	27	24	39	24	114
	%	*31.1*	*27.8*	*25.6*	*15.6*	*100*	*23.7*	*21.1*	*34.2*	*21.1*	*100*
Failure to meet what you are expected to do with respect to HIV and AIDS	**n**	20	15	11	56	102	18	18	14	69	119
	%	*19.6*	*14.7*	*10.8*	*54.9*	*100*	*16.8*	*16.8*	*19.3*	*46.7*	*100*
Stressful job	**n**	22	18	34	10	84	18	25	54	14	111
	%	*26.2*	*21.4*	*40.5*	*11.9*	*100*	*16.2*	*22.5*	*48.6*	*12.6*	*100*

Key: NL=Not likely; LL=Less Likely; L=Likely; ML=Most likely

6.4 Are teachers quitting because of influences of surrounding environment?

I also wished to find out teachers' perceptions of the surrounding communities and organizations that were working particularly on projects related to HIV and AIDS. I presented some statements related to the impact of HIV and AIDS, and sought to find out the position of teachers regarding the behavior of the communities and policies generated by surrounding organizations. In doing so, I wished to explain whether teachers thought of quitting teaching because of the behaviors of the surrounding communities. Table 6.7 (below) indicates the percentage of the samples who responded to the statements. As can be observed, over 70 percent of the sample believed that teaching as a profession was highly regarded and respected in the communities they served. However, 18 percent of the respondents felt that teaching was no longer respected. This ought to be a concern because these could be teachers who are infected and are probably alienated because of HIV and AIDS. This could be so especially when a significant number of teachers in the districts (about 30 percent of the sample) expressed agreement that teachers infected by HIV and AIDS were not respected by the community.

Table 6.7: Opinion on some external influences to quit teaching

Blantyre District													
		Male teachers (n=138)						Female teachers (N=395)					
STATEMENTS		SA	A	U	D	SD	Total	SA	A	U	D	SD	Total
I am thinking of quitting teaching because it is not respected by the community	n	18	7	9	57	47	138	44	30	10	159	142	385
	%	*12.9*	*5*	*6.5*	*41.7*	*33.8*	*100*	*11.9*	*7.7*	*2.6*	*41*	*36.6*	*100*
Provision of VCT and ARV in other organizations make me think quitting teaching profession and join those organizations	n	29	16	10	52	28	135	69	57	21	129	109	385
	%	*21.5*	*11.9*	*7.4*	*38.5*	*20.7*	*100*	*17.9*	*14.8*	*5.5*	*33.5*	*28.3*	*100*
Teachers who have HIV/AIDS are not respected by the community and often think of leaving teaching as a profession.	n	23	24	26	30	32	135	41	66	46	129	109	391
	%	*17*	*17.8*	*19.3*	*22.2*	*23.7*	100	*10.5*	*16.9*	*11.8*	*33*	*27.9*	100
Better salaries are needed so that teachers can purchase ARVs or support relatives who have AIDS	n	94	31	2	7	4	138	282	76	4	17	16	395
	%	*68.1*	*22.5*	*1.4*	*5.1*	*2.9*	100	*71.4*	*19.2*	*1*	*4.3*	*4.1*	100
Other organizations have better HIV/AIDS policies and this make teachers decide to join those organizations	n	62	22	22	20	12	138	161	89	44	53	45	392
	%	*44.9*	*15.9*	*15.9*	*14.5*	*8.7*	100	*41.1*	*22.7*	*11.2*	*13.5*	*11.5*	100
DEDZA DISTRICT													
		Male teachers (n=128)						Female teachers (n=152)					
STATEMENTS		SA	A	U	D	SD	Total	SA	A	U	D	SD	Total
I am thinking of quitting teaching because it is not respected by the community	n	15	15	16	41	41	128	19	19	9	57	48	152
	%	*11.6*	*12.4*	*12.4*	*31.8*	*31.8*	100	*10.7*	*7.4*	*7*	*44.2*	*30.4*	100
Provision of VCT and ARV in other organizations make me think quitting teaching profession and join those organizations	n	14	21	9	47	37	128	12	29	15	49	44	149
	%	*10.9*	*16.4*	*7*	*36.7*	*28.9*	100	*8.1*	*19.5*	*10.1*	*32.9*	*29.5*	100.1

Teachers who have HIV/AIDS are not respected by the community and often think of leaving teaching as a profession.	**n**	16	31	18	34	25	124	24	24	26	49	29	152
	%	*12.9*	*25*	*14.5*	*27.4*	*20.2*	100	*15.8*	*15.8*	*17.1*	*32.2*	*19.1*	100
Better salaries are needed so that teachers can purchase ARVs or support relatives who have AIDS	**n**	95	24	1	1	5	126	114	36	2	0	0	152
	%	*75.4*	*19*	*0.8*	*0.8*	*4*	100	*75*	*23.7*	*1.3*	*0*	*0*	100
Other organizations have better HIV/AIDS policies and this make teachers decide to join those organizations	**n**	46	34	22	9	15	126	52	47	18	26	9	152
	%	*36.5*	*27*	*17.5*	*7.1*	*11.9*	100	*34.2*	*30.9*	*11.8*	*17.1*	*5.9*	100

Key: SA=Strongly Agree; A=Agree; U=Uncertain; D=Disagree; SD; Strongly Disagree

Surprisingly, it appears there are no noticeable differences between comments from teachers in Dedza and Blantyre on the statement that '*teachers who are HIV positive are not respected by the community,* despite differences in district prevalence. If anything, slightly more teachers in Dedza seem to agree with the statement than teachers in Blantyre. It could be that a few teachers infected in Dedza do attract attention from the community and consequently feel discriminated against, compared to Blantyre where more teachers are infected. It is likely that the community in Blantyre is more sensitized to integrate people who are infected than in Dedza.

It appears the majority of teachers, 60 percent of the sample in Blantyre and 64 percent of the sample in Dedza agreed that better HIV and AIDS policies in the surrounding organizations could influence them to quit teaching. Surprisingly, provision of ART is not one of the motivation policies. As demonstrated by the table, about 60 percent of the sample in Blantyre and Dedza disagreed that they do think of quitting teaching and

join other organizations that provides free ART to its employees. Remarkably though, over 30 percent of the sample agreed that they did think of quitting and joining organizations which would provide free therapy. This concurs with a significant number of teachers (about 48 percent of the sample in Blantyre and 42 percent of the sample in Dedza) who felt that teachers were leaving the profession and joining other organizations working on HIV and AIDS programmes.

It is evident from the teachers' views that the pandemic had caused some disturbances in the teaching profession. Thus, although teachers were not leaving the teaching profession solely to access ART in other institutions, it is likely that a number of teachers were leaving the profession and joining other organizations which had good working conditions. These conditions could be more favorable in the environment of HIV and AIDS, such as policies that enhance VCT and provision of free ART, and encourage accommodation of teachers who are infected. Such conditions appear to be lacking in the education system, as demonstrated by the survey. Furthermore, this is ascertained by over 80 percent of the sample, both male and female, who agreed that better salaries were needed to sustain the treatment or support infected relatives.

What is significant in the teachers' views is that provision of ART is not such a great priority as better salaries. This implies that despite death being the main cause of attrition, and many of these deaths being caused by diseases associated with the pandemic, it appears at school level that this has not beleaguered the teachers. If the teachers were distressed by deaths, illnesses, and absenteeism of AIDS-affected

colleagues, one would have expected most of them to be prioritizing the treatment. It is clear that teachers' remuneration, particularly in the era of HIV and AIDS, was not sufficiently attractive. Teachers could be moving away from the teaching profession because of the poor working conditions that have characterized the profession for many years (Kayuni & Tambulasi, 2007; Mulkeen & Chen, 2008; VSO, 2002). Teachers are seen to be moving to other organizations, not because they would want to access ART but for better working conditions. Better policies that are provided in other organizations, particularly those dealing directly with the pandemic, to a large extent motivate teachers to leave their profession. Among others, such organizations provide better salaries, loan facilities, enhanced VCT and provision of ART. As has been revealed, these facilities do not usually exist in the teaching profession. If teachers are leaving the profession to join other organizations which are working on issues related to HIV and AIDS, then the impact of the pandemic becomes positive to teachers in that it offers alternative work which provides better working conditions.

6.5 Are working conditions motivating?

Since studies have also shown that teachers leave the profession due to poor working conditions and other related factors, I sought to find out what factors could motivate the teachers. A list of factors was therefore provided to the teachers to indicate which ones could motivate them to remain in the profession. Table 6.8 (below) provides percentage of teachers' opinions, and it appears that most of the teachers would be motivated with a better salary and provision of further studies. Surprisingly, although the sampled

teachers felt that AIDS had caused many teachers' deaths, they indicated that provision of free ART by the ministry could not motivate them.

Over 80 percent of the sample considered provision of free ART as not being a priority. Comparatively though, women teachers in both districts (about 19 percent of the sample) were more likely to be motivated by the provision of free ART than men (about 15 percent of the sample). It appeared likely that many teachers who were not infected could not be thinking of ART, but the few who are. It therefore becomes evident that better working conditions are a priority in the teaching force.

Question: *Which of the following working condition can motivate you to remain in the profession?*

Table 6.8: Opinion on motivating working conditions

BLANTYRE											
		Male teachers (n=140)					**female teachers (n=396)**				
Factors that can motivate teachers to remain in the teaching profession		**HSP**	**HP**	**LP**	**LWP**	**Total**	**HSP**	**HP**	**LP**	**LWP**	**Total**
Provision of further training	**n**	60	36	17	2	115	126	92	35	18	271
	%	*52.2*	*31.3*	*14.8*	*1.7*	*100*	*46.5*	*33.9*	*12.9*	*6.6*	*100*
Salary increase	**n**	69	37	6	5	117	201	95	10	2	308
	%	*59*	*31.6*	*5.1*	*4.3*	*100*	*65.3*	*30.8*	*3.2*	*0.6*	*100*
Provision of good house	**n**	15	25	46	21	107	30	62	96	49.0	237
	%	*14*	*23.4*	*43*	*19.6*	*100*	*12.7*	*26.2*	*40.5*	*20.7*	*100*
Provision of free ARV by the ministry.	**n**	12	6	18	68	104	30	16	54	132	232
	%	*11.5*	*5.8*	*17.3*	*65.4*	*100*	*12.9*	*6.9*	*23.3*	*56.9*	*100*
DEDZA											
Factors that can motivate teachers to remain		**Male teachers (n=129)**					**Female teachers (n=154)**				

in the teaching profession		HSP	HP	LP	LWP	Total	HSP	HP	LP	LWP	Total
Provision of further training	n	35	41	16	1	93	52	36	16	5	109
	%	37.6	44.1	17.2	1.1	100	47.7	33	14.7	4.6	100
Salary increase	n	73	27	2	2	104	80	41	3	3	127
	%	70.2	26	1.9	1.9	100	63	32.3	2.4	2.4	100
Provision of good house	n	5	19	50	9	83	17	24	48	14	103
	%	6	22.9	60.2	10.8	99.9	16.5	23.3	46.6	13.6	100
Provision of free ARV by the ministry.	n	6	4	8	62	80	14	5	17	63	99
	%	7.5	5	10	77.5	100	14.1	5.1	17.2	63.6	100

Key: HSP=Highest priority; HP=High priority; LP=Low priority; LWP=Lowest priority

6.6 Conclusion

The evidence from the questionnaire shows that teachers could have been leaving the profession because they had reached the mandatory retirement age. In both districts most of the male and female samples felt that many teachers who leave the profession do so through retirement. This supports other studies that show age influences teacher attrition (Borman & Dowling, 2008; Ingersoll, 2001), and it concurs with the trends in numbers of teachers demonstrated in Chapter 5. Many teachers in the system are young, aged 35 and below, and stay in the system until retirement. As noted above there are certain appeals and monetary and non-monetary benefits that attract teachers to do so.

In addition, the teachers' expectations on how the pandemic would have severely affected the profession are clear, but the reality does not support a claim that there are

severe effects of HIV and AIDS in the schools. As has been seen, although a reasonable number of teachers, over 40 percent of the sample, felt that teachers were leaving the profession because of the effects of HIV and AIDS, or following good HIV and AIDS policies instituted in other organizations, their working experiences appear to be in contradiction with the anticipated impacts of the pandemic. Thus, that teachers did not feel overloaded with work, nor driven into decisions to resign because of effects of HIV and AIDS. They were not likely to be motivated by the provision of free ARVs and did not agree that their morale had been affected by the pandemic. All these responses suggest that the pandemic has not overwhelmed teaching, and it is therefore unlikely that it has caused catastrophic disturbances in the teaching profession, despite teachers' expectations that many would leave as a result.

Furthermore, one additional way to test the impact of the pandemic was to compare teachers' opinions between high and low prevalence districts. From the results there are few differences between opinions of teachers from high and low prevalence districts. There are relatively similar patterns in the responses from the teachers from Blantyre and Dedza. In some cases, teachers in Blantyre district have expressed disagreement with a statement which one would have expected them to agree on, because of the assumption that they come from a high prevalence district. For example, a good number of the sample of teachers from Blantyre did not agree that their teaching loads had increased and that their work had been stressful. In other cases, more teachers from Dedza than from Blantyre expressed a belief that teachers were leaving the profession because they had been denied ART. Such inconsistencies in opinions between teachers

from high and low prevalence areas appear to contradict what the observers had been projecting regarding the impact of the pandemic on teachers. I therefore do not draw a line between the effects of the pandemic on high and low infected areas

Finally, I ought not to rule out the possibility that HIV and AIDS has brought challenges to the teaching profession, as revealed by a proportion of the sampled teachers. The revelation that female teachers are motivated more by the provision of ART in other organization than males, and that female teachers appear to know more teachers who have died because of the pandemic than males, to an extent indicates how affected the women are. These revelations demonstrate one way in which the education system is disturbed by HIV and AIDS.

CHAPTER 7

CONCLUSION

7.1 Introduction

Emanating from concerns that education systems in sub-Saharan Africa would collapse in the face of HIV and AIDS, the study posed the following two major questions; *what has been the rate of attrition for primary teachers in Malawi between 1996 and 2007*? and *what proportion of that attrition could have been influenced by HIV and AIDS*? Given that many studies (Badcock-Walters & Whiteside, 1999; Coombe, 2004; Kelly, 2000; Shaeffer, 1994) have suggested that the pandemic would reach its peak in the late 1990s and early 2000s, this study focused on patterns of age structure, teacher attrition and reasons for that attrition in the period between 1996 and 2007. It had been anticipated that the devastating effects of the pandemic would be felt after eight to ten years after people became infected. Countries like Malawi, where the virus emerged in 1985, were therefore expected to have been adversely affected after 1996. The effects of the pandemic were expected to be manifested to an extent of incapacitating many people, including teachers. The assumption that had been made was that the core driver of the collapse of the education system was the rapid decline in the number of teachers. This would be due to inability of the system to find teachers to replace those who had died, having been forced out or being too sick to teach. In the worst case scenario, attrition was assumed to be extremely high on account of deaths in-service, early retirements, resignations and psychologically-related dismissals. Given the patterns of infection that were noticeable at the earliest stages of the disease, it was assumed that

certain groups, young females in particular, would be likely to have high infection and mortality rates. As this specific group is disproportionately represented in the teaching profession, a close analysis of this demographic group would provide important insights into the long-term impact of the disease on the teaching profession.

The initial intention of the secondary data analysis component of this study was to use existing government data on teachers to identify patterns of age structure and attrition. It was assumed that high-quality information on every primary school teacher was available for every year within the analysis years. Consequently, it would have been possible to track the patterns of first employment to termination of service of teachers leaving the profession. Through an analysis of the universal patterns and a more disaggregated analysis of particularly demographic sub-populations (i.e. young female teachers), it was assumed that the data would provide accurate answers to the questions about the impact of the epidemic on the primary teacher corps in Malawi.

Due to incompleteness and inconsistencies of data, however, this comprehensive analysis could not be accomplished as anticipated. Data were not available in all the years within the study period, and where it was available it had some inconsistencies. Specifically, information regarding dates of first appointments of the teachers was too scanty to assist meaningful analysis. Furthermore, data on numbers of teachers who resigned, retired, dismissed or deceased were not available before 2003. Teacher attrition according to reason could not be calculated over those years. Only information

on date of births of teachers made it possible to analyze the trend in teachers' age structure.

Teacher age structures provide profiles of the number of teachers in different age categories, and an insight into how the structure has changed over time. It shows how the age structure of the teaching corps has evolved as young teachers who were employed in Malawi soon after the introduction of FPE had aged. In addition to teacher profiles, teacher attrition rates were calculated by cause from 2004 to 2007. While the major focus of the analysis of teacher attrition was on the mortality rates, the analysis also provided other reasons of attrition. This section of the study used a new dataset, collected by the Human Resources, to establish specific reasons given for teachers' deaths.

Given the inability to actually test teachers, it was necessary to use alternative research approaches to investigate how HIV and AIDS could be affecting teachers in schools. This is an important component if one is to test the collapse hypothesis. While dramatic shifts in the attrition and mortality rates of teachers would be considerable, it is safe to assume that teachers would be experiencing the effects of the pandemic far sooner at the school level than would appear in the attrition and mortality rates. The teacher opinion survey was therefore carried out to find teachers' experiences of HIV and AIDS. One specific component of this was to obtain their opinions about the reasons for the patterns of teacher attrition. These experiences were framed in line with the existing theories, i.e. the three factor model of personal, employment and external

reasons. More specifically, the questionnaire included demographics, family issues, age, work conditions and societal or institutional behavior attrition models.

The idea of combining these approaches, i.e. secondary data and teacher survey, was to provide different findings from a series of indicators that were obtained, and link them to the HIV prevalence and AIDS mortality rates in the different regions. This would add a degree of accuracy of the conclusions about the impact that the pandemic could have on the primary teacher corps.

7.2 How plausible are these conclusions?

In chapter 5 and 6 I have therefore argued and concluded that HIV and AIDS have not devastated the teaching profession as had been anticipated. But is this conclusion correct or are there plausible reasons to doubt this interpretation? In this section I suggest three possible alternatives for the conclusion and maintain that it is plausible. First, the conclusion could be wrong because the data contained some inconsistencies. Second, the conclusion could be true in that the original prediction of the collapsing thesis was correct, but subsequent events such as enhancement of prevention programmes, and availability of treatment, have proved the predictions wrong. Finally, the conclusion could be trustworthy because the arguments of the collapsing thesis has been based on incorrect predictions, which resulted in projections that were flawed either by underestimating or overestimating the prevalence rates or the number of teachers infected.

7.2.1 Flaws in data

Like other education ministries in sub-Saharan Africa, the Ministry of Education in Malawi does not have all the necessary data required to assess with accuracy the impact of the pandemic on education suggested by researchers (Bennell, 2003a; Bennell et al., 2002; Carr-Hill et al., 2002; Coombe, 2002; Kelly, 1999). Besides having no electronic EMIS data for 1996, 1999, 2000, 2002, and 2003, the Ministry did not include relevant indicators for measuring the impact of HIV and AIDS, even in the data available. It is likely that the data collected in these missing years had some flaws and was excluded from the bulletin, as evidenced by Malawi Basic Statistics reports released in 2001 and 2002. It is also accepted that during these years the Planning Unit in the Ministry of Education had a shortage of personnel, resulting in EMIS reports not being adequately compiled.

With these gaps in data, it would probably be difficult to come up with a comprehensive picture of the trends in the effect of the pandemic within the review period. If data were to be available for all the years, it would have been possible to carry out a teacher cohort analysis or follow up teachers in each year. This could have also been strengthened by availability of the relevant indicators needed for assessing the impact of HIV and AIDS, as suggested by other researchers. I would like to accept therefore that the need for consistent data remains a challenge if one is to make a meaningful understanding of the impact of the pandemic on teachers.

In terms of using appropriate indicators needed for assessing the impact of HIV and AIDS, it appears the Ministry of Education has taken more time before starting incorporating them. For example, although most of the researchers started advocating suitable indicators for the assessment of the impact as far back as 1999, in Malawi the Ministry of Education only began including some of the indicators in 2004. Data on teachers who have died, been dismissed, resigned, retired and teachers who are on prolonged illness, is now included in the annual questionnaires, thus, responding to the concerns raised by researchers (Table 2.1). However, more data needs to be included. Lack of disaggregated data in terms of age, documentation of numbers of teachers who are HIV positive and are on ART, time lost on matters related to HIV and AIDS, number of teachers transferred because of HIV and AIDS, number of teachers died of AIDS by age, is among that not collected or included in EMIS.

This suggests that my study has not made as much use as hoped of the proposed indicators and aggregated data. Knowing the ages of teachers who are resigning, have retired, have been dismissed, and/or who are dying, would have provided strong evidence, especially when tallied with the prevalence rates. While these indicators would be needed in the future, the overall conclusion of the study that the impact has not devastated the education system seems rational, as explained in the following sections.

7.2.2 Prevention and treatment is working

The second interpretation of the conclusion suggests that HIV and AIDS would have adversely affected the teaching corps, but Malawi might have managed the pandemic over the past decade. There have been many investments in preventive programmes, particularly in highly affected countries such as Malawi. There have been many programmes aimed at enhancing change of sexual behaviour through abstinence and use of condoms, and also encouraging people to go for Voluntary Counseling and Testing (VCT). It would be incorrect therefore to assume that these programmes have not had any positive impact. As revealed by UNAIDS (2008), global reports on the AIDS epidemic, suggest that "a six-fold increase in financing for HIV programs in low and middle income countries in 2001 to 2007 is beginning to bear fruits, as gains in lowering the number of AIDS deaths and preventing new infections are apparent in many countries" (UNAIDS, 2008). Preventive programmes have therefore contributed to the stabilization of or decline in HIV prevalence rates in SSA countries, including Malawi (Risley & Bundy, 2007). Like the general public, teachers in Malawi might have therefore taken precautionary measures to shield themselves against contracting HIV. Teachers could no longer be considered more vulnerable than the general population, as has been speculated in the past. The decline of HIV prevalence in teachers may not necessarily result in a lowering of AIDS cases in teachers. The UNAIDS report observes that the overall number of people living with HIV has increased as a result of new cases, but those infected and who have developed AIDS or

are now accessing ART could contribute to reducing the number of deaths caused by AIDS.

Teachers have now realized that it would not make sense to keep their status a secret and die slowly when drugs that could assist them are available. This has been demonstrated by a sizeable proportion of teachers who are 'coming out' and declaring their status. A survey of teachers on ART in Malawi indicates that about 3.5 percent of the teachers enrolled and were on treatment in about 138 ART clinics by September 2006. Although there were possibilities that some teachers were not enrolled, the report however indicated that the 138 ART clinics covered the whole country, implying that teachers around the country have access to ART (Makombe, 2008). This number, 3.5 percent of the total teachers, is slightly higher than 960 (about 2.6 percent), who by November, 2007 declared to the ministry that they were HIV positive. This shows that not all infected teachers had registered in the ART clinics and also that not all infected teachers have reported to the Ministry. Although not all the infected teachers have registered for the ART, it is still encouraging to see teachers coming out to declare their status. It is likely the availability of ART has enhanced the integration of the teachers by the community and AIDS has started being regarded as one of the other 'ordinary diseases'. Being on ART is not shaming and is now considered like taking any other drug, because of its availability and effectiveness.

What comes out of this study suggests therefore that the preventive programmes that have been undertaken in Malawi over the years have likely produced positive results.

The country is now observing stagnation or declining trends in the prevalence rates, as well as the reduction in the AIDS effects. This has also been enhanced by encouraging teachers to go for VCT and access antiretroviral therapy that is widely available. It makes sense therefore to conclude that the collapsing of the education sector has not come to pass as a result of positive measures taken by Malawian government in combating the pandemic.

7.2.3 Data could be right but original predictions incorrect

The third interpretation of the conclusion is that the data reviewed or obtained in this study reflects the reality of the situation and the original predictions are incorrect. Having collected the EMIS and HRD data from the Ministry of Education I consider the data reliable. The data is released by the ministry after undergoing all necessary processes required in data collection. The omission of questionable data in some years by the Ministry of Education, to an extent shows how the Ministry attempts to release accurate data. It could therefore be reliable. Besides, data that the Ministry of Education started collecting in 2004 came, as a matter of concern, to include relevant indicators for monitoring the impact of HIV and AIDS.

After having cleaned the EMIS and HRM data, a realistic and lucid interpretation can therefore made. It is likely that the trend obtained over the years is realistic. With the ages of the teachers available and disaggregated by age bands, the age structure likely provides a reliable trend in teachers from 1997 to 2006. The consistency in the findings

of the analysis of teacher attrition, mortality rates and the causes of deaths illustrate that data used could be trusted.

So the question is begged as to why one might conclude that the original predications were incorrect? To begin with, soon after the emergence of the pandemic, many analysts developed estimates of HIV prevalence rates because of inability to obtain empirical data. Researchers on the impact of HIV and AIDS on teachers based their analysis on these estimates and further developed their own projections because of lack of data. Thus, both the projections and prevalence estimates had many underlining assumptions. These were believed to be inaccurate and were subjected to heated debates among demographers (Bennell, 2003a; Crampin, 2003a; Salomon & Murray, 2001). Apparently, the use of projections and rates of prevalence estimates appeared to have been overestimated, and sometimes underestimated the impacts of the pandemic. This has not been observed only through a global perspective, but even at country level (National AIDS Commission, 2003; UNAIDS, 2008). In Malawi, for example, it was reported that the methods used to estimate the prevalence rates have many sources of potential errors. Malawi National AIDS Commission accepted that sentinel surveillance data was derived from convenience samples and some sites were purposefully selected, therefore not representing the general population. In addition, pregnant women who patronize these sentinel sites may be having unprotected sex at a greater rate than the general population, which could overestimate the prevalence. Also, the prevalence in Ante-Natal Clinics (ANC) attendees may underestimate what is happening in the general population, because women with HIV associated infertility are not captured.

Finally, men and non-pregnant women are not included in the sentinel surveillance sample. These are potential errors that could have led to underestimation or overestimation of the prevalence rates.

In addition, it appears that the use of population-based epidemiological data in estimating prevalence rates is more reliable than the estimates based on ANC data. Many studies agree that the population-based sample provides relatively lower rates of prevalence than those from the ANCs (Crampin, 2003b; Fylkesnes & et al., 1997; Glynn & et al, 2001; Kigadye & et al., 1997; Kwesigabo & et al., 2000; Rice & al., 2007). These researchers contend that the use of ANC received attention because of limited population-based epidemiological data, and because of expensiveness in collecting data that could directly measure HIV incidences. It seems researchers however are not yet convinced that the prevalence rates that are obtained from the ANCs are higher than those obtained through population based surveys. Usually, the researchers associate the lower rates in the population sample with underestimates due to selection bias or over representation of the ANCs.

Malawi appeared to have started observing declining trends in the prevalence rates but this has not been generalized yet. These have been indicated by the Malawi National AIDS Commission (MNAC), but also through national VCT surveys. The MNAC indicated that the prevalence rates increased since the emergence of the virus but has stabilized for the past nine years, if not declined (National AIDS Commission, 2005). The 2004 Malawi Demographic Health Survey (MDHS) also indicated that 12 percent

of the population aged 15 to 49 were living with HIV and AIDS, showing a declining trend from 14 percent estimated by MNAC (National Statistical Office, 2004). The decline was also reflected in 2007 in a national day of VCT that took place. About 186,631 volunteered for testing and 15,677 tested positive representing 8 percent (The Daily Times, 2007). It can be argued that people who willingly go for VCT are usually in good health and their prevalence rate might be low. However other findings of a study carried out in some rural and urban hospitals in Malawi by New Guinea Health Minister and Bougainville Affairs, Sir Peter Barter, noted also that the infection rate had gone down by about 47 percent (Nation Online, 2006). The figures revealed in these surveys could reflect the actual prevalence rates other than ones that are estimated using the ANC data.

Furthermore, the correction of HIV and AIDS figures by UNAIDS affirms that projections used in the past were somehow flawed. In November 2007, UNAIDS corrected its global estimate from 40 million to the current figure of 33.2 million people living with HIV. UNAIDS mentions that this drop by 16 percent was because of a revision of prevalence in India and changes in the methods of data collection (UNAIDS, 2008). Not only has UNAIDS corrected its figures but it has also revealed that in most SSA countries HIV prevalence is stabilizing, in some cases declining (UNAIDS, 2008). Moreover, UNAIDS affirmed there has been a reduction in HIV-associated deaths, which are partly because of the scaling up of ART. Also, UNAIDS accepts that there has been an overall reduction of new HIV infections globally. What this indicates is that UNAIDS could have noted some errors in the estimations that were

made in the past. Yet these were mostly cited by researchers as the basis for the collapsing of education in sub-Saharan Africa.

What has emerged from this and other recent studies (Bennell et al., 2002; Bennell & Kadzamira, 2005; Kadzamira et al., 2001) challenges the use of projections and anecdotal information in advancing the collapsing thesis. As observed, most of the documents that widely asserted that HIV and AIDS would devastate the education system did not build on realities on the ground. With paucity of data, particularly in the early years of the emergence (around 1990s-2000s), there were more assertive conclusions (assumptions, predictions) on how the pandemic would affect the education system. These conclusions were not emanating from hard data but from what the experts thought would happen, and this led to same speculations being presented and articulated differently by different experts. Thus, the use of projections or estimations appears to have distorted the actual picture of the impact of HIV and AIDS on the education system. Now there is a need to replace projections by empirical data that has emerged over the years. Projections on what education systems would be, in the face of HIV and AIDS in SSA, should now be determined by data obtained over the years. This and other studies appear to have started providing evidence to that effect.

7.3 Recommendations for further studies

7.3.1 Improve quality of data

As it extends knowledge of the impact of HIV and AIDS on demand and supply for education, the literature seems silent about the barriers to the collection of relevant and quality information. Little, if anything, has been published about the reasons ministries of education are failing to collect relevant data for assessing the impact of the pandemic. The data requested by researchers (as shown in Table 2.1) looks simple and easy to collect. For example, data on composition of the teaching force by age, gender and marital status, relative salary levels, teacher education and qualification levels, levels of unionization and ethnicity is data which planners should be able to collect during an annual census. Most Ministries would argue that financial constraints are the cause for poor, incomplete and unreliable data, but this is data that could be incorporated in the day-to-day work of planners, administrators, education advisors and head teachers. Many of the required data, for example in the case of Malawi, is compiled at school level and sent to the district office, only later to be sent to the central level.

What I consider as a problem in Malawi is that usually the Ministry of Education would wish to have a separate exercise to collect data under what is usually called ‘annual school censuses’. This exercise becomes expensive and liable to failure because it is meant to be done at the same time in all the divisions and districts. Consequently, it demands a great deal of financial and human resources at the same time. The exercise is

largely dependent on donor support. It has been observed that when donors fail to provide enough funding for the exercise, there have been delays, and sometimes cancellation of the exercise.

Failure to obtain relevant, quality and appropriate data in sub-Saharan Africa reveals a weakness in Education Management Information Systems (EMIS) which has been a concern for some time (Chapman, 1991; Halliday & Hogan, 1994; McMahon, 1993; Ross & Malck, 1990). The concern was not only to introduce EMIS units in the planning sections but to ensure that all functions of EMIS were working. This meant having an EMIS that would update and redefine indicators so that they are relevant to the current education challenges. Surprisingly, after two decades, researchers are still calling for redefining of data.

The first priority should now be to ensure that the basic data infrastructure is effective. Without this any secondary analyses and assessment would be problematic. The failure to collect relevant data should therefore be of paramount importance than doing further assessment research when we know that relevant data is not available. Assessing whether there is improvement in practice on how data collection is done in Malawi, as well as other countries heavily hit by the pandemic would be necessary. Robust research is therefore required in EMIS to determine whether current practices are integrating the indicators or statistics that are required.

7.3.2 Need for research in other affected countries

It appears there is a shift in researching the impact of HIV and AIDS on education in the affected countries. The focus has shifted to administration of ART and its effects. Many countries with high prevalence are now engaged in encouraging people to go for VCT and thereafter, if found positive, to start accessing ART. Whilst this is a welcome practice, there is potential to neglect the concerns raised in the literature about lack of relevant data needed to measure the impact of HIV and AIDS. It is evident that some criticisms that commentators have raised, for example, about the continuation use of anecdotal information and projections, the need to iron out inconsistencies in the research findings, the need for an additional and relevant data, the need for disaggregated data, among others, have not yet been addressed. Thus, since the intensifying of the debate about what would happen to the education sector, few studies show that the suggested indicators have been incorporated in the countries affected by the pandemic.

Leaving these concerns unattended has two consequences. First, one might need this data even after all the infected people have accessed ART. Accessing ART is a temporary measure which will have some repercussions in the future and one would need more relevant data for further analyses. As countries are rolling out accessibility of ART simultaneously they should be building up good EMIS with relevant data. That way, they will avoid the mistake of having no proper data for analyzing the impact of ART on education system as well as not undermining the quest to improve EMIS. What this entails is the need for robust research in different countries to find out which

countries have included the indicators and assist the countries that have not done to do so. As donors intensify the provision of VCT and ART, they should also set aside funds for improvement of EMIS in countries with high prevalence. There is a need to intensify the inclusion of the list of the indicators that the ministry collects annually in the Planning Units in the Ministries of Education.

The second consequence is that the availability of ART needs good documentary studies involving multiple indicators. One needs to know the teachers who are on ART and follow them. One needs to know teachers who started accessing ART and probably have stopped for other reasons. One needs to know who out of those teachers are still alive and whether their health has improved. The availability of ART could make a higher proportion of infected teachers go on the dosage, and it is essential for Ministries of Education to have good EMIS that would capture all the teachers on ART. Countries that are heavily affected by the pandemic should integrate all the necessary indicators relevant in the presence of ART. This could have ethical implications, but innovative studies ought to be initiated that could involve teachers on ART themselves.

Worth noting also is how factors that contribute to the impact of HIV and AIDS differ country by country due to cultural and socioeconomic status of a country. These factors can increase or lessen the HIV prevalence rates. Economic status of a country, which could later be translated into economic status of teachers, can determine the availability of healthy facilities as well as access to ART. Where health facilities are easily accessible, provision of free ART could eliminate stigmatization and trauma compared

to where ART is not accessible. Also, differences in cultural practices across countries might have different influences on the impact of teachers. Cultural practices can enhance the way teachers in a particular country accept or reject different interventions programmes that are being provided. How the pandemic is affecting teachers in Malawi therefore might be different from the way it is affecting, for example, teachers in South Africa. There is need also to integrate these issues in country studies.

7.3.3 Collapsing thesis postponed-need for more research on teachers

The availability of ART has brought hopes and has started retarding the expected negative effects that the pandemic would have brought to the education sector. Many teachers who are infected are now accessing ART and this has started rejuvenating the education sector (Makombe, 2008). Death rates appear to have started declining and absenteeism has started to be reduced. There is however a need to nurture these positive outcomes because, as mentioned above, the treatment is temporary. ART does not completely eliminate the virus but suppresses viral activity in the body. It prolongs the time that an AIDS patient can survive relatively symptom-free. Thus, upon cessation of the therapy, the virus could explode once more into activity. If not closely monitored, the availability of the ART could only delay the collapsing thesis, but not completely remove it. Thus, the availability of ART could generate other foreseen implications for the education sector.

With good management, the sector will have a good proportion of teachers on treatment. These teachers are not completely healed and they might be experiencing some other health challenges resulting from the treatment. For example, one might still experience some absenteeism due to these teachers attending to clinics for drugs and other medical advices. Thus, as one would expect that the teachers are now fit to perform their duties, one still does not know what would happen to them. Besides, living on drugs everyday could result in drug fatigue. One might reach a point of no longer wanting to take the drugs and the result could be disastrous, especially, if one did not know how long the ART could sustain the immune system. It is possible that the immune system could be lowered with years and be worsening by the drug fatigue on the side of the patient. If such a situation happens then it is likely that many teachers would die in a short time.

In addition, with the availability of treatment teachers who are infected will live longer and this could increase HIV prevalence among teachers. This could be the case if there are new infections. Consequently, there could be a possibility of the virus spreading among teachers who are infected and are on ART. UNAIDS (2008) affirms that the overall number of people living with HIV has increased as a result of the ongoing number of new infections each year, and the beneficial effects of more widely available antiretroviral therapy.

In conclusion, as mentioned above, it becomes crucial therefore to monitor and support teachers who are on ART. Programmes that could help them not become complacent

that they are in good state and start spreading the virus needs to be encouraged. For example, longitudinal studies are needed to follow teachers who are living positively. Apart from knowing in which schools these teachers are, there is a need also to know where, how and when they access the ART, and what challenges they face as they progress with the treatment. Such studies could also include pedagogical issues. It would be important to learn how these teachers are fairing in terms of teaching and learning activities, for example, how they cope with the teaching load. One might also observe frequencies of absenteeism and visits to hospitals. What sort of interactions do these teachers have with fellow teachers, pupils and the surrounding communities? These and other concerns can provide rich information about teachers who are infected.

REFERENCES

Abt Associates. (2000). *The impact of AIDS on Education Sector in South Africa.* Paper presented at the IIEP Meeting on HIV/AIDS on Education, Paris.

Abt Associates. (2001). Impacts of HIV/AIDS on the Botswana Education Sector: Summary Johannesburg: Mimeo

Abt Associates. (2001a). *Impact of HIV/AIDS on the Southern African Education Sectors*. Johannesburg: Mimeo.

Abt Associates. (2002). *Impact of HIV/AIDS on Education in Namibia*. Johannesburg: Mimeo.

Actionaid. (2007). *Malawi: A decade after FPE the teacher shortage persists*. Lilongwe: Action Aid International.

Addi-Raccah, A. (2005). Gender and Teachers's Attrition: The occupational Destination of Former Teachers. *Journal of Sex Roles, 53*, 739-752.

Ainsworth, M., Beegle, K., & Koda, G. (2005). The Impact of Adult Mortality and Parental Deaths on Primary Schooling in North-Western Tanzania. *The Journal of Development Studies, 41*(3), 412-439.

Alkaabi, A. (2005). *Factors influencing teacher attrition in the United Arab Emirates.* University of Pittsburg, Pittsburg.

Amone, J., & Bukuluki, P. (2004). *The impact of HIV/AIDS on the education sector in Uganda: Study 2 Examining the impact of HIV/AIDS on governance in the Education sector.* Paris: IIEP/UNESCO.

Badcock-Walters, P., & Whiteside, A. (1999). *HIV/AIDS and Development in the Education Sector*. Washington, DC: USAID.

Bennell, P. (2003a). The AIDS Epidemic in Sub-Saharan Africa: Are teachers a high-risk group? . *Comparative Education, 39*(4), 493-508.

Bennell, P. (2003b). The impact of the AIDS epidemic on schooling in Sub-Saharan Africa, *ADEA Biennial Meeting 2003*. Grand Baie, Mauritius: Association for the Development of Education in Africa.

Bennell, P. (2005b). The impact of the AIDS Epidemic on the Schooling of orphans and other directly affected children in Sub-Saharan Africa. *The Journal of Development Studies, 41*(3), 467-488.

Bennell, P. (2005c). Teacher Mortality in Sub-Saharan Africa: An up date.: Brighton.

Bennell, P. (2009). The impact of the AIDS epidemic on teachers in Sub-Saharan Africa: A further update. Brighton.

Bennell, P., & Akyeampong, K. (2007). *Teacher Motivation in Sub-Saharan Africa and South Asia* (No. Researching the Issues 71): DFID.

Bennell, P., Hyde, K., & Swainson, N. (2002). *The impact of the HIV/AIDS epidemic on the education sector in Sub-Saharan Africa: A synthesis of the findings and recommendations of three country studies*. Sussex: Centre for International Education, University of Sussex Institute of Education.

Bennell, P., & Kadzamira, E. (2005). *The impact of the AIDS epidemic on primary and secondary school teachers and University staff in Malawi. .*

Bicego, G., Rutstein, S., & Johnson, K. (2003). Dimensions of the emerging orphan crisis in Sub-Saharan Africa. *Social Science and Medicine, 56*, 1235-1247.

Billingsley, S. (1993). Teacher retention and attrition in special and general education: A critical review of the literature. *The Journal of special education, 27*(2), 137-174.

Boler, T. (2003). *Approaches to examining the impact of HIV/AIDS on teachers; Policy and Research: Series 1. Actionaid International.*

Borman, G. D., & Dowling, N. M. (2008). Teacher Attrition and Retention: A Meta-Analytic and Narrative Review of the Research. *Review of Educational Research,, 78*(3), 367-409.

Brownell, M. T., & al., e. (1997). Attrition in Special education: Why teachers leave the classroom and where they go. *Exceptionality, 7*(3), 143-155.

Caldwell, J. (1997). The impact of the African AIDS epidemic. *Health Transition Review, 7*(Supplement 2), 169-188.

Carr-Hill, R., Katabaro, K., Katahoire, A., & Oulai, D. (2002). *The impact of HIV/AIDS on educational and institutionalizing, preventive education*. Paris: IIEP/UNESCO.

Case, A., & Ardington, C. (2004). *The impact of parental death on school enrolment and achievement: Longitudinal evidence from South Africa*. Cape Town,: Priceton University and University of Cape Town.

Castro, V., Duthilleul, Y., & Calloids, F. (2007). *Teacher absences in an HIV and AIDS context: evidence from nine schools in Kavango and Caprivi (Namibia)*. Paris: IIEP/UNESCO.

Chapman. (1991). Educational data quality in the Third World: A five country study. . *International Review of Education,, 37*(3), 365-379.

Chapman. (1994). *The management of teachers:Reducing teacher absenteeism and attrition*. Paris: IIEP/UNESCO.

Chawani, B., & Kadzamira, E. (2004). *The impact of HIV/AIDS on the Education Sector in Malawi: Study 2, Examining the Impact of HIV/AIDS on Governance in the Education Sector*. Paris IIEP/UNESCO.

Coombe. (2001). Rethinking some of our perceptions about HIV/AIDS and education: A paper presented at Southern African Development Community meeting on HIV/AIDS and education *Southern African Development Community meeting on HIV/AIDS and education.* University of Pretoria

Coombe. (2002). *Mitigating the impact of HIV/AIDS on Education Supply, Demand and Quality in AIDS, Public Policy and Child well-being*: UNICEF.

Coombe. (2004). Confronting the Impact of HIV and AIDS: The consequences of the pandemic for education supply, demand and quality, a global review from a Southern African perspective *Policy Futures in Education,, 2*(1), 102-140.

Crampin, A. (2003b). Trends and measurement of HIV prevalence in northern Malawi. *AIDS, 17*, 1817-1825

Creswell, J. (1994). *Research Design: Qualitative and Quantitative Approaches*. London SAGE Publication.

Darling-Hammond, L.(2003). Keeping good teachers: Why it matters, what leaders can do? *Association for supervision and curriculum Development Psychology, 14 (1), 42-45*.

Davies, L., & Dzimadzi, C. (2003). Educational Decentralization in Malawi: a study of process *Compare, 33*(2), 140-154.

Desai, K., & Jukes, M. (2005). *What is the evidence of impact of HIV/AIDS on education system in Africa?*

Dias da Graca, P., & Tournier, B. (2007). *Managing Educational Quality in an AIDS Environment: Development of a District Level Database*. Paris: International Institute for Educational Planning/Malawi Ministry of Education.

Education Assessment Team. (2002). *The impact of HIV/AIDS on Education in Zimbabwe*.

Education International. (2007). Teacher supply, Recruitment and Retention in Some Anglophone Sub-Saharan Africa Countries. A Report on a survey conducted in the Gambia, Kenya, Lesotho, Tanzania, Uganda and Zambia.

Education Labour Relations Council. (2005). *Educator Supply and Demand in the South African Public Education System: Integrated Report.* Cape Town: HSRC.

Evans, D., & Miguel, E. (2004). *Orphans and Schooling in Africa: A longitudinal Analysis*. Johannesburg: Mimeo.

Foster, G., & Williamson, J. (2000). A review of current literature of the impact of HIV/AIDS on children in Sub-Saharan Africa. *AIDS, 14*(Supplementary 3), 275-284.

Fraenkel, J., & Wallen, N. (1990). *How to design and evaluate research in education.* New York: McGraw-Hill.

Fylkesnes, K., & et al. (1997). The HIV epidemic in Zambia : Socio-demographic prevalence patterns and indications of trends among childbearing women,. *AIDS, 11*(3), 339-345.

Gachuhi, D. (1999). The impact of HIV/AIDS on education systems in the Eastern and Southern Africa Region and the response of education systems to HIV/AIDS: Life skills programmes, *Sub-Saharan Africa Conference on Education for All 2000*. Johannesburg,: UNESCO.

Glynn, J., & et al. (2001). The development of HIV AND aids in Karonga District, Malawi. *AIDS, 15*(2), 2025-2029.

Gottelmann-Duret, G., & Hogan, J. (1998). *The utilization, deployment and management of teachers in Botswana, Malawi, South Africa and Uganda*. Paris: IIEP/UNESCO.

Hall, E. (2005). Potential Attrition in Education: The impact of job satisfaction, morale, workload and HIV/AIDS. Johannesburg: Report presented by a research consortium

comprising the Human Sciences Research Council and the Medical Research Council of South Africa(HRSC).

Halliday, I., & Hogan, J. (1994). *The management of teachers. Developing a database for teacher's management*. Paris, : IIEP/UNESCO

Harries, A., Hargreaves, N., & Gausi, J. (2002). High death rates in health care workers and teachers in Malawi. *Transactions of the royal society of tropical medicine and hygiene, 96*, 34-37.

Ingersoll. (2001). *Teacher Turnover, Teacher Shortages, and the organization of Schools*. Washington DC: University of Washington: Center for the studies of teaching and Policy.

Ingersoll. (2003). *Is there Really a Teacher Shortage?* Washington DC, : University of Washington: Center for the studies of teaching and Policy.

Jansen, J. (2007). Bodies Count: AIDS Review 2006. In M. Crewe (Ed.). Pretoria: Centre for AIDS, University of Pretoria.

Kadzamira. (2006). *Teacher motivation and incentives in Malawi*. Zomba: Centre for Educational Research and Training.

Kadzamira, Maluwa Banda, D., & Kamlongera, A. (2001). *The impact of HIV/AIDS on primary and secondary schooling in Malawi: Developing a comprehensive strategic response*. Zomba: Center for Educational Research and Training

Kayuni, H., & Tambulasi, R. (2007). Teacher turnover in Malawi's Ministry of Education: Realities and challenges. *International Education Journal, 8*(1), 89-99.

Kelly, M. (1999). The impact of HIV/AIDS on schooling in Zambia, *Paper presented at XI International Conference on AIDS and STDs in Africa (ICASA)*.

Kelly, M. (2000). *Planning for education in the context of HIV/AIDS*. Paris: IIEP/UNESCO.

Kigadye, R., & et al. (1997). Sentinel surveillance for HIV-1 among pregnant women in a developing country: 3 years' experience and comparison with a population sero-survey. *AIDS, 7*, 849-855.

Kirby, S. N., & Grissner, D. (1993). *Teacher Attrition: Theory, evidence, and suggested policy options*. Santa Monica: Rand distribution services.

Korenromp, E., Williams, B., & de Vlas, S. (2005). Malaria Attributable to HIV-1 Epidemic, Sub-Saharan Africa. *Emerging Infectious Diseases, 11*(9), 1410-1419.

Kunje, D., Lewin, K., & Stuart, J. (2003). *Primary Teacher Education in Malawi: Insight into Practice and Policy* Sussex: Centre for International Education.

Kwesigabo, G., & et al. (2000). Monitoring of HIV-1 infection prevalence and trends in the general population using pregnant women a sentinel population: 9 years experience from Kagera region of Tanzania. *AIDS, 23*(4), 410-417.

Locke, L. (1999). *Proposals that work (5th Edition): A guide for planning dissertations and grants proposals*. London: SAGE Publication.

Lortie, D. (1975). *School-Teacher: A sociological study*. Chicago. : University of Chicago Press.

Louw, J., Shisana, O., Peltzer, K., & Zungu, N. (2009). Examining the impact of HIV and AIDS on South Africa educators. *South Africa Journal of Education, 29*, 205-217.

Macdonald, D. (1999). Teacher attrition: a review of literature. *Teaching and Teacher Education, , 15*, 835-848.

Makombe, S. D. (2008). A national Survey of Teachers on Antiretroviral Therapy in Malawi: Access, Retention in therapy and survival. *PLOS ONE, 2*(7).

Marlow, L., & Inman, D. (1997). Beginning teachers: Are they still leaving the profession? *Clearing House, 70*(4), 211-215.

Mbwika, J. M., Mburu, N., & Thuita, I. (2003). *Understanding the impact of HIV/AIDS on education in sub-Saharan Africa*. Paris: UNESCO.

McCreight, C. (2000). *Teacher attrition, shortages and strategies for teacher retention*. Texas: A and M University, National Institute of Education.

McMahon, W. (1993). *An efficiency- based management information system*. Paris: IIEP/UNESCO.

McMillan, J., & Schumacher, S. (2001). *Research in Education (5th Edition): A conceptual Introduction*. New York.: Longman.

Ministry of Education. (2001). *Education sector: Policy and investment framework*. Lilongwe: Education Planning Section.

Ministry of Education. (2004). The Development of Education in Malawi: 2004 Report *The 47th Session of the International Conference on Education*. UNESCO.

Ministry of Education (2005). Combating HIV and AIDS in the Education sector in Malawi: Strategic Plan 2005-2008. Lilongwe, Planning Section

Ministry of Education. (2006). *Education Management Information Systems: Education Statistics 2006*. Lilongwe: Department of Education Planning.

Mobile Task Team. (2005). *Educator attrition and mortality in South Africa: A study into Gross educator attrition rates and trends, including Analysis of the causes of these by age and gender, in public school system in South Africa 1997/8-2003/04*. Johannesburg: ELRC.

Moleni, M., & Ndalama, J. C. (2004). *Teacher absence and attrition in Malawian primary schools: A case study of four districts*. Zomba: Center for Education Research and Training and Malawi Institute of Education.

Moon, B. (2007). *Research analysis: Attracting, developing and retaining effective teachers: A global overview of current policies and practices*. Paris: UNESCO.

Mulkeen, A., & Chen, D. (2008). *Teachers for Rural Schools, Experiences in Lesotho, Malawi, Mozambique, Tanzania and Uganda*. Washington DC: The World Bank.

Nation Online. (2006). Papua praise Malawi on AIDS fight. *Nation Online*.

National AIDS Commission. (2003). *HIV/AIDS in Malawi: Estimate of prevalence of infection and the implications*. Lilongwe: National AIDS Commission.

National AIDS Commission. (2005). *HIV and Syphilis Sero-Survey and National HIV prevalence Estimates Report*. Lilongwe: Ministry of Health-National AIDS Commission.

National Statistical Office. (2004). *Malawi Demographic and Health Survey 2004*. Zomba: National Statistical Office.

National Statistical Office. (2008). *2008 Population and Housing census*. Zomba: National Statistical office.

Ndala, K. (2003). *Challenges in the payment of primary teachers in Malawi.* University of Massachusetts, Amherst.

Ndamugoba, D., Mboya, M., Amani, K., & Katabaro, K. (2000). *The impact of HIV/AIDS on primary education in Bukoba and Kinondoni Districts of Tanzania*. Paris: UNESCO.

Nilsson, P. (2003). *Education for All: Teachers Demand and Supply in Africa: Education International Working Paper no 12*. Belgium: Education International.

Rice, B., & al., e. (2007). *Population and antenatal-based HIV prevalence estimates in a high contraception female population in rural South Africa*. Johannesburg: BMC Public Health.

Risley, C., & Bundy, D. (2007). *Estimating the impact of HIV/AIDS on basic education* University of London.

Ross, K., & Malck, L. (1990). *Planning the quality of education: The collection and use of data for informed decision-making*. Paris: IIEP/UNESCO.

Salomon, J., & Murray, C. (2001). *Modeling HIV/AIDS epidemics in sub-Saharan Africa using sero-prevalence data from antenatal clinics*. Geneva: World Health Organization.

Save the Children UK. (2001a). *Children affected by HIV/AIDS: rights and responses in the developing world.* London: SCF UK.

Shaeffer, S. (1994). *The impact of HIV/AIDS on Education a review of literature and experience*. Paris: IIEP/UNESCO.

Simwaka, B., Bello, G., Banda, H., Chimzizi, R., & Theobald, B. (2007). The Malawi National Tuberculosis Programme: an equity analysis. *International Journal for Equity in Health, 6*(24).

Siniscalco, M. T. (2002). *A Statistical profile of the teaching profession*. Paris: ILO/UNESCO.

Sinyolo, D. (2007). *Teacher supply, recruitment and retention in six Anglophone Sub-Saharan African countries: A report conducted by Education International in the Gambia, Kenya, Lesotho, Uganda and Zambia*. Belgium: Education International.

Stinebrickner, T. R. (2002). An analysis of occupational change and departures from the labor force. *Journal of Human Resources, 37*(1), 192-225.

Stinebrickner, T.R. (2001). A dynamic model of teacher labor supply. Journal of Labor Economics, 19(1), 196-230.

The Daily Times. (2007). AIDS is only just another disease. *The Daily Times*.

UNAIDS. (1998). *HIV-related opportunistic diseases: UNAIDS Technical update*. Geneva: UNAIDS.

UNAIDS. (2005). *The impact of HIV and AIDS on specific regions and countries*: UNAIDS.

UNAIDS. (2008). *Report on the global AIDS epidemic: Executive Summary*. Geneva: UNAIDS.

UNDP. (2002). *The Impact of HIV/AIDS on the Malawi Public Service*. Lilongwe: UNDP.

Van de Ven, P., & Aggleton, P. (1999). What constitutes evidence in HIV/AIDS education? *Health Education Research,, 14*(4), 461-471.

VSO. (2002). *What makes teachers tick? A policy research Report on teachers' motivation in Developing countries*. London: VSO.

Wasala, W., Kiage, P., & Kariuki, J. (2002). The Impact of HIV/AIDS epidemic on the Attainment of Basic Education in Kenya, *SYLFF Working Paper Number 18 Funded by the Tokyo Foundation.* University of Nairobi.

World Bank. (2000a). *Exploring the implications of the HIV/AIDS Epidemic for Educational Planning in Selected African Countries: The Demographic Question*. Washington DC: World Bank.

Appendix 2.1: Summary of some studies done on impact of HIV/AIDS in Sub-Saharan Africa

Country	Study conducted /Reported by	Objective of the study	Method used	Some Results from the study
Uganda, Botswana, Malawi	Bennell et al. 2002	Assessing the impact of HIV/AIDS on primary and secondary education in each country	10-20 Schools randomly selected were surveyed, with 43 teachers from Uganda, 63 Malawi and 67 Botswana	The impact of the epidemic varies very significantly among male and female teachers and between primary and secondary schools. Teacher mortality rates are generally much lower than the adult population as a whole. More generally, there exists a strong negative relationship between mortality rates and socio-economic status. It is important to point out that among the estimated 8.2 million AIDS orphans in SSA in 1999 (3.6% of the under 15 population), less than one-third were AIDS-orphans. The evidence from this survey suggests that teachers have a lower than average mortality rate.

				The relationship between parental status and school attendance is very complex. The impact of orphan hood on school attendance is often not as great as is generally believed to be the case.
Kenya, Uganda, Tanzania, Madagascar	Mbwika. J et al. 2003	To improve understanding of current impact of HIV/AIDS on primary education.	Literature review, Consultations, KAP surveys, Focused group discussion, 4 districts in each country and three schools in each district with 20 pupils in each school	There are high levels of orphans and high levels of teacher's death and retirement in the last seven years. The quality of data kept by school heads and districts administrators on teacher attendance, teacher attrition was lacking. Data from head teachers on teachers' absenteeism was un reliable. The cost of education was becoming unbearable to communities due to death caused by HIV
Uganda, (Gulu, Tororo, Rakai, Hoima, Mukono, Mbarara,	Amone J. and Bukuluki P. (2004)	Establish the impact of staff illness on daily activities; establish how staff mortality affects sector	Interviews, (a total of 62 officials) and existing data in the ministry of education.	There was a decline in personnel death at all level of the sector. Death as a cause of staff attrition was

2004)		governance.		high in Gulu district.
Tanzania, 2000	Ndamugoba, D. et al. 2000	To examine the impact of HIV/AIDS on delivery of primary school	Survey of 1859 pupils, 129 teachers, 71 schools committees	Pupils' attendance dropped from an average of 86.5 percent to 77 percent and 92.5 percent to about 84 percent in Bukoba rural and Kinondoni districts respectively. Most of the absentees' truants and dropouts were orphans. In some schools the number of orphans has reached alarming state -49 percent of the pupil population. A significant number of teachers have died because of the epidemic
South Africa	Crouch, L. 2001	The aim of the analysis was to compare between teachers and non teachers on some of the parameters.	House hold survey data for 1995, 1997, 1999	The teaching force is approximately 20 to25 % points more than feminine Teachers say they work fewer hours per week Teachers report earning much higher income Teachers are far more educated that other employed workers
South Africa	Johnson, J.2000, Abt	To assess the potential	Survey, group discussions in	AIDS will exacerbate existing

	Associates	impact of HIV/AIDS in the education sector	6 district in 2 provinces, Review of documents	problems Learners will plateau, and then decline A large number of teachers are likely to become ill and die of AIDS
Kenya, (Nyanza province, Kisumu, Kuria, Kissi, Suba districts, 2002)	Wasala W. O. et al. (2002)	Assess the impact of HIV/AIDS epidemic on the attainment of basic education	Review of literature, In depth impact assessment survey from 6 primary and 4 secondary schools	Enrolment in primary schools declined from 5.92 in 1998 to 5.87 in 1999. Secondary enrolment also fell from 700538 to 638509 Number of orphan will increase from 860000 in 2000 to 1.5 million by 2005 The number of primary school teachers declined from 192306 in 1998 to 186612 in 1999 In Nyanza some 3000 teachers died of AIDS in 1999 with primary schools losing 8 teachers a month
Zimbabwe,	HIV/AIDS in Education Assessment Team (2002)	To assess the impact of HIV/AIDS on education.	Survey of schools, Review data and use of projections	Around one third of teachers are likely to be infected. Teacher loses due to illness and death were around 2% of teachers in 2001

				(Much of projections)
Namibia,	Abt Associates (2002)	Assess the impact of HIV/AIDS on its ability to meet its mandate.	School survey of 103 primary school and 24 secondary schools with 734 Grade 10 learners, EMIS data	Enrolment for Katima Mulilo indicated a decline from 1990. Among women aged 15-19 and 20-24, infection levels have stopped growing since 1996 Around 13% of children in grade 10 reported that they were maternal orphans and 8.5 were double orphans. Frequent illness of learners is not problem A rate of 1.2% for combined death and ill health retirements among educators was reported for 2001. (Much of projections)
Mozambique, (Maputo and Beira, 2000)	Azul, V. (2000)	Determine the impact of the epidemic on the education sector at national level	Review of documents, survey with school directors and teachers.	Over the period of 2000-2010, 17% of educators will be lost, 9200 teachers will die and 123 senior managers will die. The estimated figure that the education system will lose due to HIV/AIDS is USD 110 million

				(More projections)
Malawi, (two districts Blantyre and Chiradzulu, 2003)	Bennell, P. and Kadzamira E. (2005)	Analysis of teachers death	Survey of 30 primary and 10 secondary schools, with 1136 teachers.	Average annual mortality rates were much higher for males at both primary and secondary schools Annual mortality rates have been higher among primary than secondary teachers. The majority of primary school teachers who died were poorly educated and trained.
Malawi, 2001	Kadzamira E. et al. (2001)	Assessing the impact of HIV/AIDS on educational provision	Survey of 11 schools, 6 primary and 5 secondary in two districts.	No evidence that there is an increase in repetition and dropout as a result of HIV Poor school attendance is significant with a daily attendance of 60 percent Teachers in Malawi are reported to be dying faster than they can be replaced but staffing data is hard to come by. Most of the headteacher do not feel that teacher absenteeism is a big problem.

Author/Year	Study purpose	Methodology/Sample	Result
Kirby and Grissmer (1995)	Track teacher attrition and returns to public schools over time	Longitudinal records of full time teachers in Indian public school from 1965-1987	20% of teachers left one year after entering teaching Half of the studied cohort would leave teaching within 10 years. Women had a much higher rate of attrition than men Young teachers tend to leave more than older teachers.
Marlow and Inman (1997)	To examine the attitude of beginning teachers towards their current support system	Randomly selected teachers in mid-southern USA, 1200 questionnaires distributed and 602 were returned	Beginning teachers were not satisfied with the prestige of the profession.
Stinebrickners (2001)	To examine the effect that personal factors and wage had on teacher's decision to enter or leave teaching	450 individual who became certified to teach some point between 1975 to 1985	The proportion of individuals who choose to teach decreased significantly over time. Marital status and number of children were very important predictor s of exits out of the workforce for women.
Stinebrickner (2002)	Examine both the timing of exits from the teaching profession and the reasons for the exits.	Follow up surveys in 1973, 1974, 1976. 1979 and 1986	Teachers with higher wages were significantly less likely to change occupations Most of the teacher attrition was because of other job attraction but related to individual family reasons.
Ingersoll , 2001 and 2003	Investigated the possibility that there are other factors that affect teacher attrition that	Data from Schools and staffing surveys, Follow up surveys	The following factors contribute much to teacher attrition: Low salaries Inadequate support from the

	are rooted in the organizational characteristics and conditions of schools		school administration Student discipline
A consortium that constituted the Medical Research Council (MRC), Human Science Research Council (HSRC) and the Mobile Task Team (MTT) on the impact of HIV/AIDS on education Mobile, 2005	To explore the phenomenon of educator attrition and to understand various reasons why education leave the profession	Study used available records in the department of education from National Personnel and Salary Administration System (PERSAL), EMIS and data from the Department of Home Affairs National Death Registers.	Using the PERSAL data, it showed that public educators declined from 386735 in 1997/98 to 366320 in 2002/2003. Temporary educators declined from 61,206 in 1997/98 to 34110 in 2003/2004 On demographics of the educators, the study showed that the system is dominated by women, 75 percent and this has been the case for over seven years. Also the distribution of the educators was dominated by blacks South Africans (67 percent) and this reflected the population distribution. The PERSAL data indicated that gross attrition rate in 1997/98 was 9.3 percent and dropped to 5.9 percent in 2002/03 It established that the third largest cause of attrition after termination and resignation was mortality. It increased from 7 percent in 1997 to 17.7 percent in 2003/04 The study further identified that 12.7 percent of all educators were HIV/AIDS

			positive with highest prevalence rate (21,4 percent) in 25-34 age group followed by 35-44 age group (12.8 percent). It further identifies that 22 percent of the HIV population needed ARV, thus about 10,000 educators out of 356,749 total public educators
Kaabi, A.S, 2005 (Unpublished Dissertation, University of Pittsburg.)	To examine the factors associated with high attrition rate among U nited Arab Emerates (UAE)	Interviews and Survey of 360 female and 234 male teachers.	A large number of teachers thought that the following contribute to teachers' decision to leave teaching Teaching is a stressful job. Incentives A lot of paper work Adequate in-service training Social prestige

Appendix 4.1: Sample Questionnaire

INTRODUCTION TO RESPONDENT (Teachers) and CONSENT

My name is Ken Ndala, a lecturer at Chancellor College, but currently doing PhD studies with the University of Witwatersrand in South Africa. As part of the requirement for PhD, I am conducting a study in order to learn more about various factors that contribute to teacher attrition in primary education. I seek to obtain your opinions on whether HIV/AIDS is contributing to teacher attrition. I have selected two districts Blantyre and Dedza because of their prevalence rates.
Like other teachers, you have been randomly selected to participate in this study

The study is not interested in knowing teachers who are living with HIV/AIDS. **You are therefore advised not to write your name and mention other people's names in the questionnaire.**

The questionnaire begins with some questions about yourself and later about your opinion on factors related to HIV/AIDS and moving away of teachers from the service. Please be as accurate as possible, since your answers will help us understand teacher attrition status. Your responses will be kept fully confidential. Please indicate *yes or no* to show your acceptance to take part in the survey or not.

YES	
NO	

IDENTIFICATION PARTICULARS	
District	**Zone**

SECTION 1: BACKGROUND QUESTIONS

Please indicate your response by circling, in some cases, writing a number that expresses your opinion.

NO	QUESTION	RESPONSE
PF1	In which year were you born?	(Year)_____ Don't Know----------88
PF2	Are you male or female?	Male----------1 Female----------2
PF3	What is your current marital status?	Married----------1 Single----------2 Divorced----------3 Separated----------4 Widowed----------5 Others (Specify)----------6
PF4	Do you have any plan to move from this school you are teaching to another school?	Yes----------1 No----------2
PF5	If you are married, do you live with your spouse at the moment?	Yes----------1 No----------2
PF6	Which year did you join the teaching profession?	(Year)_____
PF7	How did you come to teach at this school?	Following my spouse----------1 Wanted to be close to home----------2 Wanted to be close to a hospital—----3 The district education manager made the

		decision----------4 Other (Specify)----------5
PF8	How many schools have you taught since you joined the profession?	Number of schools----------
PF9	Are you a permanent, temporary or volunteer teacher?	Permanent----------1 Temporary----------2 Volunteer----------3
PF10	What is the highest level of schooling you attained?	Primary----------1 Secondary----------2 University----------3
PF11	How long have you been teaching at this school?	Number of days_____ Number of weeks---------- Number of months---------- Number of years---------- Number of terms----------
PF12	What is your grade?	PT1----------1 PT2----------2 PT3----------3 PT4----------4 TT----------5 PO----------6 P8----------7 Other (Specify)_____
PF13	Currently do you have any relative who is sick and need your help?	Yes----------1 No----------2
PF14	Who stays with your sick relative?	Myself----------1 My parents----------2 Stays alone----------3 Other (specify)----------
PF15	Do you think of getting transferred to another school so that you should be close to this relative?	Yes----------1 No----------2

PF16	Have you ever considered leaving teaching profession?	Never----------1 Rarely----------2 Occasionally----------3 Frequently----------4 Always----------5
PF17	Where would you like to work?	Teach at private institution----------1 Change to another career----------2 Go to University to study----------3 Better salary job----------4 Other (Specify)----------5
PF18	Rank the following factors in order of highest priority that can motivate you to remain in teaching. Use the following scale. Highest priority--------1 High Priority----------2 Low priority----------3 Lowest priority---------4	Provision of further training---------- ( ) Salary increase---------- ( ) Provision of a good house----------( ) Provision of free ARVs by the ministry ( )
PF19	Indicate to what degree does the following items affect your decision to leave teaching. Use the following scale: Not at all----------1 Little effect----------2 Medium effect----------3 High effect----------4	To help more than just a job----------( ) Failure to meet what is required of me-( ) Stressful job----------( ) Pupil's discipline----------( ) Issues of HIV/AIDS----------( )
EmF1	The teaching training that I received in preparation for my profession assist me to help pupils who are affected by HIV/AIDS.	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5

EmF2	How satisfied are you with your counseling skills to help parents who have children affected by HIV/AIDS.?	Very satisfied----------1 Satisfied----------2 Uncertain----------3 Unsatisfied----------4 Very unsatisfied----------5
EmF3	What rewards do you receive that make you remain in teaching?	Loans----------1 Free VCT and ARVs----------2 Loan forgiveness----------3 On job training----------4 All of the above----------5 None of the above----------6 Others(Specify)----------
EmF4	Teachers who have relatives with AIDS receive administrative support from	Education Headquarters office-------1 Division Education office----------2 District Education office----------3 PEAS----------4 Head teachers----------5 All of the above----------6 None of the above----------7 Uncertain----------8
EmF5	The support that teachers who are HIV/AIDS receive from fellow teachers makes them remain in the teaching profession.	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
EmF6	Time tables for teachers who are sick are flexible to allow them attend to medical services.	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4

		Strongly disagree----------5
EmF7	I will remain in the teaching profession because I take part in making decisions about school administration and policy issues.	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
EmF8	My teaching load has increased for the past 2 years and I think of quitting teaching because of that.	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
EmF9	The ministry of Education does not have HIV/AIDS work policies that help people affected with HIV/AIDS and this make teachers leave their profession	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
Em10	My teaching load has been increased due to absenteeism of teachers who are affected by HIV/AIDS. .	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
EmF11	HIV/AIDS has negatively affected my teaching morale and I am thinking of quitting teaching?	Strongly agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
Em12	HIV/AIDS has contributed to the increase in numbers of teachers leaving the profession	Strongly agree----------1 Agree----------2 Uncertain----------3 Disagree----------4

		Strongly disagree----------5
Em13	What are some of the reasons that teachers resign from the profession. Give your opinion according to the scale provided below: More likely----------1 Likely----------2 Uncertain----------3 Less likely----------4 Not likely----------5	They pick up better jobs ----------( ) They are old ----------( ) The are HIV positive--------- ----- ( ) They are on ARV----------( ) They start a business----------( ) They are denied ARV----------( ) They have sick relatives----------( ) Other (Specify)----------
EmF14a	How many teachers (overall) do you know you think are suffering from HIV/AIDS	Number_____ Don't know----------88
EmF14b	How many teachers (overall) do you know that you think have resigned from teaching for the past 5 years because there were affected by HIV/AIDS pandemic?	Number_____ Don't know----------88
EmF15	How many teachers (overall) do you know who you think have been dismissed because of suffering from AIDS for the past 5 years?	Number_____- Don't know----------88
EmF16	How many teachers (overall) do you know who you think to have died because of HIV/AIDS for the past 5 years?	Number_____ Don't know----------88
EmF17	Nowadays ARVs are helping to maintain good health for people infected with HIV/AIDS, how many teachers do you know who you think are on ARV treatment?	Number_____ Don't know----------88
ExF18	I am thinking of quitting teaching as a profession because it is not respected by the community in the area I live.	Strongly Agree----------1 Agree----------2

		Uncertain----------3 Disagree----------4 Strongly disagree----------5
ExF2	Provision of VCT and ARV in other organization makes me think to quit teaching profession and join those organizations.	Strongly agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
ExF3	Teachers who have HIV/AIDS are not respected by the community and often think of leaving teaching as a profession	Strongly agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
ExF4	Better salaries are needed so that teachers can purchase ARV or support relatives who have AIDS	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
ExF5	Other institutions have better HIV/AIDS policies and this make teachers decide to join these organizations	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5
ExF6	Teachers are leaving the profession to join organizations that are working on HIV/AIDS	Strongly Agree----------1 Agree----------2 Uncertain----------3 Disagree----------4 Strongly disagree----------5

THANK YOU

Appendix 4.2: Ethical Clearance- University of Witwatersrand

Faculty of Humanities: Education Campus

Room 208/9, Administration Block, 27 St. Andrews Road, Parktown • Tel: +27 11 717-3021/18 • Fax: +27 11 717-3219
E-mail: senamelam@hse.wits.ac.za / moshabesham@hse.wits.ac.za

Mr KK Ndala
Wits School of Education
Wits
2050

STUDENT NUMBER 0517172D
Protocol 2006ECE29

26 November 2006

Dear Mr Ndala

Application for Ethics Clearance: Doctor of Philosophy

I have pleasure in advising you that the Ethics Committee in Education of the Faculty of Humanities, acting on behalf of Senate has agreed to approve your application for ethics clearance submitted for the degree of Doctor of Philosophy for your proposal entitled: **The impact of HIV/AIDS on primary teacher attrition in Malawi.**

The following concerns were raised by the Committee:

- Random selection might help to assure the teachers that they have been selected because they have been identified to be affected in some way by HIV/AIDS related issues;
- The issue of HIV/AIDS is a sensitive issue in schools and the community in general. The mere fact that the study will be about HIV/AIDS is an already sensitive matter. It is not clear how the researcher will deal with situations in which it will happen that the teachers(s) who is(are) being interviewed is (are) actually affected by HIV/AIDS. How will the researcher deal with the emotional and other aspects that might arise if the probes in the interview (especially in pages 5-9 in appendix 3 of the research proposal) lead to the participants being reminded of unpleasant memories concerned with their relations or fellow teachers/learners who might have died because of the infection?;
- It is not just enough to say there are no risks involved;
- The researcher needs to specify how many teachers will be involved in the study;
- It will be difficult to convince participants if they do not see themselves benefiting in some way from the research. The researcher must think of some benefits;
- You need to address the issue of disclosure. Also you need to offer debriefing at no cost to the participants;
- The issue of confidentiality and anonymity need to addressed;
- A comprehensive subject information sheet needs to be added. This should include a description of the project and data collection methods, the limitations of confidentiality and anonymity, as well as the option for participants to withdraw from the study at any point, and a clear indication that data will be destroyed in all forms after the finalisation of the dissertation at all levels;
- Ethical considerations similar to those employed in the study need to be employed in any piloting of instruments;
- At methodological level, some consideration as to how exactly current statistical information will be able to yield answers to questions relating to

the proportion of teacher attrition that can be attributed to HIV/AIDS, needs to be addressed as well.

RECOMMENDATIONS:
This study requires minimal technical adjustments in order to comply with ethical standards. Therefore, accept and proceed, after integration of the recommendations to the supervisor's satisfaction.

Yours sincerely

Mathoto Senamela
Senior Faculty Officer for Faculty Registrar
cc Ethics File
Supervisor: Prof B Fleisch
HDethics clearance

Appendix 4.3: Approval from Ministry of Education in Malawi

Telegrams: MINED, Lilongwe
Telephone: (265) 01 789 422/ 01 789404
Telex: 44636
Fascimile: (265) 01 788 064



MINISTRY OF EDUCATION
PRIVATE BAG 328
CAPITAL CITY
LILONGWE 3
MALAWI

DP2/134/10 **30th January 2007**

Mr. Kaziputa Ken Ndala
The University of Witwatersrand
School of Education
Education Policy Studies Unit
Private Bag 3
Wits, 2050

Dear Sir,

A REQUEST TO COLLECT AND USE DATA FROM THE MINISTRY AND CONDUCT A STUDY IN SELECTED PRIMARY SCHOOLS IN BLANTYRE AND DEDZA DISTRICTS

Reference is hereby made to your letter which you sent to me through the E-mail that you want to conduct a study in selected Primary Schools in Blantyre and Dedza on the impact of HIV/AIDS on teacher attrition which specialises on:

- Examining teacher attrition in Malawi primary education from 1996 to 2006-10-25
- Exploring what proportion of the attrition can be attributed to HIV/AIDS.

You have emphasised that you want to use the available data from the EMIS, the payroll and personnel department of the Ministry of Education on the teachers' year of birth, year of appointment and years some teachers left the ministry by various reasons without using the names of teachers to ensure confidentiality on all the information collected.

I write therefore to inform you that the Ministry of Education has approved for you to conduct this study in the selected primary

schools in Blantyre and Dedza following your promise that you will send the results of the study to the Ministry.

I wish you all the best during your study, and hope that the study will benefit the Ministry of Education in the areas of HIV/AIDS, Education for All goals (EFA) goals.

Yours faithfully,



A. F. Kamlongera
DIRECTOR OF EDUCATION AND PLANNING

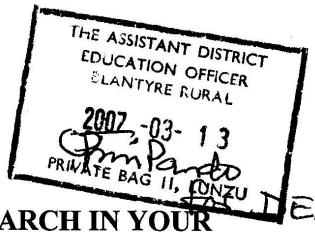
Appendix 4.4: Approval letter from Central Western Education Division

2nd January, 2007

From: The Divisional Manager, South West Education Division, P/Bag 386, Chichiri, Blantyre 3

To: The Headteacher

Through: The District Education Manager
-Blantyre Urban
-Blantyre Rural

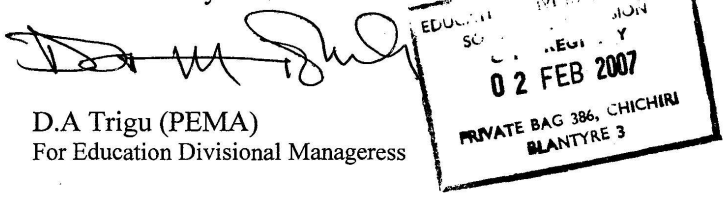


Re: PERMISSION TO CONDUCT RESEARCH IN YOUR SCHOOLS

This is to certify that the bearer of this letter, **Ken Ndala**, who is doing his doctorate (Phd) studies at the University *of Wits Watersrand*, has been granted permission by the divisional office to conduct research in the schools of your district. His study is on the "***The Impact of HIV/AIDS on Primary Teacher Attrition in Malawi.***"

Your cooperation and assistance will be greatly appreciated.

Yours faithfully



D.A Trigu (PEMA)
For Education Divisional Manageress

Appendix 4.5: Approval letter from South West Education Division

REF. NO. CWD/2/19 **7TH MARCH, 2007**

FROM: THE EDUCATION DIVISION MANAGER (CW),
P.O. BOX 98, LILONGWE

TO : THE DISTRICT EDUCATION MANAGER - DEDZA

" : PRIMARY EDUCATION ADVISOR - DEDZA

" : PRIMARY SCHOOL TEACHERS - DEDZA

PERMISSION TO COLLECT DATA

Be advised that Mr. Kaziputa Ken Ndala has been accepted to access information and any data on the impact of HIV/AIDS in some selected schools in your district. Please assist him accordingly.

The data is intended to assist him in his studies at the University of Witwaters Rand in South Africa.

H.C. Kachale
EDUCATION DIVISION MANAGER (CWED)

THE EDUCATION DIVISION MANAGER
CENTRAL WESTERN DIVISION
- 7 -03- 2007
P.O. BOX 98
LILONGWE

DISTRICT EDUCATION MANAGER
2007
P.O. BOX 131, DEDZA

bearer
Assist the
accordingly
A Kamanga
DO
for DEM