Analysis of the effectiveness of Non Governmental Organizations (NGOs) in HIV and AIDS Service Delivery: The case of Antiretroviral Therapy (ART) programme in Malawi

Submitted in Fulfilment of the Requirements for the Degree of PhD International Development Studies (PhD IDS)

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By

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Declaration

I do hereby solemnly declare that this submission is my own original work, undertaken independently and without any illegitimate assistance. To the furthest extent of my knowledge and conviction, it contains no material previously published by any other person in its current or similar form, neither has it been accepted as or part of a dissertation for the award of any other degree or qualification within the university or any other institution of higher learning. Where reference is made to previous academic work, due acknowledgement of the respective authors is made both in the text and bibliography of this dissertation.

Furthermore, I endeavoured to maintain my study as adherent as possible to the „Guidelines for Good Scientific Practice“ (Leitlinien guter wissenschaftlicher Praxis) cited under §9 of the Promotionsordnung des Promotionsstudiengangs “International Development Studies”, to the best of my ability.

Errors and omissions in this document remain my personal responsibility.

Martina Esinala Lembani
Bochum, Germany, 2013
List of Abbreviations

ABC  African Bible College
ACTG  AIDS Clinical Trials Group
AIDS  Acquired Immune Deficiency Syndrome
ART  Antiretroviral Treatment/Therapy
ARV  Antiretroviral
BBC  British Broadcasting Cooperation
BOND  British Overseas NGOs for Development
BT  Blantyre
CAFOD  Catholic Agency for Overseas Development
CBA  Cost-Benefit Analysis
CBO  Community Based Organization
CD4  Cluster of Differentiation 4
CDC  Centres for Disease Control and Prevention
CEA  Cost-Effectiveness Analysis
CH  Central Hospital
CI  Confidence Interval
CIDA  Canadian International Development Assistance
CONGOMA  Council for Non-Governmental Organizations in Malawi
CHAM  Christian Health Association of Malawi
DALY  Disability Adjusted Life Year
DANIDA  Danish International Development Assistance
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>DCPP</td>
<td>Disease Control Priorities Project</td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development</td>
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<tr>
<td>ECMM</td>
<td>European Community Monitors</td>
</tr>
<tr>
<td>ECOSOC</td>
<td>Economic and Social Council</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organisation</td>
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<td>FBO</td>
<td>Faith Based Organization</td>
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<td>FPID</td>
<td>For-Profit in Disguise</td>
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<td>GCEA</td>
<td>Generalised Cost-Effectiveness Analysis</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GIZ</td>
<td>German International Cooperation</td>
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<td>GoM</td>
<td>Government of Malawi</td>
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<tr>
<td>GTZ</td>
<td>Germany Technical Assistance</td>
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<tr>
<td>HC</td>
<td>Health Centre</td>
</tr>
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<td>HIPC</td>
<td>Highly Indented Poor Country</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HR</td>
<td>Hazard Ratio</td>
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<td>HRCC</td>
<td>Human Rights Consultative Committee</td>
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<td>ICCO</td>
<td>Interchurch Organization for Development Co-operation</td>
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<td>ICER</td>
<td>Incremental Cost-Effectiveness Ratio</td>
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<tr>
<td>ICRC</td>
<td>International Committee of the Red Cross</td>
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<tr>
<td>IMC-CEA</td>
<td>Intervention Mix Constrained Cost-Effectiveness analysis</td>
</tr>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>INGOs</td>
<td>International Non-Governmental Organizations</td>
</tr>
<tr>
<td>IOs</td>
<td>International Organisations</td>
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<tr>
<td>IRA</td>
<td>International Regime Approach</td>
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<tr>
<td>LFA</td>
<td>Logical Framework Approach</td>
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<tr>
<td>LL</td>
<td>Lilongwe</td>
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<tr>
<td>LTFU</td>
<td>Lost to follow up/Loss to follow up</td>
</tr>
<tr>
<td>LY</td>
<td>Life Year</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<td>MACRO</td>
<td>Malawi AIDS Counselling and Resource Organization</td>
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<tr>
<td>MASM</td>
<td>Medical Aid Society of Malawi</td>
</tr>
<tr>
<td>MBCA</td>
<td>Malawi Business Coalition against HIV/AIDS</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
</tr>
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<td>MDHS</td>
<td>Malawi Demographic and Health Survey</td>
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<td>MGDS</td>
<td>Malawi Growth and Development Strategy</td>
</tr>
<tr>
<td>MGFCC</td>
<td>Malawi Global Fund Coordinating Committee</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<td>MSH</td>
<td>Management Sciences for Health</td>
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<td>NAC</td>
<td>National AIDS Commission</td>
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<td>NACP</td>
<td>National AIDS Control Programme</td>
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<td>NAF</td>
<td>National HIV/AIDS Framework</td>
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<td>NDC</td>
<td>Non-Distribution Constraint</td>
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<td>NEO</td>
<td>New Economics Organisation</td>
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<td>Acronym</td>
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<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<td>NPA</td>
<td>National Patterns Approach</td>
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<td>NPO</td>
<td>Non-Profit Organisation</td>
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<td>NSF</td>
<td>National HIV/AIDS Strategic Framework</td>
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<td>NSO</td>
<td>National Statistics Office</td>
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<td>ODA</td>
<td>Overseas Development Assistance</td>
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<td>ODI</td>
<td>Overseas Development Institute</td>
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<tr>
<td>OPC</td>
<td>Office of the president and Cabinet</td>
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<tr>
<td>ORT</td>
<td>Other Recurrent Transactions</td>
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<td>PLWHAS</td>
<td>People Living with HIV and AIDS</td>
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<td>PMTCT</td>
<td>Preventing Mother-to-Child Transmission</td>
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<td>POW</td>
<td>Prisoner of War</td>
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<td>PRA</td>
<td>Participatory Rural Appraisal</td>
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<td>PRGF</td>
<td>Poverty Reduction and Growth Facility</td>
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<td>PRIME</td>
<td>Peace Research Institute in the Middle East</td>
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<td>PRSP</td>
<td>Poverty Reduction Strategy Paper</td>
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<td>PSA</td>
<td>Policy Sector Approach</td>
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<td>PSI</td>
<td>Population Services International</td>
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<td>QALYs</td>
<td>Quality Adjusted Life Years</td>
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<td>REACH</td>
<td>Research for Equity and Community Health</td>
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<td>SAPs</td>
<td>Structural Adjustment Programmes</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<td>SWAp</td>
<td>Sector Wide Approach</td>
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<td>TB</td>
<td>Tuberculosis</td>
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<td>TI</td>
<td>Transparency International</td>
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<td>TPA</td>
<td>Temporal Patterns Approach</td>
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<td>UK</td>
<td>United Kingdom</td>
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<td>UN</td>
<td>United Nations</td>
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<td>UNFPA</td>
<td>United Nations Population Fund</td>
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<td>UNICEF</td>
<td>United Nations Children's Fund</td>
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<td>USA</td>
<td>United States of America</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>VSO</td>
<td>Volunteer Services Overseas</td>
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<td>WFP</td>
<td>World Food Programme</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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<tr>
<td>YLD</td>
<td>Years Lost to Disability</td>
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<tr>
<td>YLL</td>
<td>Years of Life Lost</td>
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PART I: Introduction

In the last three decades, the NGO sector, also known as the non-profit sector has emerged as a significant player in international development. The overwhelming increase in the number of NGOs operating in various fields of development is a force to reckon with. Big international bodies such as the UN and the World Bank have recognised the presence of the non-profit sector and have created partnerships with them through work sub-contracting as well as regular consultative fora. This prominence has attracted an increasing attention amongst scholars. While some have focused on understanding the factors that influence the emergence and existence of these organisations, (Weisbrod, 1977; Hansmann, 1980; Corbin, 1999; Ben Ner and Van Hoomissen, 1992; Marcuello, 1998), others have concentrated on analysing their impacts (Salamon et al., 2000; Edwards and Hulme, 1998; Ortmann and Schlesinger, 2002; Oyugi, 2004). Yet another group has taken interest in analysing the management and other operational aspects of this sector (Cooley and Ron, 2002; Ben-Ner and Ren, 2006; Oyugi, 2004).

Despite the wide ranging research undertaken in this sector, there still remains a challenge of lack of consensus due to the conflicting nature of findings that have emerged from these studies (Pearce, 2000). One major reason for these differences being the diversified nature of the NGO sector in terms of modes of operations, ideologies, size of funding, structure, level of operation and ownership (Ditcher, 1999; Valentinov, 2006). As PRIME (2001) indicates, the NGO sector when broadly defined could include anything stretching from “the churches to the Mafias”¹. As such, it is difficult to harmonise most of the empirical findings from studies targeted at these different types of NGOs. Another aspect is the methodological approaches used in carrying out the studies, most of them have used case study approach involving assessment of one or very few NGOs whose results only provide a narrow view of the NGO sector.

This study therefore contributes to this ever growing field of development cooperation through the analysis of the social services provided by the non-profit sector in comparison to the government and for-profit sector in Malawi. This is done by using a market framework approach. Owing to the broadness of the non-profit sector’s operations, this study focuses

¹http://www.vispo.com/PRIME/ngostudy.htm 16.04.2010
on the HIV and AIDS sector\(^2\) to study the market environment in which the non-profit sector operates and how this affects their work outcomes.

This introductory part contains two chapters which set the background of the research topic and the major aspects that are analysed in this study. The first chapter provides a description of the trends in NGOs’ existence and the HIV and AIDS pandemic. The second chapter presents the research problem, objectives and questions. The rest of the thesis is organised as follows:

Part II is the literature and theoretical review and it has three chapters; chapter three, four and five. Chapter three contextualises the NGO sector by defining the sector and its typologies while chapter four contains the theoretical arguments regarding the NGO sector. Here several theories that explain the existence and roles of NGOs are presented. Chapter five presents the concept of cost-effectiveness analysis focussing on the necessity of such type of analysis and also some limitations related to this approach as an economic evaluation method.

Thereafter follows part III which has two chapters; chapter six and seven, which explain the methodological aspect of the study. Chapter six focuses on the theoretical framework of the study while chapter seven presents the research process.

Part IV contains research findings. This part is broken down into three chapters; chapter eight, nine and ten, whereby chapter eight focuses on the presentation of results of the HIV and AIDS market in Malawi. Chapter nine analyses the outcomes of the antiretroviral (ART) programme from three types of health providers i.e. the government, the non-profit and the for-profit sector. Chapter ten is dedicated to the calculation and comparison of cost-effectiveness ratios in the government, the non-profit and the for-profit sectors from the ART programme service delivery outcomes.

Lastly part V has two chapters; chapter eleven and twelve. Chapter eleven is a summary and discussion of the main research findings and chapter twelve provides a conclusion and recommendations of the study.

\(^2\) The HIV and AIDS sector covers all activities aimed at fighting the HIV and AIDS pandemic both from a health and social perspective. However this study focuses on the health aspect in terms of health outcomes of HIV and AIDS patients. The WHO and UNAIDS health sector strategy on HIV and AIDS aims to achieve universal access to HIV prevention, diagnosis, treatment and care interventions for all in need and to contribute to achieving health related Millennium Development Goals and their associated targets (WHO, 2011).
Chapter One: Overview of the NGO sector and the HIV and AIDS Pandemic

1.1 The Emergency and Proliferation of NGOs

Globally, the number of NGOs has escalated tremendously since the beginning of the 1980s. For example in the Philippines, the number of officially registered NGOs grew by 148% to 58,000 between 1984 and 1993 compared to the private sector which only grew by 65%. In Kenya the number grew by 184% between 1978 and 1987 from 45 NGOs at Independence in 1963 (Clark, 1996; Osodo and Matsvai, 1998). Although NGOs are thriving worldwide, there are regional differences; reports indicate that the trend is more prominent in Asia, Africa and Latin America (Clarke, 1996). Similarly, within these regions there are specific countries that have outstanding numbers of NGOs. For instance, Brazil had 110,000 NGOs by 1993 making it the largest NGO sector in the developing world and India had slightly more than 100,000 NGOs ranking the second largest NGO sector (Ibid). Today there are around 220,000 NGOs in Brazil\(^3\) while India has about 3.3 million NGOs making it the leading NGO sector in the world as of 2009\(^4\).

Scholars have also reported that the number of international NGOs\(^5\) worldwide also grew from about 16,000 in 1990 to about 40,000 by early 2000s (Ossewaarde et al., 2008). Figure 1.1 depicts a similar picture in the growth of international NGOs from 1909 to 1999. But the estimated numbers are slighter higher compared to those quoted by Ossewaarde.

\(^3\) http://www.ikoporan.org/en/ngos-in-brazil


\(^5\) International NGOs are those that operate in more than one country in contrast to local/national NGOs which work in one country only

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\(^3\) 25.09.2012

\(^4\) 25.09.12

\(^5\) International NGOs are those that operate in more than one country in contrast to local/national NGOs which work in one country only

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Figure 1.1 shows that from the early 1900s until 1970s the growth of the NGO sector was quite slow and the real visible growth started showing up from the 1980s. This figure shows that from 1978 to 1999 there was slightly over 300% increase in the number of international organisations operating worldwide.

Due to their active engagement in various fields of development, NGOs have been given space to contribute to the articulation of issues in the UN Economic and Social Council (ECOSOC), one of the three main arms of the United Nations. Even at this level, there has been an increase in the number of NGOs that have been granted such consultative status. Although, the majority of these NGOs are from Europe and North America, the general trend is a consistent rise in the number of NGOs influencing the decisions of the UN ECOSOC. Figure 1.2 shows the trend in the number of NGOs being granted consultative rights with the UN ECOSOC.

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6 Sourced from Agg (2006) page 1
Figure 1.2: Number of NGOs accorded consultative rights with the UN ECOSOC

Figure 1.2 shows the steady increase in the number of NGOs with consultative status with ECOSOC from 1948 to 2010. The figure reveals that notable changes started in the early 1990s when the number of NGOs increased tremendously. For instance, in absolute terms, from 1948 to 1992, a period of 44 years, only 684 NGOs were granted consultative status with UN ECOSOC compared to 2598 NGOs between 1992 and 2010 a period of only 18 years.

The regional representation of NGOs with consultative status with UN ECOSOC is highly disproportional with the majority of the NGOs originating from Europe and North America. This disparity is due to the criteria used for granting NGOs with consultative rights with UN ECOSOC which involves the geographical coverage of the NGO and the range of activities the NGO is involved in that directly relate to UN ECOSOC’s agenda. Most NGOs from low income countries are not able to meet these conditions due to limited resources which also limit their geographical coverage and scope of their work. Reports indicate that even the few NGOs from these low income countries when accredited with the consultative status, they are not able to actively participate in the UN ECOSOC meetings due to resource constraints to travel to such meetings (Zorome, 2009).

There are three main reasons cited by scholars that mainly explain the rapid increase of NGOs in the past three decades. First, the deterioration in the provision of basic services by governments in most developing countries due to the impact of Structural Adjustment Programmes (SAPs). These programmes were introduced by the World Bank and the International Monetary Fund (IMF) in the 1980s and included reduced levels of public expenditure and encouraged privatisation of state services. However the outcomes of these programmes had devastating effects on social service delivery in these countries. Owing to these unintended policy consequences, most developing countries could not satisfy basic needs of their citizens, leaving a visible gap for NGOs to fill (Clayton, 1998).

Second, unlike under the single party dictatorships in most developing countries, the democratic dispensation and the collapse of the Soviet Union block opened up the environment for the operations of NGOs (Shivji, 2007). In this new democratic era, most governments are comparatively more receptive to new ideas which are embedded in the democratic principles and therefore are more willing to work with NGOs as complimenting partners.

Third, and most important factor alluded to by most scholars is the shift in donor preferences to channel their funds through NGOs as governments are viewed to be corrupt and inefficient (Oyugi, 2004; Wallace et al., 2007; Sama et al., 2009). There is sufficient empirical evidence to suggest that most NGOs tend to engage themselves in certain activities in response to donor interests for the sake of accessing funds. For example, in Goma refugee camp, a town in the Democratic Republic of Congo, a lot of NGOs moved in and were involved in the humanitarian aid crisis between 1994 and 1996 (Cooley and Ron, 2002) due to donor resources. A similar incident happened during the Indonesian economic crisis towards the end of the 1990s. Suharko (2007) reports that many local NGOs or Community Based Organizations (CBOs) were set up in almost all the regions of Indonesia due to the funding that was given by foreign donors to 27 NGOs in form of consortium on Community Recovery Program (CRP) with the purpose of surmounting the economic crisis (Suharko, 2007:5). In the recent years the HIV pandemic especially in Africa has attracted the growth of the NGO sector in response to the deadly disease as donor resources pour in to avert deaths.

1.2 The HIV and AIDS pandemic and related interventions

The HIV and AIDS pandemic is the highest cause for death worldwide according to the World Health Organisation (WHO, 2009). The estimates indicate that by the end of 2008
there were about 33.4 million people living with the virus. In the same year there were about 2 million AIDS related deaths that were reported worldwide. In addition, the number of new infections also remained high as it was estimated to be 2.7 million in 2008 (Ibid). Table 1.1 disaggregates this data at regional level as of end 2010.

Table 1.1: Regional statistics for HIV and AIDS, end of 2010

<table>
<thead>
<tr>
<th>Region</th>
<th>Adults &amp; children with HIV/AIDS</th>
<th>Adults &amp; children newly infected</th>
<th>Adult prevalence*</th>
<th>AIDS-related deaths in adults &amp; children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>22.9 million</td>
<td>1.9 million</td>
<td>5.0%</td>
<td>1.2 million</td>
</tr>
<tr>
<td>North Africa &amp; Middle East</td>
<td>470,000</td>
<td>59,000</td>
<td>0.2%</td>
<td>35,000</td>
</tr>
<tr>
<td>South and South-East Asia</td>
<td>4 million</td>
<td>270,000</td>
<td>0.3%</td>
<td>250,000</td>
</tr>
<tr>
<td>East Asia</td>
<td>790,000</td>
<td>88,000</td>
<td>0.1%</td>
<td>56,000</td>
</tr>
<tr>
<td>Oceania</td>
<td>54,000</td>
<td>3,300</td>
<td>0.3%</td>
<td>1,600</td>
</tr>
<tr>
<td>Latin America</td>
<td>1.5 million</td>
<td>100,000</td>
<td>0.4%</td>
<td>67,000</td>
</tr>
<tr>
<td>Caribbean</td>
<td>200,000</td>
<td>12,000</td>
<td>0.9%</td>
<td>9,000</td>
</tr>
<tr>
<td>Eastern Europe &amp; Central Asia</td>
<td>1.5 million</td>
<td>160,000</td>
<td>0.9%</td>
<td>90,000</td>
</tr>
<tr>
<td>North America</td>
<td>1.3 million</td>
<td>58,000</td>
<td>0.6%</td>
<td>20,000</td>
</tr>
<tr>
<td>Western &amp; Central Europe</td>
<td>840,000</td>
<td>30,000</td>
<td>0.2%</td>
<td>9,900</td>
</tr>
<tr>
<td>Global Total</td>
<td>34 million</td>
<td>2.7 million</td>
<td>0.8%</td>
<td>1.8 million</td>
</tr>
</tbody>
</table>

* Proportion of adults aged 15-49 who are living with HIV/AIDS


WHO reports that more than 95% of the people living with HIV live in the low and middle-income countries. Sub-Saharan African is the most affected and it accounts for two thirds of all the infections worldwide. In addition, there are 14 million orphans in sub-Saharan alone aged 15 years and below due to the HIV epidemic (WHO 2010). As table 1.1 shows, there are regional differences in the statistics of people living with HIV/AIDS, new infections, and adult prevalence rates (the proportion of the population living with HIV) and deaths related to AIDS. The table shows that sub-Saharan Africa had the highest number of people living with HIV and AIDS by end of 2010. Similarly new infections were also much higher than any other region. These high infections translate to a higher prevalence rate of 5% in sub-Saharan Africa while the rest of the other regions have prevalence rates below 1%. Further reports indicate that 70% of the new infections as well as 70% of deaths related to AIDS occur in sub-Saharan Africa. Yet sub-Saharan Africa is home to only 12% of the world’s
population (The H.J Kaiser Family Foundation, 2009). This shows the magnitude and burden of the disease in this region.

However, this situation has currently improved with the introduction of the antiretroviral therapy (ART) which has significantly reduced both the morbidity and mortality rates amongst people living with HIV worldwide (Cohen et al., 2011). Some recent studies have further hinted that ART can also act as a prevention strategy as shown by the low infection rates amongst people who are on ARV drugs (Anglemyer et al., 2011). Global trends show an increase in the number of people receiving ART from about 300,000 people in 2002 to about 4.9million in 2009 (WHO, 2010). In 2003 the UNAIDS and WHO launched a “3 by 5” initiative which aimed at reaching out to 3million people with the antiretroviral treatment in 50 low income countries by 2005. By 2008 about 4million people in low and middle income countries were receiving ARV drugs representing a 10 times increase over a period of five years (Ibid).

Figure 1.3 shows a steady increase in the number of people accessing ART as well as the number of life-years gained. Mahy et al. (2010) report that a higher number of life years gained is contributed by those living in high income countries in West Europe and North America due to their earlier access to ART i.e. in the mid 1990s when the drugs were newly discovered but too expensive for the low income countries. It was round mid 2000s when the drug costs were reduced and became affordable for those living in the low and middle income countries.

Figure 1. 3: Cumulative number of life-years gained among adults due to ART, 1995-2009

Source: Mahy et al., (2010)\(^7\)

\(^7\) http://sti.bmj.com/content/86/Suppl_2/i67 18.10.12
As can be observed from figure 1.3, there were huge gains in life years from about 2005 as more people started accessing the treatment (Mahy et al. 2010). Currently most of the gains are attributed to the increased number of patients on ART from the sub-Saharan Africa region where the majority of those affected with HIV reside.

In 2009, WHO introduced new guidelines for ART provision and this increased the number of patients requiring the treatment by 35-40% because these recommendations entailed an early start on ART for effective treatment. In the past, the patients used to start ART when their CD4+ cell count was < 200/mm but WHO pushed this threshold upwards to CD4+ cell count of <350/ mm (Maida et al., 2009). WHO is the body responsible for the overall direction in the implementation of HIV and AIDS programmes including the provision of ART. It provides guidelines on how to categorise HIV progression and when to start treatment as shown in table 1.2.

Table 1.2: WHO clinical staging of established HIV infection

<table>
<thead>
<tr>
<th>HIV-associated symptoms</th>
<th>WHO clinical stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic</td>
<td>1</td>
</tr>
<tr>
<td>Mild symptoms</td>
<td>2</td>
</tr>
<tr>
<td>Advanced symptoms</td>
<td>3</td>
</tr>
<tr>
<td>Severe symptoms</td>
<td>4</td>
</tr>
</tbody>
</table>


Table 1.2 presents the four WHO clinical stages of HIV progression. The asymptomatic stage is when the person has just contracted HIV. At this initial stage the person does not show any HIV-related symptoms but some do show signs of persistent enlarged lymph nodes without any particular cause. In the second stage of mild symptoms, the person starts to show some clinical signs such as some moderate unexplained loss weight of less than 10%, persistent respiratory infections and other types of infections. At stage three which is termed advanced symptoms, the person starts to manifest unexplained severe weight loss, unexplained recurrent diarrhoea and fever for more than one month, unexplained anaemia and severe presumed bacterial infections among other symptoms. Finally, stage four which is the severe symptoms level, the person severely loses weight also known as wasting syndrome. Further, one has recurrent severe pneumonia, kaposi sarcoma, extrapulmonary...

Tuberculosis, infections of the trachea, bronchi or lung and many other types of infections (CDC and WHO, 2011; Weinberg and Kovarik, 2010)

UNAIDS reports that in 2009, 37% of those who were eligible to start ART in sub-Saharan Africa received the treatment, up from 20% in 2002. The report also indicates that between 2004 and 2009, sub-Saharan Africa has seen a 20% reduction in AIDS related deaths due to the scaling up of the antiretroviral treatment with some countries like Botswana experiencing as high as 50% decrease. Therefore ART services are very vital in combating the devastating effects of the HIV/AIDS pandemic. This success story has been partly successful due to the combined efforts of various stakeholders including the non-profit sector in the provision of various services.

1.3 The non-profit sector and the HIV and AIDS response in Malawi

Malawi is a land locked country in southern Africa with a population of about 13 million people (NSO, 2008). It is one of the poorest countries in the world ranking 160 out of 182 countries in the UN Human Development Index. The Malawi government heavily relies on external support with 40% of its annual national budget funded by bilateral and multilateral donors. This over reliance on donor support causes serious challenges on service provision when the donor community is not able to fulfil its pledges. The government embarked on a Malawi Growth and Development Strategy (MGDS) since 2007 which focuses on achieving growth and development among which the fight against the HIV pandemic is one of the six key priority areas (Government of Malawi, 2006).

The work of NGOs in Malawi became more visible during the political transition period from one party to multiparty system of government in the early 1990s. Hitherto, NGOs that were accepted in the single party era were mainly those involved in relief and disaster support, social services (health and education) and environmental preservation. They were very few in number because of restrictions from the Malawi government. The first ever NGO to be registered in Malawi was in 1946 and the number of NGOs during this period was not growing as fast until the 1990’s when the number started rising rapidly.


Table 1.3 shows the number NGOs that were registered in Malawi from 1973 to 2011. This information was collected by the researcher from the Registrar's office by randomly selecting files from various years. The highest growth in the number of NGOs according to this data was in the 2000s. For example the number of registered NGOs rose from 1,999 in 2004 to 5,365 by 2011 representing a 168% increase in 7 years while between 1973 and 1988 there was about 90% increase and between the years 1988 to 1997 there was only a 70% growth.

Table 1.3: Number of NGOs registered in Malawi from 1973 to 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of NGOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>197</td>
</tr>
<tr>
<td>May 1988</td>
<td>374</td>
</tr>
<tr>
<td>May 1997</td>
<td>638</td>
</tr>
<tr>
<td>May 2004</td>
<td>1999</td>
</tr>
<tr>
<td>August 2008</td>
<td>3146</td>
</tr>
<tr>
<td>August 2011</td>
<td>5365</td>
</tr>
</tbody>
</table>

Source: Author’s own compilation

The actual number of NGOs operating may vary because some of the NGOs may have closed down and others operate without official registration. Further, according to the Registrar's office and interviews with the Council for Non-Governmental Organisations (CONGOMA), these statistics may not be a true reflection of all the NGOs operating in the country because some NGOs register with other institutions such as the office of the President and Cabinet (OPC), other line ministries responsible for NGO work and the district assemblies. As such it is difficult to get a comprehensive list of all NGOs working in Malawi (Mwalubunju, 2007:277).

To regulate the fast growing NGO sector, the Malawi government enacted the NGO Law in 2000 which defined parameters for NGOs' operations. Under this NGO Act\(^\text{13}\), an NGO constitutes a voluntary organisation for public benefit purpose. Here, "public benefit purposes" means organisational objectives which are purely developmental and charitable in nature “including but not limited to, educational, health, welfare, advocacy, cultural, civic, social, recreational, scientific, environmental, or other similar objectives for the benefit of the

general public... excepting the activities of a church or religion, trade union, employers organisation or political party”.

All NGOs are therefore required by law to register themselves with CONGOMA for ease of monitoring NGO activities in Malawi as well as to help the NGOs organise themselves so they can speak with one voice. However, very few NGOs are willing to comply with this law for various reasons. As such, as of 2003 there were only 132 NGOs that were registered with CONGOMA. By 2008, the figure had increased to 337 NGOs (CONGOMA, 2008) and it went up to 370 in 2011 according to the field research interviews with CONGOMA. This figure is still far below the official records being reflected at the registrar’s office i.e. over 3000 registered NGOs at the registrar’s office in 2008 and above 5000 NGOs by 2011 as can be noted from Table 1.3. The NGOs are first supposed to register themselves with one of the government ministry registration points before they can register with CONGOMA.

Discussions with CONGOMA officials revealed that NGOs in Malawi are quite diverse in nature including how they are managed. This diversity makes it difficult for CONGOMA to harmonise the needs of such a group of NGOs. CONGOMA classifies NGOs into 21 sectors and these include: advocacy and lobbying, agriculture and food security, capacity building/technical skills training, construction and infrastructure development, counselling, disability, disaster management, drug and substance abuse, education, energy, environment, land and natural resource management, gender and women development, health, HIV/AIDS, human rights, democracy and governance, media/development communication, microcredit/finance and enterprise development, orphan care and children’s affairs, social rehabilitation, water and sanitation and youth (CONGOMA, 2008).

From this list of sectors, it is evident that NGOs in Malawi are working in virtually all the sectors that are of public benefit. Most of the NGOs work in more than one sector so that they are able to meet the needs of people in a holistic approach. Besides this also widens their scope of donor funding because different donors have different sectors of interest. The

15 CONGOMA serves as an umbrella body for NGOs in Malawi and represents their interests. It works to; enhance and improve the operational environments within which NGOs function; promote and facilitate coordination, collaboration and co-operation within the NGO community and between the NGO community, the government of Malawi, the donor community and the public sector; to further the understanding of NGOs as competent, professional and suitable agents of development; and to support member NGOs to build and strengthen their institutional capacity. Member NGOs are required to pay annual subscription fee to maintain their membership (MK21,000.00 (approx 150US$) for local NGOs and Mk71,000.00 (approx. 500US$) for International NGOs)
HIV/AIDS sector however has the highest number of NGOs operating in Malawi. About 53% of all the NGOs that were registered with CONGOMA by 2008 implement HIV and AIDS activities. While about 40% operate in the health and education sector. The other sectors with relatively high numbers of NGOs include: the agriculture and food security, orphan care and children’s affairs, gender/women development, environment, land and natural resource management and human rights, democracy and governance sectors (CONGOMA, 2008).

Apart from CONGOMA, the Malawi government also established an NGO board, another body where NGOs are supposed to register themselves and give financial and activity reports annually. Just like the CONGOMA case, this body has also received very low participation from the NGOs. As of 2011 during my field research, only 184 NGOs were registered with the NGO board. Both the NGO board and CONGOMA indicated that they do not force any NGO to register with them. The NGOs are expected to do this willingly. One of the reasons most NGOs do not want to register with these bodies is because of the financial commitments involved and also because some do not want to be monitored so that they can easily abuse donor funds (according to interview with CONGOMA official).

CONGOMA however expressed concern about the lack of a policy framework to guide the operations of NGOs in Malawi. For example, there are different registration points for NGOs which makes it difficult to know the exact number of NGOs operating in the country. As a result it is difficult to enforce certain laws regarding NGOs’ work. Despite all these challenges, and some criticisms, NGOs in Malawi are praised for doing a good job in so many areas including HIV and AIDS. For example the European Commission’s Annual Operational Review of 2007 states that the Commission has a strong commitment in working with the NGO sector and commended them for the successful project implementation in the areas of food security and water and sanitation (European Commission, 2007). CONGOMA also expressed satisfaction with the positive contribution that NGOs make in Malawi, they indicated that a “study in recent years revealed that NGOs contributed about 6% of Malawi’s GDP.”

So far the Malawi government takes the non-profit sector as a critical player in public service delivery including the health and HIV/AIDS sector as manifested by the high cooperation between the government of Malawi and the NGO sector. The Malawi government needs the support of other partners because of its resource challenges especially in the health sector.

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16 From interviews with a CONGOMA official in Blantyre (February, 2011)
The Malawi healthcare system is considered the worst in the region (Bemelmans et al., 2010). The situation has been exacerbated by the HIV/AIDS pandemic. Chakrabarti and Piot (2004) describe the Malawi healthcare staff capacity as a crisis. The same message was echoed by the Malawi government through the Secretary for Health who expressed that the Malawi health sector had “collapsed” due to the dire human capacity need (Ministry of Health (MoH), 2007). For the expansion of the ART services, the health care system has trained some non-clinical staff to provide some of the services (Bemelmans et al., 2010). Table 1.4 below indicates the personnel gaps at various levels of staffing in the Malawi government and CHAM hospitals.

Health care services in Malawi are provided by three key stakeholders namely; the Ministry of Health, the Christian Association of Malawi (CHAM) and the private for-profit (Ngalande and Simukonda, 1994).

**Table 1.4: Vacancies in the MoH and CHAM Health Facilities**

<table>
<thead>
<tr>
<th>Type of medical personnel</th>
<th>Required Posts</th>
<th>Posts filled</th>
<th>% vacancies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Doctors</td>
<td>433</td>
<td>162</td>
<td>63%</td>
</tr>
<tr>
<td>Clinical Officers</td>
<td>1,405</td>
<td>1,033</td>
<td>26%</td>
</tr>
<tr>
<td>Nurses</td>
<td>8,440</td>
<td>3,416</td>
<td>60%</td>
</tr>
<tr>
<td>Medical Assistants</td>
<td>1500</td>
<td>491</td>
<td>67%</td>
</tr>
<tr>
<td>Pharmacy technician</td>
<td>269</td>
<td>134</td>
<td>50%</td>
</tr>
<tr>
<td>Med Lab technician</td>
<td>507</td>
<td>182</td>
<td>64%</td>
</tr>
<tr>
<td>Health Surveillance Assistants</td>
<td>11,000</td>
<td>4,664</td>
<td>58%</td>
</tr>
</tbody>
</table>

*Source: HIV and AIDS Unit (MoH) 2006, by Kamoto K. and Schouten E.*

The government of Malawi (GoM) is the major provider of health services, serving about 60% of all the patients and provides policy direction for the entire health care sector in Malawi. The non-profit through CHAM (the major part of the non-profit sector and consists of hospitals owned by various religious groups) provides about 37% of the health care services in Malawi (REACH Trust, 2011). And 85% of these CHAM hospitals are in rural areas where the majority and mostly poor Malawians live (Ibid). While the private for-profit reaches out to only 3% of the Malawian population. To underscore the importance of the non-profit sector, the government of Malawi within the public-private partnership framework has engaged all
CHAM hospitals under what is called Service Level Agreement. Using funds from the Sector Wide Approach (SWAp), the government contracts these non-profit providers to provide health services to all citizens for free and the hospitals claim funds from government to cover the costs of delivering these health services (REACH Trust, 2011).

Malawi is one of the countries in sub-Saharan African with high HIV prevalence rate. The first HIV infection case in Malawi was identified in 1985. By 1999 the prevalence rate had accelerated to 16.2%. After much effort by the government to fight the pandemic, the prevalence rate went down to 12% by 2004 (Malawi Government, 2009). The 2010 Malawi Demographic and Health Survey (MDHS) reported a further decrease in the prevalence rate to 11% (MDHS, 2010). The prevalence rate is particularly high among adults between 15-49 years which is the most productive age group. In addition this prevalence rate is higher among females compared to males. As figure 1.6 shows, the HIV prevalence rate in females is almost double that of males between the ages 15- 34, it then converges at age 40 after which the prevalence rate for both genders are almost the same (Ibid). However the average prevalence rate among females is estimated at 13% while that of males is approximated to be 10%. The prevalence rate is also higher in urban areas compared to the rural areas and the southern region has higher percentage of people living with HIV compared to the central and northern regions of Malawi (Malawi Government, 2009).

**Figure 1. 4: HIV Prevalence rate by age and sex (15-49 years) in Malawi**

![HIV Prevalence rate by age and sex](MDHS(2010))

The government of Malawi has made considerable effort to combat the HIV pandemic since the late 1990s when the pandemic started to show its devastating effects especially on the human productive capacity. This impact was felt at all levels i.e. at the household, the community and the national level. At household and community levels, the effects were mostly in terms of time spent on caring for the sick as well as resources spent on medical services. While at national level, the health care system could no longer handle the workload.
because of limited staff and lack of health care equipments (Malawi Government, 2009 and 2010). Moreover some of the most strategic ministries and departments such as the Ministry of Health, Education, Agriculture and the Police service experienced losses in the required labour due to high deaths and absenteeism. Those affected were under the age of 40 years (Ibid).

In 1987 the Malawi government established the National AIDS Control Programme (NACP) within the Ministry of Health which was mainly mandated to fight the HIV pandemic from the biomedical point of view. However as the effects of the disease progressed, the government realised the need to combat the epidemic from a multi-sectoral approach. In 2001 the government formed the National AIDS Commission (NAC) and phased out the NACP. The National AIDS Commission’s major responsibility is to provide overall direction and harmonization of Malawi’s HIV and AIDS interventions. The major instrument used by NAC to coordinate HIV/AIDS interventions in its first 4 years was the National HIV and AIDS Strategic Framework (NSF). The second framework was developed and covered the period 2005-2009 and it was called the National HIV and AIDS Action Framework (NAF)\(^\text{17}\). After the expiry of the framework, another Extended NAF was developed to run for a period of 2 years 2010-2012.

The NAF stipulates the main priority areas for HIV/AIDS interventions. It has eight priorities which include: 1) prevention; 2) treatment, care and support; 3) impact mitigation; 4) mainstreaming; 5) research; 6) monitoring and evaluation; 7) resource mobilization; and 8) policy coordination and programme planning. In addition, some specific components were developed to respond to special needs such as the National HIV Prevention Strategy; Prevention of Mother to Child Transmission (PMTCT) roll out plan; ART scale up plan; National Impact Mitigation Strategy; and OVC national plan of action (Government of Malawi, 2009).

The NAF also specifies all the stakeholders and their roles. In the 2010-2012 NAF, the NGOs/FBOs/CBOs are described as the central partner for the implementation of HIV and AIDS activities related in Malawi. Their major activities include advocacy work, assisting communities in resource mobilization, documentation of best community practices and supporting programme capacity building in partnership with NAC. The other key partners in the HIV and AIDS response are the Office of the President and Cabinet (OPC), Ministry of Health (MoH), central and line ministries. Central ministries include: Ministries of Finance

and Economic Planning and Development, Department of Human Resources Development and Management, the Law Commission and the Human Rights Commission. These provide direct or indirect support to the general HIV and AIDS response. On the other hand line ministries include the rest of the other ministries, departments and parastatals which provide HIV and AIDS services to communities they directly work with including workplace interventions for staff. Each government institution has a monthly budget for HIV and AIDS activities. Staff members who declared that they are HIV positive receive MK5000 subsidy (approx 25 US$) per month for nutritional support. Each Ministry is supposed to allocate 2% of its monthly budget to HIV and AIDS activities. The other stakeholders include the local authorities, development partners such as donors, the private sector – under the umbrella on Malawi Business Coalition on AIDS (MBCA) and the Malawi Global Fund Coordinating Committee (MGFCC). The MGFCC is made up of members from GoM, development and implementing partners and communities affected by HIV and AIDS, TB and Malaria (Malawi Government, 2009). Out of the eight priority areas of HIV and AIDS intervention, treatment, care and support is currently the major focus and account for most of the resources (according to interviews with OPC department responsible for HIV and AIDS and Nutrition). This information also corroborate with one of the Malawi government report (2010) which indicates that care and treatment are the largest beneficiaries of donor funds within the HIV and AIDS package. For examples the international donors who comprise 98% of all HIV and AIDS financing in Malawi increased their funding for care and treatment including ART from 21.3% in 2007/2009 to 38.1% in 2008/2009 financial year (Government of Malawi, 2010). This increase may be influenced by the need for more ART drugs as the number of patients requiring ART has consistently increased over time therefore justifying the need to increase the funding in this area to meet the demand of ART services. Figures of patients that have been initiated on ART are shown in table 1.5.

The Malawi government introduced a free universal access ART programme in 2004. However, due to the limited human resource capacity, rapid scale-up was a challenge. To deal with this problem, the government together with other stakeholders developed some strategies to ensure high coverage among its HIV infected people requiring ART. These plans include task-shifting where by non-clinical staff are also trained to be able to provide some ART services and ensuring that all stakeholders i.e. the non-profit and the for-profit sector are involved.

The HIV and AIDS Unit in the MoH has developed monitoring tools that include quarterly monitoring visits to all clinics in Malawi to collect data on patient outcomes and new
registrations. As such the department always has up to date and timely data at its disposal for decision making. So far the quarterly reports show that there has been a consistent increase in the number of patients being initiated on ART throughout the country. Figure 1.7 shows the trend from 2004 to 2010.

Figure 1.5: Patients alive on ART in the public and private sector clinics in Malawi

In response to the increasing demand for the ART services more and more clinics have been opened over time to accommodate this need. As can be noted from table 1.5 the number of ART clinics/sites increased from 9 in December 2003 to 417 by December 2010.

The table also shows that the increase in the number of ART sites lead to the corresponding increase in the number of patients enrolling in the ART programme. The ART coverage increased from 3% when the ART programme was just launched in 2004 to 63% six year later in 2010. Of the 345,598 patients ever initiated in the ART programme, 250,987 are still alive and on ART representing about 73% retention rate. However this retention rate is highly positively influenced by those who recently joined the programme because most of them are still alive.

Source: Ministry of Health, HIV and AIDS Unit, Quarterly Report, December 2010
Table 1.5: The Malawi ART programme December 2003- December 2010 Statistics

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ART sites</td>
<td>9</td>
<td>24</td>
<td>83</td>
<td>141</td>
<td>163</td>
<td>221</td>
<td>377</td>
<td>417</td>
</tr>
<tr>
<td>Patients alive on ART</td>
<td>No data</td>
<td>10,761</td>
<td>29,087</td>
<td>59,980</td>
<td>100,649</td>
<td>147,497</td>
<td>198,846</td>
<td>250,987</td>
</tr>
<tr>
<td>Coverage of pop. in need</td>
<td>No data</td>
<td>3%</td>
<td>9%</td>
<td>17%</td>
<td>28%</td>
<td>41%</td>
<td>53%</td>
<td>63%</td>
</tr>
<tr>
<td>Of ART</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New ART registrations in</td>
<td>No data</td>
<td>10,183</td>
<td>25,634</td>
<td>46,351</td>
<td>61,688</td>
<td>76,581</td>
<td>88,126</td>
<td>88,813</td>
</tr>
<tr>
<td>the Year</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Patients ever initiated</td>
<td>3000</td>
<td>12,848</td>
<td>35,621</td>
<td>75,503</td>
<td>129,276</td>
<td>200,901</td>
<td>271,105</td>
<td>345,598</td>
</tr>
<tr>
<td>ART (cumulative)</td>
<td></td>
<td></td>
<td></td>
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</table>

Source: Malawi ART Programme Report for 2010 Quarter 4

Brinkhof et al. (2009) report that on average, 21% of patients on ART in sub-Saharan Africa are lost to follow up in the first 6 months and 40% in two years time although there are huge variation across programmes. By the end of 2008, 66% of all the patients ever registered on ART were alive and still on ART, 11% had died, another 11% was lost to follow up, 12% was transferred out and <1% had stopped taking the treatment according to the Malawi ART Quarterly Report of December 2008. Having outlined the background on NGOs and the HIV and AIDS situation, the next section states the research problem and justification and finally outlines the scope of the study.
Chapter Two: Problem statement, research justification and scope of the study

2.1 Research problem and justification

As stated in the introduction section, the results on the impacts of NGOs’ interventions have been mixed and conflicting. While some scholars have portrayed NGOs as very effective in their work, others have discredited NGOs engagements. In general NGOs are praised for having certain comparative advantages over governments and the for-profit sector in service delivery. These comparative advantages include: closeness to the poor and disadvantaged, cost-effectiveness, non-bureaucratic, flexibility, innovation, less costly and advocacy work among others (Marschall, 2003; Fowler and James, 1994; Martinussen and Pedersen, 2005; Todaro and Smith, 2006). These positive aspects have motivated the donor community to put confidence in NGOs and hence entrust them with huge financial resources (Chege, 1999; Phillips, 2007; Marschall, 2002; Beckwith, Glenzer and Fowler, 2003).

Despite this positive image, there are also some challenges that undermine the effective contribution of NGOs to development. One such weakness is that NGOs usually work with small populations; hence their impact is limited to a small area and location (Todaro and Smith, 2006; Agg, 2006). In addition, their work lacks sustainability because NGOs depend on external donor funds, which are only limited to project life spans of 1-2 years after which they phase out and start another project. In his study, Sooryamoorty focused on determining whether NGOs affect or influence policy formulations for the communities they work with and also whether they actually manage to make any significant political and economic impact on the lives of people. The study revealed that NGOs are not the answers as they have usually been perceived. This is because their roles have been mostly gap-fillers rather than having a strong foundation on their own. They are mostly what the author calls “local managers of foreign money instead of being managers of the local development processes” (Sooryamoorty, 2003).

Recently there have been criticisms against NGOs’ extravagance and establishment of briefcase NGOs. Some NGOs are believed to be tilting towards business and drifting away from philanthropy as expected of them. They are seen to be caring more about their
personal desires at the expense of the poor (Lofredo, 2000; Ezeoha, 2006). Further, they are accused of gradually turning into an elitist group (Todaro and Smith, 2006:552). Another limitation is that NGOs are accused of not being accountable to the people they serve, but rather to the donors who finance them. Since NGOs are not elected by the people, this situation renders the beneficiaries powerless to seek any legal redress when NGOs act contrary to what they promised to do. An example of these negative sentiments is the case of NGOs in Ghana. The Ghanaian government reported that most of the NGOs spent nearly 80% of their project funding from government or external donors on administrative overheads and they were not able to give proper financial records on those funds (BBC report of 25 February, 2004). In 2004 the government of Ghana was in the process of blacklisting all NGOs that had not submitted their annual reports and accounts to the Social Welfare Department according to the law. Reporting to BBC, the Deputy Minister in the Ministry of Manpower, Development and Employment indicated that out of the 3000 NGOs only 150 had submitted their reports (Ibid).

Drawing from the discussions on the mixed picture of the impacts of NGOs, it is apparent that there is need for a critical look at NGOs due to the crucial role they assume in society. Firstly it has the funding implications for donors as they need to allocate resources in the most effective and efficient manner—whether through the government, the for-profit or the non-profit sector (Clayton, 1998). Second, it helps development agencies and NGOs to understand the goals and agendas prevailing at any given time for strategic partnerships, Brinkerhoff et al. (2007) discuss about NGOs and the Millennium Development Goals and express the fundamental role that NGOs can play in realising these goals. But they caution that without a reasonable appreciation of NGOs’ potentials, roles, and challenges to their success, it might not be possible to tap on their contribution (Brinkerhoff et al., 2007). This is an important point for development agencies to consider so that they are able to work with NGOs in the most effective manner in order to maximise the benefits that emanate from these organisations. In order to get a clear understanding about NGOs, it is vital to analyse their roles from a well contextualised angle by clearly defining the different types of NGOs and how they operate including the market environment within which they operate. This is what this research aims to contribute.

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18 His article (Help yourself by helping the poor) explains how most professionals have turned NGO work into business adventure. – Development, NGO and Civil Society
There are several theories that various scholars have attempted to use in an effort to understand and explain the role of NGOs. However due to the complexity of the NGO sector, there is no consensus as to why NGOs exist and let alone their continued expansion. More work is required to get a clearer understanding of the sector. Nevertheless, many scholars agree that NGOs have certain characteristics different from government as well as the for-profit that necessitate their presence in society. The NGO sector is different from government in that although it provides public goods to the people, it does so, on voluntary basis as it is not elected. On the other hand it is differentiated from the for-profit sector in the sense that it is not profit seeking though it provides certain services at a fee.

A few studies have been conducted by various scholars which compare the performance of the non-profits, for-profits and the governments, the competition among these players and factors influencing the growth of the non-profit sector (Corbin, 1999; Ben-Ner and Ren, 2006; Aldashev and Verdier, 2009) just to mention a few. However most of this work has focussed on similar theoretical basis which include the government failure and the contract failure theories. Since the establishment of these theories in 1977 by Weisbrod and 1981 by Hansmann respectively, there has been a lot of discussion around these theories and some modifications/extension have been made to these theories to further explain the existence of the non-profits through empirical findings.

Despite all these empirical studies, there is still need for more empirical research because the current findings have so far produced mixed results which make the theories not to be fully embraced until ample evidence is shown. However, this may never be the case due to the differing contexts within which these studies are conducted. For instance, to date most of the research with such theoretical basis has concentrated in the USA and a few in Europe both of which are developed regions. These studies are yet to be conducted in developing countries. This could probably produce different results due to the differences in social, cultural and economic conditions. Therefore this may add valuable information which could aid in providing a more holistic picture on the outcomes of applying these theories. It is therefore hoped that this research will contribute to this debate from the developing world perspective, specifically from Africa through the empirical evidence generated from this study. This could bring a new contribution to these theories because the non-profit context in Africa is very different from that of the USA and Europe especially in terms of resource availability.

Although it is important to find out factors that influence the existence of NGOs, as most scholars have done, the question of NGOs’ contribution in society is more critical even if we
cannot fully establish the real cause of their existence and expansion. Since this sector is not operating in isolation as earlier alluded to, there is need to understand the environment within which they operate and how this affects their performance in service delivery. More especially their resource base because this is one of the most fundamental requirements for their functioning. This mostly hinges on their interactions with donors.

Finally, most studies on cost-effectiveness in antiretroviral therapy have focused on comparing the use of various combinations of drugs to measure cost-effectiveness of the treatment regimens and varying times of starting the treatment. Only one study focused on cost-effectiveness of different approaches for providing treatment, i.e. facility based care, home-based care and mobile clinic. So far no known study on ART has compared cost-effectiveness among different types of health providers. This research therefore attempts to make such a comparison.

Just like most of the African countries, Malawi heavily relies on donors for financing of its ART programme. The Global Fund supports Malawi in the procurement of all its ART drugs and this constitutes the highest budget for the provision of ART services. This situation is worrisome because in recent years due to the economic melt down, there have been cuts in donor funding which has already started to affect the supply of ART drugs in Malawi (Piot, 2012). In 2011, Malawi already started experiencing shortages of ART drugs such that some people could not get the drugs on time due to under supply. Global Fund’s future is not very certain as yet and it may not be there forever and yet the patients need these drugs for the rest of their lives. This therefore calls for an awakening in terms of how Malawi can on its own sustain the universal ART programme without donor support. This will require that cost-effective measures of running the programme are identified so that the little resources that government may have should be better utilised so that the programme can continue running and save thousands of lives. As such cost-effectiveness analyses are significant is this case in order to identify various possibilities of achieving similar results at a lower cost.

2.2 Research Objectives and Questions

The study therefore aims at analysing the extent to which NGOs contribute to socio-economic development through social service delivery, with a specific focus on the HIV/AIDS sector in Malawi by using a comparative approach. It analyses NGOs’ roles in terms of quality, quantity and cost-effectiveness of their work in comparison to the government and the for-profit sector in the provision of HIV and AIDS treatment. In addition, it assesses the market structure within which NGOs operate in order to understand the dynamics that might affect their role. This centres on analysing the type of relationships that exist between and
amongst the NGOs, donors, government and the for-profit actors. The HIV and AIDS sector has been specifically targeted because of its impact on socio-economic development from the human capital perspective. HIV and AIDS has been named the highest cause of mortality in the recent years in sub-Saharan Africa thereby wiping out the productive capacity of most countries because HIV/AIDS has highly affected those in the productive age groups (WHO, UNAIDS and UNICEF, 2011; Malawi Government, 2009). In addition, this sector has been chosen because it has the highest number of NGOs operating in this sector in Malawi21.

In order to achieve this aim, the research focuses on answering the following research questions:

1. What type of relationships exist between and amongst donors, NGOs, government and for-profits in the HIV and AIDS sector in Malawi?
2. What impact do these relationships have on the operations and outcomes of NGOs’ services?
3. Is there any significant difference in the quality of services delivered by the non-profit sector in comparison to the government and the for-profit sectors in the provision of ART?
4. How cost-effective is the non-profit sector in the provision of ART services compared to the government and the for-profit sectors?
5. Do NGOs have any comparative advantages in their service delivery?

21 CONGOMA 2008 NGO Directory
PART II: Literature and Theoretical Review

This part has three chapters which are presented as follows; chapter three contextualises the NGO sector by defining what NGOs are and their typologies, outlining trends in their engagement in development cooperation including financing mechanism from donors. This is followed by chapter four which presents the theoretical arguments regarding the emergence, existence as well as persistence of the NGO sector. Various theories that explain the reasons for the establishment of the non-profit sector are widely discussed including the criticisms that have been levelled against these theories by some scholars. Further the chapter presents some theoretical issues related to NGO operations in terms how their work can either be hindered or promoted which includes the principal-agent theory and comparative advantages of NGOs. Finally the chapter discusses some of the consequences resulting from the ever increasing number of NGOs, relationships between NGOs and their donors and beneficiaries and implications for such relationships.

Chapter five presents cost-effectiveness analysis as an economic evaluation method that is used in the analysis of some of the data in this study. The chapter defines cost-effectiveness analysis alongside other economic evaluation methods such as cost-benefit analysis, cost-analysis and cost-utility analysis. Thereafter it provides examples of some of the cost-effectiveness studies that have been carried out in the area of HIV and AIDS. Further the chapter discusses how the ART costs and effectiveness indicators that are used in the calculation of cost-effectiveness ratios are derived. Finally the chapter outlines some of the limitations that are associated with cost-effectiveness analysis as an economic evaluation method.
Chapter Three: Contextualizing the NGO sector

3.1 NGOs’ definition and typology

The NGO sector is very heterogeneous in terms of its modes of operations, ideologies, size of funding, structure, level of operation and ownership (Ditchter, 1999; Valentinov, 2006). Anheier (1995), reports that definitions in the field of the non-profits are highly deficient. He argues that ‘non-profitness’ has “little consistent transnational and transhistorical meaning” because the term is extremely dependent on culture, national legal systems as well as fiscal and corporate laws in particular (Anheier, 1995:16). As such, it is very crucial to analyse the role of NGOs from a specific perspective rather than from a generalised point of view.

There are different definitions of NGOs presented by various stakeholders, for instance, the UN defines NGOs as “any non-profit, voluntary citizens’ group which is organized on a local, national or international level. Task-oriented and driven by people with a common interest, NGOs perform a variety of services and humanitarian functions, bring citizens’ concerns to governments, monitor policies and encourage political participation at the community level. They provide analysis and expertise, serve as early warning mechanisms and help monitor and implement international agreements. Some are organized around specific issues, such as human rights, the environment or health” (Ibid).

On the other hand the World Bank defines NGOs as “private organizations that pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development” (Operational Directive 14.70). In wider usage, they state that the term NGO can be applied to any non-profit organization which is independent from government. NGOs are typically value-based organizations which depend, entirely or partially, on charitable donations and voluntary service. Finally they indicate that “although the NGO sector has become increasingly professional over the last two decades, principles of altruism and voluntarism remain key defining characteristics” (World Bank).

Yaziji and Doh further provide other definitions from authors such as Hudson and Bielefeld, who define NGOs as “organizations that (1) provide useful (in some specified legal sense) goods or services, thereby serving a specified public purpose, (2) are not allowed to distribute profits to persons in their individual capacities, (3) are voluntary in the sense that

http://library.duke.edu/research/subject/guides/ngo_guide/igo Ngo coop/ngo_wb.html 09.2010

22
they are created, maintained, and terminated based on voluntary decision and initiative by members or a board and (4) exhibit value rationality, often based on strong ideological components", (Yaziji and Doh, 2009:5). They also define NGOs as “private, not-for-profit organizations that aim to serve particular societal interests by focusing advocacy and/or operational efforts on social, political and economic goals, including equity, education, health, environmental protection and human rights”, (Ibid).

Although there are different definitions for NGOs provided by different scholars, there are certain characteristics and features that remain consistent across all the definitions. These include; non-profitness, voluntarism and ideology. In some cases it is the wording of the definition and specific examples that differ. Therefore in this study the word NGO is used synonymously with the word non-profit.

Just as are many definitions of NGOs, so are the different categorisations of NGOs. So far there is no consensus on the actual categorisation of the different types of NGOs. Instead, scholars use their own classification to suit their research needs or depending on the context in which they operate. Vakil (1997) states that the lack of consensus on the definition and classification of NGOs has hindered progress in the development of both the theoretical and the empirical understanding of NGO sector. Other scholars such as Ng’ethe (1989) and Martens (2002) also share similar views.

Despite the lack of consensus on the definition of NGOs, there are certain characteristics that remain consistent among all the definitions from various scholars. For the purpose of this study, three categorises are used to describe NGOs. The one dimension classifies NGOs according to who benefits from their services i.e. whether self-benefiting or other-benefiting organisations. The other dimension characterizes NGOs by the type of activities they are involved in i.e. either advocacy or service delivery/operational and finally the level at which the NGOs operate in terms of physical boundaries i.e. at community, national or international level (Bratton, 1989; Yaziji and Doh, 2009; Vakil, 1997).

The self-benefiting organisations are those whose services are accessible by the members of the organisation only due to shared interests, while in the other-benefiting scenario, the benefits are open to anyone who deserves the service. In addition the mode of funding between these two types of NGOs differs. While the self-benefiting organisations finance their activities from member contributions, in the other-benefiting category, external sources are the major source of funding. These sources may include individuals, governments, multilateral institutions and private foundations (Yaziji and Doh, 2009).
Steinberg (1997) also distinguishes between commercial non-profits and donative non-profits indicating that they have totally different management challenges. Yaziji and Doh (2009) report that there is high accountability among self-benefiting organisations compared to other-benefiting NGOs because the beneficiaries of the services in the self-benefiting NGOs are also the donors of the organisations. As such they have keen interest in the day to day running of the organisation and would like to ensure that the benefits always supersede the costs of contributing their resources. If this does not happen, then the members mount pressure on the managers. On the other hand, in the other-benefiting NGOs, the managers are not pressured by the beneficiaries because in this case the beneficiaries are not the donors. Hence, they do not have any authority on the use of the resources. The donors are usually not in daily contact with the managers of the organisations. The managers in this case have the incentives to cheat the donors and are still able to access funding even when they are providing poor services. In general in most developing countries there are likely to be more of the other-benefiting NGOs than self-benefiting due to lack of local resources to support such organisation because of the high poverty levels. Other-benefiting NGOs are more plausible due to ODA flows to developing countries (Yaziji and Doh, 2009).

The second dimension of NGO categorisation hinges on the type of activities carried out by the NGOs. These are classified into service and advocacy. This classification comes in the wake of the ever increasing roles NGOs are supposedly taking up as governments keep shrinking their public service role. Advocacy NGOs on the one hand focus on shaping the social, political and economic environment to promote certain “interests and ideologies” by setting the agenda through lobbying, providing expert advice on certain decisions, conducting research, holding conferences, disseminating information and many other activities related to setting things in motion for some authorities to act. Advocacy is further segregated into watchdog and social movement functions. As watchdogs, the NGOs are mainly concerned with the broader social, economic, political and legislative order to ensure these institutions are operating within the law. As such they are less ideologically oriented. The social movement group on the contrary have strong convictions on changing the status quo and advocate for change. In some case they can be very radical and bring about radical changes as well (World Bank23, 1998; Yaziji and Doh, 2009). The service-oriented NGOs on the other hand provide services to those that have not been adequately served with specific needs. They act as “safety nets” where governments are unable or unwilling to provide

services for their citizens due to various reasons including corruption, indebtedness, political challenges and many more. These NGOs fill in this service provision gap (Yaziji and Doh, 2009).

Apart from these two broad categories, there are also hybrid/evolving type of NGOs which have a mix of the two dimensions described above in terms of the services they provide. While primarily doing service delivery, these NGOs also engage in advocacy. It is common with NGOs that they may start with service provision, but as a result of their work experiences and challenges, they may engage in advocacy in order to involve other stakeholders in the service provision (Word Bank, 1998; Yaziji and Doh, 2009).

The third dimension is mentioned by the World Bank who classifies NGOs into three categories on the basis of the level of operation as follows: 1) community-based organisations (CBOs) which are locally based and serve a specific group of people within a small geographical area, 2) national NGOs which operate in individual developing countries and 3) international organisations that have their headquarters in developed countries but are operating in more than one developing country (World Bank, 1998)\textsuperscript{24}.

As it has been demonstrated from this discussion there are so many definitions and categorisations of NGOs such that one has to be very clear about what type of NGOs they want to analyse in order to come up with a fair analysis of the issues at hand. Overall, the different types of NGOs are essential in fulfilling certain developmental goals. As briefly outlined in the introduction, this research focuses on services which are other-benefiting and hence donor dependent. It also focuses on NGOs operating at national and/or international level.

In an attempt to bring about a coherent picture and clearer understanding of the NGO typology, figure 3.1 summaries and interlinks the major NGO typologies discussed in this section.

In summary, figure 3.2 classifies NGOs by defining them using the three main categories as follows: a) Who benefits from their activities, b) the type of activities they are engaged in and c) the geographical coverage of their activities. Therefore it does not matter whether the NGO is self-benefiting or other-benefiting, it focuses on a specific type of activity/activities either advocacy, service delivery or both and it is has a certain geographical coverage which could be at a community, national or international level.

3.2 The NGO Market Trends

An important feature that requires in depth understanding when analysing NGOs, is their market structure. This entails understanding the relationships amongst NGOs themselves, NGOs and governments, NGOs and donors and NGOs and beneficiaries. This is necessary because success of NGOs’ work is to a large extent dependent on the environment within which they operate in terms of the type of relationships they have with their cooperating partners. Since most of the NGOs are donor dependent, they are to a high degree at the mercy of the donors in terms of what they can and what they cannot do. This is likely to have an effect on the extent to which they can effectively contribute to development through social service delivery. However, the relationships between NGOs and their partners are not easy to study due lack of data. Wallace et al. (2007), indicate that research on NGOs is difficult because they are not transparent organisations. They always request that discussions and issues concerning their funding and relationship with donors, partners and states should be kept behind closed doors for fear of losing funding. As such, it is difficult to collect such data.
and the same is true for donors as they too do not want to expose themselves too much on certain issues deemed sensitive (Wallace et al., 2007).

The market trend of the NGO sector has been shifting over time due to donor interests as well as global changes. These shifts are shaped by the ideological changes on how to combat poverty, achieve economic growth and of course unforeseen occurrences such as HIV/AIDS pandemic and other global crises. The NGOs have been changing roles to suit the prevailing environment due to their flexibility since they are not restricted by any boundaries like governments do. International NGOs are free to operate across boarders without much hassle. This also increases their chances of getting more funding as they are able to raise funds in countries other than their own countries of origin (Aldashev and Verdier, 2008).

With the increased global as well as national challenges, NGOs and the for-profit sector have found more room to occupy and operate. As illustrated by Yaziji and Doh (2009), governments are shrinking in terms of their ability to provide sufficient basic social services to their subjects and the NGO and for-profit sectors are expanding their territory to fill this gap as also reflected by Wallace et al. (2007). Changing ideologies direct the financing of modern development agenda and that funding trends and practices change according to political priorities, global strategies and current theories of how development should be best approached. This directly influences the roles and focus of NGOs as they strive to access funding from donors. Below is a table showing evolving development priorities and aid mechanisms for UK donors and NGOs as an example of changing ideologies since the 1970s.
Table 3.1: Changing development priorities and aid instruments for UK donors and NGOs

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Donor Focus</th>
<th>Donor Instruments</th>
<th>NGO Focus</th>
<th>NGO Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970s</td>
<td>- Basic needs - Household surveys - Support to governments (concern about corruption)</td>
<td>- Projects, especially infrastructure integrated rural development projects - Technical experts</td>
<td>- Solidarity between NGOs from the north and south - Focus on voluntary spirit and donations</td>
<td>- Very varied project application forms, individually developed within each NGO. - Many NGOs have no centralised uniform documents or policies</td>
</tr>
<tr>
<td>1980s</td>
<td>- Effective projects, donor controlled - Appropriate macro-economic policies - Structural adjustment (later with a human face) mandatory for many countries</td>
<td>- Log frames - Technical cooperation - Overseas training - Social investment funds - Structural Adjustment Programmes upholding IMF requirements for liberalisation - Projects continue to dominate aid disbursement</td>
<td>- Reducing role of expatriates, employing national staff - NGOs as pilots and catalysts - Identifying good practice: gender, environment, poverty focus, participation and PRA - Concern with appropriate images of the south</td>
<td>- Some NGOs start to adopt log frames, most use their own frameworks - Many NGOs have few organisational policies and uniform procedures; larger ones start to introduce policies on project management and gender - Some NGOs focus on evolution</td>
</tr>
<tr>
<td>1990s</td>
<td>- Projects to focus on the poor, address gender and be environmentally sensitive - Democracy, good governance, sound economic policies and national government ownership of poverty agendas - End of poverty</td>
<td>- Participatory rural appraisal, stakeholder analysis, process projects within LFA. - More direct funding of NGOs, less technical cooperation, more consultancies - Sector wide approaches (SWAPs), HIPC initiative (debt rebates to the poor) - Different approaches to getting good reports from NGOs (always a problem)</td>
<td>- Focus on capacity building for southern NGOs - Scoping up successful service delivery projects - Sustainability - Advocacy work in the north - Gender mainstreaming - Moving from projects to programmes - Massive increase in donor funding</td>
<td>- Sharp rise in use of log frames as key project management tool - Adoption of strategic planning as main organisational tool - Concerns with accountability; rise in reporting - Significant growth of M&amp;E - Beginning to assess impact of advocacy work</td>
</tr>
<tr>
<td>2000s</td>
<td>- Reduction of corruption - Transparent and accountable governments - Decentralisation of governments and donors - Sound macroeconomics and pro-poor growth - Ending poverty - Getting voices of the poor into policies - Making globalisation work for people</td>
<td>- National programmes and frameworks: PRSPs and PRGFs, comprehensive development frameworks - Targets and MDGs - Funding to government-budget support - Influencing as important as resource transfers - Harmonisation between donors - Decline of project contracts</td>
<td>- Increase in advocacy and lobbying work - Focus on rights - Shift towards ‘learning organisations’ - Global strategies - Growing reliance on donor funding - Anxiety about decline of DFID funding as it shifts direct support to governments</td>
<td>- Focus on learning organisations - Almost universal use of LFA, strategic planning, reporting systems, impact assessment and use of development indicators, from project to global level - Focus on MDGs, impact, efficiency and effectiveness - Rise in evaluations and concerns with cost - effectiveness</td>
</tr>
</tbody>
</table>

Source: Eyben (2002) in (Wallace et al., 2007:32-33)

As can be observed from table 3.1, the shifting donor ideologies have a direct impact on the approaches that NGOs will follow. Wallace et al state that “those with power in the aid chain can promote the approaches they prefer”. They further elaborate that the issue of power is often mentioned but it is neglected in the analysis of how development works. In addition, no attention is paid to the manner in which people bargain the use of new practices and funding.
conditions (Wallace et al., 2007:38). They also explain that inequalities are recognized but ignored or downplayed through usage of certain terminology such as ‘partner’ and ‘partnership’ which replaces the donor-recipient or subcontractor wording. Wallace et al found out that while the UK donors and NGOs use these words, their partners in Africa consider themselves as ‘supplicants and dependants’. For example the discussion with Ugandan NGOs revealed that the NGOs feel reminded of the colonial past in the way they relate with UK donors and NGOs (Ibid).

Donors usually push their agendas by imposing certain conditions on how donations should be used in terms of types of programmes to be implemented and approaches to be used. Sometimes these approaches don’t even suit the local context but the recipient has no power to negotiate. Some NGOs especially those in the advocacy field are usually funded by donors to put pressure on governments if the donors cannot do it themselves for the sake of diplomacy. These actions eventually distort the NGOs’ ideological focus and they may start dancing to the tune of the donors in order to remain in business and survive the stiff competition for resources (Wallace et al., 2007).

### 3.3 Number of donors, aid volumes and funding procedures in the NGO sector

Just like NGOs, in the past three decades, there has been a rapid increase both in the number of donors providing support to NGOs as well as the amount of funds allocated to the NGO sector. For instance, the Overseas Development Institute (ODI, 1995) reports that the United Kingdom increased its funding to NGOs by 400% within a 10 year period from early 1980s to early 1990s. Similar expansions were also done by the Australian government, Finland, Norway and Sweden over the same period. These amounts are reported to have greatly increased the total income share of NGOs from official donors. The World Bank reports that in the 1970s approximately 1.5% of NGO’s total income originated from donors and by mid 1990s, this figure had increased to 30% (ODI, 1995: 2). Chege (1999) also reported that the US Ambassador to Kenya Prudence Bushnell had announced that her government would be channelling most of its development funds to Africa through NGOs rather than governments. The reason for this was that the US government had created a policy in 1992 to work more closely with NGOs in areas where African governments were viewed to be corrupt. He further reports that by 1996 the US government was already channelling more than 30% per annum of its aid through NGOs (Chege, 1999). Over the same period, other donor countries such as Britain, Germany, France and Holland also increased their aid towards NGOs while threatening to cut aid to African governments if they
did not decisively stop corruption (Ibid). Quoting the World Bank, Chege reports that by 1999, NGOs in Africa were managing close to US$3.5 billion in external aid, while in 1990, they handled less than US$1 billion, representing a 30% increase over the 9 year period. This aid is believed to have a great contribution to the growth of the NGO sector.

Apart from the increase in the number of donors and amount of funding to NGOs there is also a related factor that further explains the increase in the number of NGOs in the provision of development services. This concerns the funding arrangements that the donors have adopted. The ODI reports that there are different funding approaches through which NGOs can access funds from donors. For example, it is reported that Australia has 32 different funding systems. The ODI report however states that although there are several funding mechanisms, the main funding system used by most donors is the projects and programmes funding approach. In this case, NGOs are asked to submit their project and programme proposals to donors (ODI, 1995:2). This therefore leaves it open for any NGO to apply and if the project or programme meets the donors’ expectations or requirements, it has high prospects of being funded. Consequently, many NGOs apply for and receive funding from these donors. For example, George (2005) indicates that in recent years in Ghana NGOs are “springing up all over the place like beans under waters”. He also reports that 60% of the NGOs based in Accra are engaged in HIV/AIDS awareness activities (George 2005:2). This is due to donor funding which is available for any NGO that is able to write a good project proposal asking for funding. Some NGO owners even hire consultants to write proposals for them and yet they have no idea on how to implement activities on the ground and how to account for funds. Therefore this funding approach encourages unlimited number of NGOs to enter into the system because there is no regulation on who can actually access the funds. All that matters is a sound proposal in the eyes of the donor.

In summary this chapter has attempted to contextualize the NGO sector by defining and categorizing it with a conclusion that there are three major dimensions for defining the NGO sector. These include; the type of activities they are engaged in, the beneficiaries of the NGOs’ activities whether their own members or other people and finally the geographical level at which they operate whether local, national or international. Further the chapter has also highlighted the major NGO market trends in terms of their increased engagement in development cooperation as a result of increased donor funding which has also inadvertently led to the expansion of the NGOs sector. The next chapter however outlines the major theories that explain the reasons for the existence and consistent proliferation of the non-profit sector.
Chapter Four: Theoretical Arguments

This chapter discusses the main theories that form the basis of this study. These theoretical arguments have been widely used by scholars to analyse the existence and role of the non-profit sector and they include the contract failure theory, government failure theory, demand heterogeneity factors, social cohesion and resource dependency. In addition, the argument of the NGOs’ comparative advantages is also presented and form part of the theoretical basis of this study. These theories mainly discuss the phenomenon of the non-profits’ existence and continued proliferation over the years.

4.1 The Contract Failure Theory

One major reason for the existence of the non-profit in the health sector has been associated with high quality service provision. Scholars believe that the non-profit sector serves as a signal for quality in the light of asymmetric information (Santerre and Vernon, 2004). The Contract Failure Theory has received much attention in the non-profit debate and has been used to empirically test its validity by various researchers. This theory was developed in 1980 by Hansmann, who states that information asymmetry has huge influence on people’s decision making choices with regard to where they should get their services (Hansmann, 1987). Since service providers have all the information concerning the value and quality of their products, they have incentives to hide this information from their customers to their benefit. This results into an agency problem of adverse selection since it is difficult and prohibitively costly for the consumers to evaluate the quality of goods and services before they purchase (Fletcher et al., 1995). It is however believed that non-profits are trustworthy and therefore provide better quality services compared to for-profit organizations because the non-profits are not profit seeking.

The argument is based on the fact that non-profits are barred from distributing any profits (residual income) to its members according to the non-distribution constraint (NDC) law. This prohibition is assumed to be beneficial to the non-profits as they are able to have more resources to reinvest in the running of their organizations i.e. buying more equipment and training staff. This entails that non-profits are likely to attract more customers than the for-profits because the customers feel assured of getting better services from non-profits than from for-profits. Since the for-profit sector is profit minded they are suspected to be more likely to hide information on quality of their services in order to maximize profits. As a result only well informed customers will get their services from the for-profit providers. According to this theory the non-profit sector comes in to fill up this information asymmetry gap which could otherwise harm the non-informed consumers.
Some scholars however argue that some for-profits may disguise themselves as non-profits in order to attract the non-suspecting clients. Hansmann counter-argues that the NDC law prevents the for-profits in disguise (FPID) to survive because that would imply that they cannot distribute profits among their members, yet this is the core business of for-profit suppliers. However Hirth states that this constraint can only be effective depending on the extent to which it is enforced (Hirth, 1999). Steinberg (2003) illustrates this point by modelling consumer preferences in relation to quality and price of goods. He concludes that under strict NDC only honest non-profits would be viable in the non-profit sector and these honest non-profits would automatically “displace the low quality FIDPs from the market” because they cannot survive in the market. In this way, the few non-profits in a mixed market is hailed to be able to eliminate the asymmetric information dilemma (Steinberg, 2003:16; Hirth, 1999).

On the other hand, he found out that under moderately or weakly enforced NDC, possibility of having FPIDs was high because their break-even price was below the minimum average cost of high quality. This condition is however feared to lead to a situation where the non-profits can be reduced to signal low quality services. According to Hirth, the advice to the non-profits, to counter this problem is that they need to have superior access to subsidies than FPIDs can afford. These subsidies include aid, unpaid labour (volunteers) and other inputs that should be provided at a lower amount than their full economic cost (Hirth, 1999). Due to weak institutions in Africa, it is likely to find FPIDs and this may be the reason for the criticisms against NGOs of being elitists, not accountable and using a lot of resources on administrative costs.

On the other hand, Zuidervaart (2000) criticizes the contract failure theory that it “overestimates the trustworthiness” of the non-profits and ignores the incentives these organizations have to lower quality of their services and redirect donations to other uses other than the original intentions (Zuidervaart, 2000:3). Other scholars have likewise argued that NGO managers can indirectly distribute these profits through huge salaries and other non monetary benefits (Ortmann and Schlesinger, 2002:8; Salvochea 2008:2). This argument is also supported by Santerre and Vernon (2004) who state that the non-profits are more likely to face huge principal-agent problems. They indicate that the lack of “a residual claimant with a financial interest in the organization means that no one individual, or a group of individuals, has strong incentives to monitor the behaviour of the organization” (Santerre and Vernon 2004:3-4). This has also been observed in literature where non-profits are accused of using resources on certain luxuries such as renting very expensive offices,
buying expensive furniture, organizing unnecessary receptions and going out on unnecessary trips among others (Kasper and Streit, 1998).

So far empirical findings do not show a clear picture in support of the contract failure theory. The studies so far done, do not necessarily suggest that non-profits provide better quality services than for-profits (Bushaus, 1998; Ortmann and Schlesinger, 2002; Morris and Helburn, 2000; Bradley and Walker, 1998; Hirth, 1999). Hawes and Phillips (1986) state that they found no clear evidence to support that non-profit facilities provided higher quality services compared to those of the for-profit providers in nursing homes. Further, Hirth quotes O'Brien et al. (1983) who also concluded that quality is fairly comparable across sectors (Hirth, 1999). As observed, there is a mix up of findings because in some cases for-profits were found to provide better quality services than non-profits and vice versa and in some cases there are no differences. This scenario has raised questions among scholars on the effectiveness of the contract failure theory in determining the role of non-profit organizations as better providers of services in terms of quality compared to the for-profits using the information asymmetry and NDC arguments.

However there is one point which has not been elaborated by most scholars except for Matsunaga and Yamauchi. This concerns the payment for the services by the clients. Matsunaga and Yamauchi found out that personal incomes had an influence on where an individual gets his/her service i.e. from government, non-profit or for-profit. Wealthy individuals were found to patronize for-profit services more than non-profit services. It is common practice that usually for-profit providers offer their services at a fee that covers their costs and are able to get some profits from the same. This is unlike the non-profits who mostly either provide purely free services or charge some nominal fee although there are others that charge very high fees just like for-profits.

Considering the scenario where the non-profits are providing their services for free or at negligible amounts, then the question of information asymmetry does not arise. There will be automatic self-selection of customers according to socio-economic status. Those that are poor will definitely go to the non-profits not because of better quality but rather due to affordability. This theory may be more applicable in developed countries settings where the healthcare system is universal and everyone can afford and choose to go to any provider. In addition, in resource poor countries, the possibility of the non-profits and for-profits competing is quite rare because governments try to regulate where to locate the services to ensure better coverage. This competition is only possible in small sections within the urban setting where one can find the two types of providers working in close range. Apart from this,
one may also argue that the for-profits would be more inclined to providing quality services so that they can attract more customers.

Since the contract failure theory is not able to completely explain the existence of the non-profit sector, another theory attempts to provide more information on the existence and expansion of the NGO sector from another perspective.

4.2 The Government Failure Theory

According to Dollery and Wallis (2001) government failure is defined as the “inability of a government agency or agencies in a given tier of government or in a federal system of multi-tiered governments to intervene optimally in a market economy”. They identify three main forms of government failures which include legislative failure, bureaucratic failure and rent-seeking (Dollery and Wallis, 2001:2). The government failure theory is also one of the widely recognized theories among NGO practitioners studying the non-profit sector. It was comprehensively developed by Weisbrod in 1977 and further in 1988. Weisbrod states that sometimes governments are not able to provide the required quantities of services to some sections of the population who need more than the average provisions. In that case the non-profit organizations become the plausible option to fill this demand gap left by the government (Valentinov 2006).

Weisbrod identifies four types of government failures quoted by Dollery and Wallis as: legislative failure, administrative failure, judicial failure and enforcement failure (Dollery and Wallis, 2001). Dollery and Wallis indicate that these failures may be a result of lack of financial resources to meet the demand needs of its citizens. In some cases it could simply be a problem of resource misallocation due to corruption and it could also be a problem of human capacity. The problem of human capacity is most evident in situations where government subcontracts non-profits to provide certain public goods on behalf of government. Public goods are defined as goods that can be provided to all people without making any one of them less satisfied e.g. “air and national defence,” (Todaro and Smith 2006:485). Others define a public good as a commodity or service whose utilization by one individual does not prevent other people from benefiting from it (Perloff, 2004). These goods are always non-rivalry but some have an element of excludability. The exclusion comes in when a certain public good e.g. a concert hall where only those with tickets are allowed to enter until it is filled to its capacity because allowing extra people into the hall would bring congestion and other externalities which could endanger people’s lives. However there is no rivalry (Perloff, 2004). Salvochea (2008) quotes Kalb noting that these undersupplied services cannot be sourced from the for-profits because this usually turns out to be
expensive and in some instance ineffective. Hence, the option of collectively subsidizing a higher level of public goods through the non-profit sector as long as their utility value is higher than that which they would gain by individually purchasing from a private supplier (Salvochea, 2008:1). Sama et al. (2004) also add that state failures create a scenario where NGOs surface as innovative answers to various kinds of complexities (Sama et al., 2004).

Within this theory is embedded the theory of demand heterogeneity which is believed to explain the differences in size of the non-profit sector in various localities which advances the demand side of services. It argues that if demand for certain services is not met by the government, the emergency of non-profits is apparent (Matsunanga and Yamauchi, 2003). This is further explained in the next sub-section under demand heterogeneity.

**Criticisms against the government failure and contract failure theories**

Some scholars have criticized both the government and contract failure theories claiming that it is difficult to consistently apply them hypothetically to non-profits. This is because the non-profits are highly diverse in terms of sectors they operate in, structure with respect to their sources of income and governance (Valentinov, 2006). In his analysis, Valentinov dwells on two types of organizations quoting Douglas (1987:57) who differentiates organizations by their goals. The first type includes those with public benefit aims. This refers to organizations that use private funds for public benefit (other-benefiting organizations). The second category is a cluster of organizations that work for mutual benefit- those organizations that use private funds for the exclusive benefit of its members (self-benefiting organizations). On the other hand, Valentinov quotes Hansmann (1980) who categorizes non-profits into four categories with respect to income sources and how these funds are controlled. These include; donative mutual, donative entrepreneurial, commercial mutual and commercial entrepreneurial i.e. some non-profits may receive funds from donors or generate income from selling goods and services and they may be controlled by their donors or their own created boards. It is on this basis of diversity that Valentinov argues that the establishment of a comprehensive theory for the existence and proliferation of non-profits that accommodates all these diverse organizations is limited (Valentinov, 2006).

Consequently, there are different complementary theoretical approaches that have been developed to explain the subject of the non-profits as is the case with any other socio-economic subjects (Ibid). For example, he explains that empirical evidence in principle supports the government/public goods failure theory and is able to explain the important role the non-profits play in providing certain services. On the other hand, he notes the criticisms levelled by Hansmann against the public goods theory arguing why most non-profits are
providing more private goods rather than more of public goods. This has led to the direct competition between the state, non-profits and for-profits defeating the purpose of simply filling the demand gap. He further questions why the demand gap should be filled by the non-profits alone and not by the for-profits as well.

Hansmann maintains the view that the contract failure theory can better explain this situation as he argues that the non-profits are more reliable to provide better quality services as they do not have incentives to cheat on quality due to the non-distribution constraint factor. However as already argued earlier, the contract failure theory has its own limitations as Valentino argues that it fails to explain why there exists donative financing. Even the non-distribution constraint has been challenged that a number of non-profit managers can find various ways of fraudulently appropriating earnings other than distributing them as profits (Ortmann and Schlesinger, 2002 and Salvochea, 2008). Fletcher et al., indicate that the contract failure is “a theory of consumer expectation and not of actual performance” (Fletcher et al., 1995:7). However, despite all these criticisms, the contract failure theory has been widely used in the study of the non-profit sector. In some cases the results have supported the theory and in others it has not been possible due to various reasons including methodological shortcomings (Ibid).

4.3 Social Cohesion and Demand Heterogeneity

According to Festinger et al. (1963) in Corbin (1999), social cohesion is defined as “the total field of forces which act on members to remain in a group and as a basic bond or uniting force in a group” (Corbin, 1999:298). The understanding is that localities where individuals are socially cohesive, they have shared values which unite them into forming and maintaining non-profit organisations. Related to this concept is the social homogeneity phenomenon which is referred to as people who share the same social class (Ibid). Further, there is the argument of demand heterogeneity which is part of the government failure theory. It explains that the non-profits are on the supply side of the market chain as they respond to the demand for services from some sections of society. Demand heterogeneity is defined in terms of income, education, religion and ethnicity according to Weisbrod (Ibid: 299). Corbin however explains that Weisbrod’s empirical findings suggest that “only religion and ethnic diversity are significant measures” (Ibid).

Further studies were conducted by Lee and Weisbrod (1977), James (1987) and also Ben-Ner and Van Hoomissen (1992) among others. Lee and Weisbrod used age, education, income, and religion as proxy indicators for heterogeneity to assess the proportion of non-profit hospitals across states in the USA. James (1987) found higher non-profit engagements
in the education sector in areas where religious denominations were more diversified. Similarly Ben-Ner and Van Hoomissen (1992) also found a positive relationship between racial diversity in the New York counties and growth of non-profits in the provision of primary and secondary education. Oliver et al. (1985) in Corbin (1999) further differentiate between “heterogeneity of interests and resources”. Corbin indicates that in a production function, interest heterogeneity would be equalled to the “demand-side variable” while resource heterogeneity would be regarded as a “supply-side variable”. Linking back to the social cohesion concept, the shared value would consist of certain interests which are the demand side. On the other hand, making contribution to support this cause makes them qualify as suppliers of the goods. A good example is that of church contributions whereby church members are asked to contribute (suppliers) to establish schools that would answer their need of educating their own children (demand side). Along the same lines, Kingma (1997) also confirms in his paper that size and diversity of the non-profit sector in the USA supports the heterogeneity hypothesis.

Matsunaga and Yamauchi used panel data to test the heterogeneity theory derived from the government failure theory. They claim that inconsistencies that arose from the previous studies doubting the validity of the government failure theory were due to the models that were used in analysing the theory. They indicate that this is because these studies applied time series or cross-sectional data which was not able to control for unobservable heterogeneity factors of different localities such as “colonial history, religious affiliations and political regimes” (Matsunaga and Yamauchi 2004:241). From figure 4.1 they establish their model from where they assume that one type of quasi-public good. Mutsangana and Yamauchi (2004) model this scenario of providing such types of goods by the non-profit sector. This is expressed as \( NPO_{kit} = SPG_{kit} \) where \( NPO_{kit} \) stands for the non-profit organisation \( k \) in region \( i \) at time \( t \) while \( SPG_{kit} \) stands for the supply of quasi-good \( k \) in region \( i \) at time \( t \). They explain that this equation is based on the assumption of the social cohesion theory. Based on this assumption they express that the size of the non-profit sector is a function of heterogeneous non-profit organisation each producing a special quasi-public good (Ibid).
Therefore they present the size of the non-profit sector in region $i$ at time $t$, $SNS_{it}$ as

$$SNS_{it} = \frac{\sum_{h=1}^{K} NPO_{kit}}{POP_{it}},$$

where $POP_{it}$ is the population in the region $i$ at time $t$. The sum of the non-profit organisations is divided by the population so as to get rid of any scale effect. This depicts the median voter group which desires to have its quasi-public goods needs fulfilled by the government and the non-median voter groups whose quasi-public good needs are not fulfilled by government despite their efforts to advocate for the goods. However this situation allows non-median voters to benefit some quasi-public goods that are in line with the median voter’s preferences.

In their study Matsunaga and Yamauchi make an assumption that there are three types of observable demand heterogeneity which are age, race and unemployment. Their results established that age and unemployment demand heterogeneity have a positive impact on the size of the non-profit. It was found out that a 1% increase in age and unemployment demand heterogeneity lead to an increase of 0.44% and 0.08% increase in the size of the non-profit sector respectively. On the other hand the race demand heterogeneity was not statistically significant. They also found out that the unobservable demand heterogeneity of
political regime changes had an effect on non-profit size (Matsunaga and Yamauchi 2004: 245-251). Their conclusion was that the government failure theory is still robust enough to explain the existence and size of the non-profit sector.

The demand heterogeneity theory seems to have great explanatory power in terms of existence and persistent expansion of the non-profit sector. In developing countries where all sorts of government failures are apparent coupled with ethnic problems; demand heterogeneity becomes a very significant factor. Apart from these mainstream theories, there are some debates regarding other aspects of the non-profit sector and its engagement with other actors in the development cooperation arena. These include: the resource dependency theory, principal-agent theory and the NGO’s comparative advantage and donor financing trends.

4.4 Resource Dependency

It is inevitable to talk about donor resources in the discussion of NGOs’ operations since most of the NGOs depend on donations. As Viravaidya and Hayssen (2001) state, most of the work that NGOs engage in, such as protecting the environment, assisting the sick and needy, preserving culture and arts are traditionally non profitable in nature. As such they rely on well wishers for grants and donations to cover the costs of their activities. However, with the ever increasing number of NGOs competing over the same scarce resources, it creates pressure on NGOs to survive as the market trends change over time as earlier noted in table 2.3 whereby shifts in donor’s thinking has an automatic direct influence on NGOs’ way of doing things. This entails producing and supplying services that have the highest potential of being funded by the donors. As such there are trends that are clearly notable in terms of what NGOs tend to supply in relation to donors’ interests. As stated earlier, the funding procedure of proposal writing makes it possible for any NGO to simply get established and ask for donor funding and they can get it as long as their proposal satisfies donors’ interests.

However scholars indicate that this dependency on others for resources may limit the NGOs’ capacity to supply goods and services both in terms of quantity and quality (Viravaidya and Hayssen, 2001). They also state that donors have their own agendas and operational strategies and the NGOs simply implement what the donor want because they don’t have the power to decide how to use the money as the saying goes, “beggars can’t be choosers” (Viravaidya and Hayssen, 2001:1). Yet this raises questions on the motives of the givers, whether their giving is out of altruism or not. Andreoni (1989) discusses a model on giving which he calls “impure altruism”. In this model he explains that people give because of two reasons. The first reason is that there is a need to give due to the demand for public goods
and secondly, they give because they get some private goods benefits from their giving which is known as a “warm glow”. It is because of this second reason which has selfish motives that he calls the model “impure altruism” (Andreoni 1989:1148-1149). It looks like most of the donors give resources on the basis of impure altruism and this approach causes problems in the development cooperation arena including loss of ideological focus on the part of the NGOs.

4.5 Other theoretical arguments and literature on NGOs’ operations

4.5.1 Principal-Agent Theory

The relationship between NGOs and donors is often riddled by principal-agent problems which arise as a result of information asymmetries between the donor (principal) and the agent (the NGO). The theory is hinged on the idea of delegated authority whereby the principal is not involved in the day to day operations of the agents and this creates room for the agents to act in their own self-interest rather than in the interest of the principal (Kasper and Streit, 1998:271). The agents, taking advantage of the information asymmetry challenges act opportunistically contrary to the principals’ wishes. Some of the actions highlighted by Kasper and Streit include creation of unnecessary subsidiary positions as a reason for promotion to supervisory position, use of business facilities for personal gains, magnificent offices, prestigious company location, numerous enjoyable conferences and pointless business trips; unwarranted investment in equipment which is afterward underutilized; frequent staff lunches and many other avoidable costs all of which do not add value to the success of the organization (Ibid). Such asymmetric information problems cause big management challenges in organizations. Unfortunately according to Kasper and Streit (1998) these cases are difficult and costly to prove by the principal. As such, the agents take advantage of this scenario and shirk on their responsibilities.

According to Wallace et al., their study revealed that the relationships between NGOs and donors were characterised by poor communication, mistrust and fear of criticism. This revelation is detrimental to the contribution that NGOs can make to socio-economic development. This study also seeks to understand the depth of this problem and the extent to which the principal-agent problem affects the work of NGOs.

4.5.2 Comparative advantages of the non-profit sector

In most developing countries and remote communities, public perception of NGOs has been that of ‘the saviour’ of the poor and marginalised groups in society. Of course, NGOs have
been known to be able to reach anywhere no matter how risky the place might be. This has been the major comparative advantage of NGOs. Apart from being available to the poorest and remotest populations of the world (Fowler and James 1994:15), NGOs have also been applauded for exhibiting the following other unique features among many.

1. They work very closely with the people which enables them to have a better understanding of poor people’s needs and capable of articulating and responding to these needs (Degnbol-Martinussen. and Engberg-Pedersen, 2005:157).

2. They are flexible and less bureaucratic in organizing their work and can easily adapt to the changing environment and needs of the people they serve (Degnbol-Martinussen. and Engberg-Pedersen, 2005:157; Todaro and Smith, 2006).

3. They are innovative in their programme strategies and develop alternative development models (Todaro and Smith 2006:548-549).

4. They are good at empowering communities they work with through various skills trainings, problem identification and solving together with the communities (Fowler and James 1994:16).

5. They are regarded to be less expensive because they do not demand payment at market price rate compared to the for-profit sector which is into profit maximisation (Degnbol-Martinussen. and Engberg-Pedersen 2005:158).

6. They are cost-effective in service delivery (Fowler and James 1994:16).

These comparative advantages have been widely used by donors as well as scholars to justify the existence and support for NGO activities. Unfortunately, there is not much comprehensive research to substantiate these claims (Tvedt, 2006). There is therefore need to empirically test this theoretical assumption in order to appreciate the work of NGOs and assess how their efforts are likely to contribute to development. Chenge highlights this point that although NGOs’ comparative advantages have been widely used in the NGO discourse, there is still no evidence for or against these assertions. He points out that these comparative advantages have been based on positivist assumptions, feelings, beliefs and expectations (Chenge, 1999). Other scholars such as Edwards and Hulme (1995) and
Riddell and Robinson (1995) also concluded that it is hard to find general evidence that NGOs are close to the poor. Suhako also indicates that there is increasing proof to the effect that NGOs are not as effective performers as they have always been purported (Suhako, 2007).

Wegner (1993) analyses some of these advantages and concludes that the notion of NGOs being considered more effective must be taken very consciously because according to his findings, NGOs are not better in any way in terms of the advantages accorded to them. He further warns that the huge inflows of aid to these organisations is becoming a “concern rather than an appreciation” because this may end up creating “another bureaucratic monster” (Wegner, 1993:292). Although Wegner makes this conclusion, his criticisms on the comparative advantages are not backed by any credible data which is a cause for concern.

His views seem to be based on normative speculations and beliefs. For example he claims that comparative advantages such as being close to the grass roots, low administrative costs and poverty-focused may not be true because most NGOs are based in towns with very few staff based in the field with little work resources and that most of the resources are concentrated at the head office in the cities (Wegner, 1993: 291). There is however no empirical evidence attached to these claims or any figures on the percentage of NGOs involved in such practices. Having NGO offices in town does not necessarily limit the NGOs from being close to the people as long as they have the resources to enable them to travel and be in contact with their project beneficiaries is more important, it does not require them to live in the community. This is usually the case with many NGOs. However these comparative advantages would offer a relatively good measure of NGOs’ contribution to development if they could be well researched and analyzed. There is therefore still need for proper research to fully understand the extent to which these comparative advantages can be applied. This study attempts to make a comprehensive analysis of these advantages in order to get an understanding on the extent to which these comparative advantages can be relied upon in measuring the roles of NGOs in the development arena using the Malawi HIV and AIDS service delivery case study. The study is designed to empirically measure the cost-effectiveness aspect as one of the NGO’s comparative advantage considering its importance in the light of resource scarcity. It compares the cost-effectiveness of the non-profit hospitals in the provision of ART services to those of government and the for-profit sector in Malawi.
4.5.3 Consequences for the increasing number of NGOs

After outlining the theoretical underpinnings that explain the continued emergency of the NGO sector, it is important to look at the consequences of this situation. The flooding of NGOs in the recent past has created new operational challenges for effective service provision. The major problem is competition over resources, especially financial resources. This in some cases has caused duplication of efforts due to lack of proper coordination hence wastage of resources (Cooley and Ron, 2002; Bob-Milliar, 2005). The problem of resource competition is viewed by donors as a positive aspect as they believe that it enhances effectiveness and better programme delivery by NGOs and governments as they compete for high quality service delivery in order to win donors support for their projects/programmes. However, this can only be possible if the donors can strictly monitor the NGO’s performance, which exercise has proved to be prohibitively costly in the long term so that most donors do not manage to do it. This means that some NGOs can even provide fake information to donors and still continue to receive funding without really delivering.

In addition, according to Cooley and Ron, this competition may weaken and erode coordination, cooperation and networking possibilities that are supposed to exist among these players for them to better serve the people and optimize the available resources. Instead, they may opt to work in isolation, minimize information exchange in the quest of meeting individual deadlines, thereby duplicating efforts and wasting resources. Their research findings revealed that the increasing number of International Organizations (IOs) and International Non-Governmental Organizations (INGOs) within specific transnational sectors spurs uncertainty, competition and insecurity for all organizations operating in that sector (Cooley and Ron, 2002:5). They also note that the neo liberal viewers see this as a manifestation of a vibrant civil society. Aldashev and Verdier, (2008) state that competition over donation can lead to “excessive fundraising” problem and reduce NGOs’ impact as a good fair of the budget is allocated to fund raising (Aldashev and Verdier, 2008:3).

Secondly, Cooley and Ron observe that the marketization of the IOs and INGOs especially the use of tenders and renewable contracts create incentives that produce dysfunctional results (Cooley and Ron, 2002). They further note that the neo liberal scholars believe that the more they marketize aid funding through competitive tendering the more efficient the projects will be implemented as they think this eliminates wastage, corruption and permits new organizations to become players. However, Cooley and Ron argue that these assumptions are misleading because “more is not always better”. They also affirm that the increase in IOs and INGOs is partly due to donor strategies that have shifted towards
working with private transitional groups as contractors and intermediaries (Ibid: 10). This situation is also taking place at local country level where NGOs have to compete for project funding from donors. It is not only at international level.

Finally with this increased competition, Cooley and Ron assert that principle-agent problems arise as NGOs seek to survive in the tough environment, where governments also claim that NGOs lack political legitimacy as they are not elected by the people. Therefore they use the New Economics Organization (NEO) approach which is a body of theories that centre on incentives and institutional outcomes caused by contractual relations, incomplete information, transaction costs and property rights. In their research, they study three cases of transnational assistance presented as follows:

a) The Kyrgyzstan case study

The first case illustrates how the dependency on yearly “renewable contracts by western donors created incentives for the contracting International NGO to downplay government subversion of economic reforms, withhold information about ineffective projects and tolerate bureaucratic opportunism” in Technical Assistance Programmes (TAPs) in Kyrgyzstan (Cooley and Ron, 2002:18). In this particular case study, the authors found the multiple-principle-agent problem and competitive bidding which gave power to recipient authorities to shirk reforms proposed by donors and stopped contractors from openly objecting to what they were doing. Since the western donors first consulted the recipients on whether to renew the contracts, the contractors always wanted to be in good terms with the recipients and agreed to their wishes. The contractors are also reported to have been providing some benefits to the recipients in order to sustain good relations. The benefits included putting in their budget some scarce resources like office computers, vehicles and telecommunication which could later be resold at the black market. Other benefits were external trips where influential officials were sent to the USA, Switzerland, Denmark and France on learning tours. One of the contractor’s staff was quoted to have acknowledged that these trips were in effect bribes and that these were a very important bargain for their survival and renewal of contracts (Cooley and Ron, 2002:7, 21-22).

Further, the study also identified multiple-principle-agents problems where different donors who were funding the same programme had different contradictory approaches to addressing the issue. The case in question was the reform of the government-owned energy company. While the United States Aid for International Development (USAID) was for the privatization of the company, other donors were for the idea of leaving it as it was and only
find other agencies to partner with the government to run the company. In the process, the Kyrgyzstan government halted the whole process as donors were fighting to take control over the project (Ibid: 23).

b) The Goma case study

The second case study is about how numerous NGOs competing for resources created disincentives for reputable NGOs not to speak against serious project anomalies in Goma for fear of losing contracts. This case happened at Goma refugee camp, a town in the Democratic Republic of Congo, where a well recognized humanitarian organization, Refugee Help was involved in the humanitarian aid crisis between 1994 and 1996. The study reveals that the huge sums of money from donors sent to this crisis area, compounded by short term contracts and an overly high number of NGOs in this area, created a very competitive and unstable environment for Refugee Help.

One staff from Refugee Help is reported to have said that it was embarrassing to note that most of the discussion between their headquarters and the field office was about contracts. Within this chaos, aid diversion crept in and the Hutu armed forces responsible for the genocide had regrouped in Goma and started recruiting and training soldiers from the refugee camps. These militants started even selling the relief items on the open markets and used the refugees in the camps as their political muscle. However due to the competitive environment of Goma’s operations, Refugee Help failed to take action against all these ills. They feared losing contracts because if they were to make any noise they would not be heard because there were too many NGOs involved in the operations. As such, Refugee Help was the one to lose out. Once, Refugee Help threatened to stop assisting refugees if they continued with the military activities. However, other NGOs indicated that they were on stand-by to take over from Refugee Help. With this kind of competition, Refugee Help felt endangered, dropped the matter and compromised its ethics. Refugee Help also wanted to organize all the NGOs to work together to arrest the situation but due to collective action problems it did not work. Some NGOs who benefited from the chaos were unwilling to take part. They feared that if this situation was going to be exposed and strongly condemned by the collective voice of the NGOs, donors would stop providing funds and that could mean the end of their contracts as well (Ibid: 25-30).

c) The Yugoslavia case study

In their third case study, Cooley and Ron discovered that the presence of too many NGOs in one field operating in one area was recipe for local recipients to become uncooperative.
This study was conducted in the former Yugoslavia where three International NGOs worked on protecting the rights of Prisoners of Wars (POWs). These NGOs included the International Committee of the Red Cross (ICRC), the UN Forces and the European Community Monitors (ECMM) (Ibid: 32). These multiple principles undeservedly empowered the Bosnian Serb, Croat, and Muslim armed commanders by assisting them to dodge international prisoner scrutiny by “playing the three international groups off against one another” (Ibid). The ICRC had the legal mandate to do the work as monitors for POWs as approved by the Fourth Geneva Convention. Whereas the UN forces and the ECMM did not have the legal mandate to monitor POWs, they however got involved in this operation in Bosnia to ensure that POWs were protected. Since the ICRC had the legal mandate to do the job, their officers were well trained for the work. This included detailed interviewing of POWs, taking all personal details of POWs and tracking them throughout the process until their release. They also made interviews with the prison officials and reported any kind of abuse in case one of the POWs reported abuse of any sort. As such, their monitoring process was very lengthy and water tight and officials could not easily abuse POWs for fear of being reported.

On the other hand, the UN and ECMM officers did not receive that kind of training as a result their interviews were very shallow. Sometimes they did not interview the POWs and in cases where they did, they could not even take particulars of the POWs for follow up. Due to the multiple principle presence, prisoner officials played off these international observers. This was more common when the war was at its peak and there was so much chaos, the prisoner officers would simply tell visiting international groups that their fellow members had already visited them. In particular, they hated the ICRC because of their lengthy and strict process and told them that the UN or ECMM had already visited them. In this case the multiple principles problem ended up harming the objective of protecting POWs in these countries.

From the foregoing case studies, it is discernible that too many NGOs operating in one field and geographical locality can have very negative consequences on development projects if donors are not able to monitor the projects. Therefore the Goma and Yugoslavian case study confirm the “many is not always better” hypothesis.

4.5.4 The relationship between NGOs and donors

Donors and beneficiaries are on the two extreme poles of the supply-demand chain of service provision, while the NGOs, the for-profits and government providers are the intermediaries. Within this supply-demand chain, the process of initiating dialogue can be from any direction (i.e. supplier – demander and vice versa). However most often it is the
intermediaries, i.e. NGOs and governments, who are the major suppliers of services that do most of the work. NGOs are particularly good at this because they do not have stable resource base. They usually write what the donors term “unsolicited proposals” to donors who they think are likely to sponsor their idea based on their knowledge regarding the donors’ interests. However in many cases, donors (supply side) are the ones that ask NGOs to write proposals on specific projects that the donors are interested to sponsor. Wallace et al., confirm this as they found out in their study that in most cases donors call upon NGOs to express interest in projects on a contract basis and the NGOs compete with private contractors, consultants, government agencies, universities, and independent think-tank firms. However some NGOs have expressed concern over this indicating that they might be turned into ‘sub-contracting agencies’ (Wallace et al., 2007:60-61). Beneficiaries are in most cases at the mercy of the NGOs and donors. Since they are receivers they do not have much choice. They believe that “a half loaf is better than nothing”. So they simply accept what falls on their plate. This is a personal observation as a researcher and community worker having worked with NGOs and government for a while.

However some few NGOs especially international NGOs who have the resources, consult communities and conduct needs assessment sessions with community members to identify community’s pertinent needs. The results from such assessments are then used to develop project proposals. As discussed earlier, both the NGO and the beneficiaries who are on the receiving end do not have full powers to negotiate on terms and usage of the funds. The donor has the final voice on what should be implemented and how they think it should be implemented. The NGOs have to comply with these conditions if they want to continue benefiting from the donor (Wallace et al., 2007:38).

In terms of donor-NGO relationships, Wallace et al.’s analysis of donors and NGOs from the UK and their relationship with NGOs in South Africa and Uganda found out often the funding relationships between donors and NGOs were not as good as it was riddled with untrustworthiness, poor communication, and criticisms (Wallace et al., 2007). These elements can have significant effects on the performance of NGOs as they promote principal agent-problems. For example, if there is lack of communication, the NGOs can easily misallocate funds without the donor discovering it until very late. They report that discussions with Ugandan NGOs revealed that there is an increase in conditions from donors and that there has been shifts in the thinking about NGOs’ roles imposed by the donors. These tough conditions mainly bordered on accountability issues as a response to the fraudulent behaviours and misallocation of donor funds by some NGOs in the country.
The NGOs indicated that there was a tendency among NGOs to write proposals in response to donor interests in order to access funding even when they did not have the technical know-how and capacity to implement the projects. When such NGOs were granted funds they were unable to implement the projects properly and eventually failed to account for the funds used. Similarly some NGOs received funding from different donors in order to increase the volume of resources for their organisations, unfortunately due to differing reporting formats for each donor, this ended up creating pressure on the NGOs and many could not meet and satisfy all the donors’ requirements thereby disappointing the donors. This development forced the donors to create stricter rules (Wallace et al., 2007).

Due to these problems, many donors tend to work with a selected few NGOs who they trust thereby creating an oligopolistic market structure where a few big International NGOs dominate and stifle the prospects of smaller national NGOs. For instance, from 1997 to 2003 more than 50% of DFID funding to NGOs went to five big NGOs namely British Red Cross Society, VSO, CARE, Save the Children and Oxfam. The remaining amount was shared among the numerous other smaller NGOs (Wallace et al., 2007: 55).

Wallace et al. further report that the major donors in Uganda included DFID, USAID, DANIDA, CIDA, the EU and INGOs. The declining amount of resources to the NGO sector during the study period in the mid and towards the late 2000s was expressed by the NGOs as they compared the situation in the 90s when a lot of resources were channelled through NGOs (Ibid:80). This had increased the pressure for funding and the NGOs were also trying to find more creative ways to enable them tap on the little available resources. In response, the donors also tightened funding conditions to NGOs. The report also reveals that there were no strong working relationships between donors and local Ugandan NGOs, rather domination of power was common among donors including the INGOs. DFID mostly funded UK based NGOs who would in turn fund the local NGOs. DFID is reported to have channelled only 0.1% of its total budget directly to NGOs. In addition, DFID also is reported to have changed its funding system from the passive approach of receiving NGO-designed projects to funding projects that matched with its strategic agenda of umbrella funding to a few NGOs strategically working at policy level in Uganda. Funding patterns in South Africa are not clear from Wallace et al.’s report. However, they report that South Africa as a country receives very little external funding because it is considered a middle income country. They also report that although NGOs received some funding from external sources there was no trace of records to quantify the funds (Wallace et al., 2007).
Literature is not very clear on why donors prefer to deal with a specific group of NGOs apart from what has already been mentioned earlier concerning trustworthiness. Johnston (2001) hints that NGO priorities are to a great extent influenced by their donors. It can therefore only be speculated that may be donor’s agendas are better fulfilled by certain NGOs than others. It is however apparent, that there is a particular set of NGOs that always have greater access to donor funds than others. These are usually big International NGOs such as Oxfam, Save the Children, CARE, VSO, Christian Aid, Red Cross and World Vision among others. They usually receive up to 80% of the total official aid (Johnston, 2001). There might be several reasons for this which could include 1) trust in these organisations because they have their origins from the donor countries, 2) size and scale of their operations which might mean more impact compared to smaller organisations, 3) ability for these big NGOs to put up good proposals because they have enough resources to invest in proposals and fund raising activities, 4) better negotiation power due to their experience at international level compared to small scale national NGOs and 5) the donors are more likely to achieve their agendas through these big NGOs because they have higher influence at national level compared to the small NGOs. As a result these big NGOs get most of their funds from donors and subcontract the small NGOs at national and grass-root level and can influence any donor interest at local level because they are in close contact with these small NGOs compared to the donors themselves such as DFID, USAID, CIDA and GTZ who operate at high level.

4.5.5 The relationship between NGOs and Beneficiaries

Although beneficiaries are the ones that require the services of the NGOs, it is common practice that NGOs articulate the needs and write proposals to donors to demand resources for services on behalf of the people. The concern however is whether the NGOs take their time to consult the people before asking for donor’s assistance. This has implications on the impacts of such projects. If the projects do not answer the people’s core needs, then the effectiveness of such projects can be questionable. However, this problem might be resolved if the comparative advantage that NGOs are close to the people and are able to understand and articulate people’s needs holds true. As the keystone report indicates, NGO quality is measured by its sensitivity and “dynamic understanding of beneficiaries’ realities; responds to local priorities in a way that beneficiaries feel is appropriate; and is judged to be useful by beneficiaries” (Keystone and BOND 2006:VI). They further indicate that this entails measuring “the extent to which beneficiaries are the primary actors in these processes of analysis, response and evaluation” (Ibid).
Another report by Keystone (2006) reveals that in a survey they conducted, 84% of the NGOs reported that they involved their beneficiaries in needs assessments (Keystone 2006:6). A case study conducted by Johnson in Thailand with one of the NGOs also revealed that there was very high participation of beneficiaries in the design of the projects. The reasons the NGO gave for this success included; quality time they spent with the beneficiaries, willingness and keenness of the NGO staff to listen to the aspirations of the beneficiaries, the NGO’s vision to truly bring development to the beneficiaries and the NGO ensured that its staff had similar beliefs with those of the beneficiaries i.e. they employed Muslims because the NGO was serving a Muslim community (Johnson, 2001).

This therefore points to the fact that the situation may not be as bad as others have painted it. This debate comes under the assumptions that NGOs are better able to articulate the needs of the people who have been conventionally undersupplied by the markets and the state. This subject is very crucial as it has implications on resource allocation preferences in relations to project/programme outcomes. This discussion indicates that to a high degree there is a good working relationship between NGOs and their beneficiaries and that the needs of the beneficiaries are substantially considered in project proposals.

4.5.6 Capacity for providers to meet service demands of beneficiaries

According to the government failure theory, governments usually target their services at the median voter citizens leaving out other sections of the population. Some of these are able to get their services from the for-profit sector, but this is limited to a few individuals that are able to afford such services. The non-profit sector comes in to serve these individuals that cannot access both government as well as for-profit services. The actual share of the market among these service providers varies from one service provision to another and across countries. However, what is most important is the actual delivery of the services in terms of how effective the services are. In the case of Malawi’s antiretroviral programme which is one of the main foci of service provision in this study has a free universal approach to the access of the service. Each individual has the right to choose the provider he/she wants to get his/her treatment from. So far in most cases the major determining factor is proximity to the health facility except in cities where there are several health providers within the same vicinity.

As already discussed in the introduction, the demand for the services is much higher than the supply due to shortage of man power capacity in the health care system. Out of all the people that were in need of ART services by the end of 2010, only 63% were able to be served as seen in figure 1.5. This shows that there is need for more resources to train more health workers that can assist in providing the services thereby increasing the number of
patients that can be enrolled on ART. This calls for a careful allocation of resources. These resources can be saved through various means including administrative and other related overhead expenditures. In this case, the necessity for an economic evaluation of the ART programme in Malawi proves apparent. The next chapter discusses the economic evaluation methods focusing mainly on cost-effectiveness analysis.

As discussed earlier, the issue of service delivery mostly depends on resource availability and management. The government failure theory has already highlighted issues of corruption, human capacity, and other problems as well as availability of resources as some of the problems that governments are faced with. This may imply that the services may be of poor quality due to lack of resources and mismanagement of the available resources. As for the non-profit sector, the major challenge is that most of the studies on NGO performance have been done on case study basis which makes it difficult for generalisation. Second, the diversity of the NGO sector also compounds this problem because there are some NGOs that genuinely serve the poor while others have simply joined the band wagon for monetary gains. This makes it extremely difficult to make a general conclusion as also discussed earlier on. This study specifically looks at the service delivery NGOs who are all involved in HIV and AIDS service delivery.

In summary, this chapter has highlighted the major theories that are used to explain the reasons and arguments for the establishment and existence of the non-profit sector. The failure of the markets due to information asymmetry and the inability for the governments to meet the needs of some of its citizens are the major cause for this scenario. The literature has also attempted to explain the role that both resources and special humanitarian needs play in influencing the formation of NGOs. Further, the highlighted case studies have illustrated how catastrophic and disastrous the presence of too many NGOs can be in undermining development and how detrimental can over reliance on donor funds by NGOs destroy their foci, visions and ultimately affect their entire contribution to the developmental agenda. Finally, the relationships between donors and NGOs, and NGO and beneficiaries have been outlined and also the implications of these theories in terms how they can be practically applied to service delivery.
Chapter Five: Cost-Effectiveness Analysis

5.1 Economic evaluation of health programmes

There are several economic evaluation methods that are used to evaluate costs or to measure costs and their corresponding benefits in programme interventions. Among these methods include cost-analysis, cost-benefit analysis (CBA), cost-utility analysis (CUA) and cost-effectiveness analysis (CEA) (UNAIDS, 2008; Drummond et al., 2005). Each one of these methods has its own focus. However, for the purpose of this study cost-effectiveness analysis alone is discussed and applied to measure the costs and associated benefits for ART services in Malawi across health providers.

5.2 Definition of cost-effectiveness analysis

Although measuring cost-effectiveness has proven difficult in most cases, it is still considered one of the most important measurement tools when making choices on how to efficiently allocate resources and get value for money. DCPP\textsuperscript{25} defines cost-effectiveness analysis as a “primary tool for comparing the cost of a health intervention with the expected health gains”. It entails evaluating the amount of resources/input into an intervention in relation to the outcomes (DCPP, 2008:1). According to UNAIDS, cost-effectiveness is used to measure the “efficiency of service delivery” where efficiency is defined as being able to achieve a certain output with a specific maximised cost/input. CEA is also regarded as “a tool for the optimization of resource allocation to programs competing for the same limited funds” (Chisin, 2009:1)\textsuperscript{26}. The major objective is to assess the relative efficiency of different interventions in terms of the amount of health gains achieved with a given amount of resource input. Therefore cost-effectiveness analysis does not focus on answering the question whether the intervention is worth implementing or not but rather emphasises on whether one intervention is more effective (i.e. uses lesser resources to achieve similar gains) than the other (UNAIDS, 1998:3). UNAIDS further indicates that CEA is able to answer some of the commonly asked questions such as; “Is it better to invest resources in one intervention rather than another? Which type or combination of services provides the best value from the budget available? How should resources be allocated within the competing needs of AIDS control programmes?” (Ibid).

\textsuperscript{25}DCPP stands for Disease Control Priorities Project
\textsuperscript{26}http://jnmdojournals.org/content/50/3/338.full.pdf+html 21.01.13
Cost-effectiveness is deemed as highly pertinent and an important aspect of consideration when setting priority in HIV and AIDS interventions (Creese et al., 2002). Walensky et al., further indicate that cost-effectiveness analysis is used to assess “health care interventions in terms of the value they confer” and that the results are reported in terms of the resources that are needed for the intervention to generate any additional unit of change in health outcomes. Those programmes with lower cost-effectiveness ratios are considered more economically valuable than those with higher cost-effectiveness ratios (Walensky et al., 2007).

The World Health Organisation further defines CEA by differentiating it into two types; 1) the Intervention Mix Constrained Cost-effective Analysis (IMC-CEA) and 2) the Generalised Cost-Effectiveness Analysis (GCEA). The IMC-CEA is a type of analysis whereby the costs and benefits of the intervention are based on the current practice whereby the enumerator in the calculation of cost-effectiveness takes the variation in the cost as a result of the intervention and the denominator takes the change in health benefits which produces an incremental cost-effectiveness ratio (ICER). This is the conventional cost-effectiveness analysis that is used by economists in evaluating programmes using cost-effectiveness analysis (WHO, eds. Edejer et al., 2003). WHO however, criticises this type of analysis for its limitation to inform whether the current mix of intervention is cost efficient or not because it focuses on evaluating the additional interventions in comparison with the existing practice in a specific area. Secondly, WHO also argues that this analysis has huge financial and time implications to be able to evaluate the numerous numbers of interventions and come up with prospects of improvement in programme efficiency especially for resource poor countries (Ibid).

WHO therefore advocates for the use of Generalised Cost-Effectiveness Analysis (GCEA). They indicate that CEA has several other purposes apart from enlightening decision makers on efficient resource allocation. Two such applications are; 1) CEA aimed at informing a decision maker on a specific intervention within some confined resource allocation (a budget) and 2) CEA carried out with the purpose of providing general information about comparative costs of various interventions. WHO indicates that the contextualised CEA is constrained by ethical and political considerations and therefore the decisions may differ according to the setting. In this case, the decision maker may decide either to reallocate the whole budget or increase it to suit the situation at hand. The decision in the short to medium term may also further be limited by some factors like the existing number of hospital staff and health physical infrastructure such as hospital beds, which cannot be easily altered. In
addition, the political environment has a substantial influence in that some of the existing mix of intervention may not be easily removed or decreased without providing an alternative solution to that group of beneficiaries. All these constraints confronted by the decision maker define the scope and alternative options from which choices can be made (WHO 2003:5).

In the second scenario, CEA seeks to offer information on relative costs and health outcomes of various technologies or approaches which provide a platform for debate on how resources should be best allocated. It acts as a contribution to the policy debate on how to prioritise allocation of resources to various interventions. Therefore this CEA does not necessarily have to be context specific. It only helps decision makers to see whether certain interventions are very cost-effective, very cost-ineffective or somewhere along this continuum. This type of CEA is hailed for its impact and positive influence in the formulation of health policies by providing various choices for debate without any specific resources attached yet (Ibid: 5-6). WHO believes that these types of CEAs provide the highest input into the formulation of health policies as these analyses point to a broad-spectrum of options that could lead into a better allocation of scarce resources. Furthermore, these serve as a readily available information pack that can be applied more widely and hence reduce time and costs (Ibid).

This study uses the generalised approach option whereby the CEA is broadly used to compare the relative cost-effectiveness of various types of health providers in Malawi without any specific budgets attached to the interventions. The health providers were asked about the specific costs they incur in providing ART services in their respective clinics. This makes it a broad approach to cost-effectiveness analysis as each one of the providers may have their own approaches of providing the services. Therefore policy makers can look at the trade-offs in the CEA results from the various approaches.

DCPP diagrammatically presents the trade-offs that policy makers have to make when choosing intervention by weighing the costs and benefits of each intervention. Figure 5.1 illustrates the various trade-offs that have to be made.
Figure 5.1: Comparing alternatives to a given health intervention.

Source: DCPP (2008:1) modified by author

Figure 5.1 shows the different trade-offs that health managers have to make in allocating resources to various intervention using cost-effectiveness analysis as a guiding method. The best option is where the intervention is highly effective and uses less resources and the worst case is where the intervention is less effective but requires more resources. In between are scenarios where the programme may be highly effective but has high costs or it is less effective and less costly. Therefore, it is clear from this illustration that one intervention mix is most desirable and the other is least desirable considering the costs and the related benefits. In the other two quadrants, it is not clear what trade-offs one can make. It is up to the health managers to decide which option best suits their situation.

5.3 Calculation of cost-effectiveness ratios

There are different ways of calculating cost-effectiveness ratios depending on the type of programme costs and effectiveness indicators that are available. It is possible to calculate the average cost-effective ratios or incremental cost-effectiveness ratios. The average cost-effectiveness ratios take into account all the costs from zero to include everything that has been spent on the intervention and the total benefits emanating from these inputs. On the
other hand, incremental cost-effectiveness ratio only takes into account the additional costs and corresponding benefits from the present stage of programme intervention (DCPP, 2008:1). The other aspect one has to consider is how to calculate the benefits. In health programmes there are a number of indicators that are used to measure effectiveness of an intervention. The most important factor is that the outcome indicator must be identical in the programmes that are being compared. The most commonly used indicators include the Quality Adjusted Life Years (QALYs) and the Disability Adjusted Life Years (DALYs) – introduced by WHO and WB in 1993. Other effectiveness indicators include Life years lived, Life years gained, life years saved or deaths averted and age at death (DCPP, 2008). UNAIDS indicates that a good indicator of impact is the one that is closely linked to the aim of the intervention. Therefore each indicator is used with a specific type of economic evaluation method. For example, QALYs are mostly used in cost-utility analysis, which is the same as incremental cost-effectiveness analysis. Since QALYs and DALYs are frequently used in this chapter, a brief description of what these indicators measure is provided although these indicators are not used in this study for the calculation of CEA due to the nature of programme evaluation involved and also the limitations of using these indicators as will be discussed in the next sections.

*Quality Adjusted Life Years (QALYs)*

QALY is one of the indicators widely used in the measurement of health benefits for the calculation of cost-utility ratios. It is defined as a “measure of a person’s length of life weighted by a valuation of their health-related quality of life” (Phillips, 2009). According to Freeman et al, QALY is a measure of how well medical treatment or medical intervention works in someone’s life to produce results by capturing two important aspects of life which include the extent of the healing process, on one hand, and the length of time over which this healing has taken place, including any enhancement in length of life itself on the other (Freeman, et al., 2002). It is the “arithmetic product of quantity and quality of life” (Kind et al., 2009). In other words, it is a mixture of the effects of mortality as well as morbidity reflected in one index. This makes it a more robust health evaluation indicator for use in decision making by health practitioners when dealing with cost utility analysis (Ibid). It is believed that by simply looking at the quantity side of life only, it might not provide a complete picture to base ones conclusion for decision making. For example, a person may live long but if their quality of life is very poor then the treatment intervention may not be deemed effective enough because this person though alive is not productive at all. However, if this life is
qualified it will be able to give a more realistic measure of the real health status of the individual.

There are set criteria in form of scores that have been developed and are used to generate QALYs. The patient’s health status is assessed according to the responses given on each dimension of their health condition. These aspects of health conditions relate to 1) mobility, 2) body pain/discomfort, 3) self-care, 4) anxiety/depression and 5) engagement in usual activities. Under each category, there are three options which one is supposed to indicate and these are: 1) no problem, 2) moderate problem and 3) severe problems.

Depending on the status of the patients on each category, they are assigned a specific quality of life rating. The ratings range from 1 to 0 where 1 represents perfect health while 0 represents death. It is further argued that some patients are allocated negative ratings because their health status is worse than being dead. For example, if someone is not able to walk, cannot take care of themselves, unable to perform usual activities, have extreme pain and discomfort and are moderately anxious or depressed, then they are considered to be worse than death so they are assigned a negative QALY value.

QALYs are measured per year of perfect health. For example, a treatment that is able to enhance one year of perfect health is said to produce 1 QALY. Similarly, if a treatment is able to increase a patient’s health status from an index of 0.25 to 0.75 over a period of 2 years, it is said to have produced 1 QALY (Phillip, 2009:3). As such, a QALY is a measure that can be used to compare the effectiveness of different treatment options. Some treatments will manage to improve the quality of life but are not able to increase the length of life while other treatments are able to increase life expectancy but unable to improve the quality of life. Yet other treatments can achieve both i.e. increase life expectancy as well as improve quality of life (Phillips, 2009). ART fits very well in this last description of being able to extend years of life as well as quality of life.

Despite all these strong measurement advantages that QALYs has, it has been criticised by some scholars for its difficulty to measure quality. Arnesen and Norheim quoting Gill and Feinstein reported that from 75 papers on quality of life which they reviewed, only 15% really defined quality of life (Arnesen and Norheim, 2003). Further, Freemann et al. indicate that it is difficult to get accurate weights on quality of life because they are dependent on the individual’s feelings. For example, the results on quality weights for individuals who are “risk averse and have positive time preference,” would be different from those who do not possess these characteristics (Freeman et al., 2002). This therefore also brings in the issue
of fairness into the measurement (Nord et al., 2009). In addition some scholars argue that in some cases quality of life for people with similar health conditions may differ from one area to another due to socio-cultural differences. Robberstad gives an example that to be a blind person in Niger is worse off than being a blind person in the UK. In his view, the quality of life for the person in Niger should be rated much lower than the one in the UK because “the structural interventions in UK make the disability less severe”, (Robberstad, 2005:185).

Disability adjusted life years (DALYs)

DALY as a health measurement indicator has also been widely used by health researchers with some modifications to suit their purposes. It is defined as the inverse of a QALY (Robberstad, 2005). One of the purposes has been to measure the burden of disease i.e. to measure the degree to which a disease causes a decline of one’s health status in relation to “everyone’s living to old age in good health”, (CDPP, 2008). It measures health outcomes by giving a weight to the disease whereby 0 means absence of disease and 1 represents death (Robberstad, 2005). The second purpose is to compare the worth of interventions that have several health outcomes manifesting at different time periods in life. It has the advantage that it can compare cost-effectiveness of various interventions with various health outcomes in a universal unit. In simple terms, WHO describes a DALY as “one lost year of healthy life”. In other words, it is the difference between the present health status in comparison to the ideal health status. A DALY is calculated as “the sum of the Years of Life Lost (YLL) due to premature mortality in the population and the Years Lost due to Disability (YLD) for incident cases of the health condition” (WHO)\(^{27}\), (Arnesen and Norheim, 2011)

DALYs have also been criticized for being unfair because they attach more weight to some diseases and less weight to other diseases which in some cases is arbitrary. Some scholars such as Arnesen and Kapiriri quoted by Robberstad condemn DALYs for their discriminative allocation of age-weights indicating that they specifically disadvantage the young people because some diseases which are more common among elderly people e.g. non-communicable diseases are given a higher weight than the communicable diseases that are more prevalent among young people (Robberstad, 2005).

In summary, despite their wide usage, these quality adjustment measurements have also proved to have measurement limitations and some scholars have found that these measurements do not have much particular added value. As such, one wonders why the

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trouble to do all these quality adjustments. Robberstad quotes Chapman et al. who found out that out of 63 CEAs studied, quality adjustments had little effects for priority setting in terms of costs per QALY and costs per Life Year gained. Therefore they concluded that most of the time CEA results can be reported as “costs per Life Year rather than the technically more challenging costs per QALY”, (Robberstad, 2005:187; Raftery, 1999).

Therefore considering the limitations of these two popularly used indicators of effectiveness and that there is not much difference in the results of CEA between using quality adjusted measurements and normal years, this research uses life years to measure and compare the cost-effectiveness in the provision of ART services by the government, the non-profit and for-profit providers in Malawi. The next subsection presents some examples of cost-effectiveness studies that have been conducted using QALYs, DALY, and Life Years (LYs) to measure and compare cost-effectiveness of various interventions.

5.4 Some cost-effectiveness studies

Most cost-effectiveness analyses in the HIV and AIDS sector have concentrated on comparing the value of investing resources in HIV prevention or care and treatment within the prevention/treatment debate. These hard choices on whether to invest in prevention or treatment have highly relied on cost-effectiveness analysis for health managers to make informed decisions. Within the treatment choices, cost-effectiveness analyses have mostly concentrated on comparing the efficiency of various drug regimens. For example, most studies on cost-effectiveness have revealed that investing in prevention is more cost-effective than investing in treatment (Walensky et al., 2007) and (Brent, 2011).

There are a number of studies that have been conducted in Sub-Saharan Africa at regional as well as at national level. The general conclusions are that ART is cost-effective compared to no-ART scenario. For example, a study in Ethiopia found out that in a district hospital, patients who were on ART gained 7.1 extra years compared to those who were not on ART and the incremental undiscounted cost per life year gained was US$314. This was done from the provider’s perspective where all costs incurred by the health provider for inpatient and outpatient services were included. They used the Markov model to estimate the cost for a lifetime, health outcomes and cost-effectiveness of ART. The study concluded that ART in Ethiopia is cost effective because the incremental costs per life year gained were lower than the per capita GDP threshold at the base year (Bikilla et al. 2009).
Recently there has been a debate on what could be the best time for starting ART. Several studies have been done which compare early start and late start of ART. The results so far indicate that starting ART at an early stage of HIV progression is more cost-effective compared to starting at later stages of the disease progression. As noted earlier in the introduction, the WHO adjusted the guidelines in 2009 on when to initiate ART in patients by increasing the CD4+ cell count threshold from < 200 to <350/mm³. In South Africa, a study by Badri et al. (2006), was carried out to compare the cost-effectives of starting ART at three CD4 cell count stages of <200/microl, 200-350/microl and > 350/microl and the no ART situation. They also used the Markov state-transition model to estimate life-expectancy, lifetime costs, quality adjusted life years (QALYs), cost per life years and QALY gained. The results were as follows: the mean life-expectancy was 6.2, 18.8, 21.0 and 23.3 years for the no ART, <200/microl, 200-350/microl and > 350/microl respectively. The lifetime costs were US$ 5,250, US$5434, US$5740 and 6,588 for no ART, <200/microl, 200-350/microl and >350/microl respectively. These results show significant gains for using ART as compared to no ART at all. Further the results indicate that starting ART earlier is more cost-effective compared to late start (Badri et al., 2006). The researchers concluded that ART is convincingly cost-effective in South Africa and that is it most cost-effective when started at CD4 count >200/microl (Ibid).

A related study was conducted in the Caribbean, where they compared the cost-effectiveness of ART in two groups of HIV patients. The first group was put on treatment immediately after AIDS diagnosis and the other group was deferred to one month later to start ART. They used data from the US-based arms of AIDS Clinical Trials Group (ACTG) A5164 to define their simulated cohort. Cost-effectiveness was found to be sensitive to number of eligible patients in care at any given point in time. As such, economies of scale were seen to play a big role. For example, if 1 additional patient was eligible per week, early ART showed a cost-effectiveness ratio of $34,400/QALY gained compared to the differed ART case. However, if only 1 patient was eligible in a year then the cost-effectiveness ratio increased to $95,000/QALY gained. They also found that if at least 4 patients were eligible into care in a year, the incremental cost-effectiveness ratio was below $50,000/QALY gained but if only 1 patient was eligible in every 2 years, the incremental cost-effectiveness ratio went beyond $100,000/QALY gained. In general early start on ART was found to be more cost-effective than late start of ART.

Marseille et al. compared antiretroviral treatment to decrease incidences of mother-to-child HIV transmission in sub-Saharan Africa. They compared three regimens of zidovudine and
lamivudine which were taken twice per day. Regimen A was administered to a group of women who started taking the treatment at 36 weeks of conception and continued till 1 week after giving birth (postpartum), regimen B involved treatment given to a group of women who were in the process of child delivery (intrapartum) until 1 week after child birth. Finally regimen C was targeted at women during the intrapartum period only. The outcome measures included the net cost to the public sector health care system, the cost per infection averted and cost per adjusted disability life year (DALY) gained.

They used data from published and unpublished data to create model estimates. The results were based on hypothetical value estimates which revealed that regimen C was most cost-effective. It was found out that for a group of 100 women with HIV prevalence rate of 15%, the calculated net costs to the public sector health care systems were US$3617 for regimen A, US$1667 for regimen B and US$351 for regimen C. The authors also found out that regimen C had a cost of US$1129 per HIV infection averted compared to US$2680 for regimen B and US$5134 for regimen A. Finally, the cost per DALY for regimen C was US$60 compared to US$ 143 and US$274 per DALY for regimen B and A respectively. The authors further indicate that the cost-effectiveness ratios reduced greatly to less that 10% whenever HIV prevalence rate was below 7%. In their conclusion, they indicate that antiretroviral treatment could be cost-effective in comparison to other health interventions in situations where HIV prevalence is high. In addition, the clinical trials need to corroborate estimated benefits and also when drug prices are reduced because the cost-effective results were highly sensitive to drug costs (Marseille et al., 1998).

One study in Uganda is unique in that it compared cost-effectiveness of different approaches of providing the treatment. It studied three types of approaches namely; facility-based care, home-based care and mobile clinics (Babigumira et al., 2009). Their results concluded that facility-based care was most cost-effective of all as it had the lowest mean costs per patient. They found out that the 10 year mean cost per patient were lower in Facility-based care with US$ 3212, followed by mobile clinic care with US$ 4782 and finally home-based care with US$7033. They also calculated incremental cost-effectiveness ratios which showed that the ICER for mobile clinic care versus facility-based care ($US2241 per LY and $US2615 per QALY) was lower than for home-based care versus mobile clinic are ($US2251 per LY and $US2814 per QALY). However, the univariate and probabilistic sensitivity analyses proved that facility-based care remained cost effective. All these studies help health policy makers to make informed decisions that best allocate resources from the various health choices.
As can be noted from these few examples of CEA studies, they have all concentrated on either comparing different treatment regimens or the timing of the treatment and the various modes of providing the treatment. There is so far no known study that has focused on comparing the cost-effectiveness of different types of health providers in the provision of ART. This therefore makes this research vital so as to enlighten health policy makers on resources allocation with regard to type of health provider in ART provision with the case of Malawi. Having discussed the various economic evaluation methods with a specific focus on cost-effectiveness analysis which is used in this study, the next section presents some of the limitations of this method that will also be considered in the discussions of the results from this study.

5.5 Limitations of Cost-effectiveness Analysis

Although cost-effectiveness is a very important tool for the measurement of efficiency of programme intervention and for informing and guiding health managers on resource allocation choices, it is not without shortcomings. Various scholars outline some of the main challenges of CEA, first and foremost, the availability of cost data is regarded as the major limitation of this method. This is especially the case in developing countries. It is extremely difficult to find data on costs of interventions. According to DCPP, most of the costs required for CEA such as direct costs (personnel time and supplies used), indirect costs (mostly portion of administrative costs) and other costs such as health equipment are rarely existent. This has led to a situation where the costs of an intervention from developed countries are used and then adjusted to suit developing countries context. In other cases, costs used in one developing country are used to approximate costs in other low income countries (DCPP, 2008; Kee, 1999). Weintraub and Cohen (2009) also express that CEA usually uses a lot of assumptions because it is impossible to get all the necessary data for a full analysis. They further indicate that even in the presence of all the required information, it may still not be possible to “represent values appropriate for the analysis at hand”, (Weintraub and Cohen, 2009:55). Hence, the need to apply sensitivity analyses where the cost and effectiveness variables are varied by using cost-effectiveness acceptability curves or performing probabilistic Bayesian analysis (Ibid). This problem of data availability is, of course not unique to CEA only, CBA, CUA and cost-analysis are likely to face the same problem (Kee, 1999).

Another limitation for CEA is that it does not take into consideration the affordability, absorption capacity of the health care system and the usability of the intervention by the people (DCPP, 2008). That means some intervention may invest a lot of resources but if the
services are not accessible to the people for whatever reasons including lack of affordability, this might make the programme less cost-effective. On the other hand, the services may be affordable but due to human capacity problems the services may not be effectively provided to the patients rendering it less effective and therefore the intervention may be less cost-effective as well. But these factors are not considered in the analysis rendering CEA problematic. Along the same line of thought, CEA does not take into account issues of equity of the users. It simply looks at cost-effectiveness ratios. For example, it is generally more cost-effective to provide health care services in big urban centres where the cost per outcome is much lower due to economies of scale than providing a similar service in a rural area with less patients and yet more expensive to deploy staff in such locations. Yet from the equity point of view it is equally important to provide the services to those in rural areas where it may look not cost-effective enough (Ibid)

Further, unlike CBA, CEA only concentrates on health benefits of an intervention disregarding any other benefits that may be an effect of the intervention as long as is not expressed in health terms. There might be some non-health benefits that might not fit into the CEA calculations thereby undermining the value of the intervention. This is where cost-benefit analysis fits in to ensure that all the benefits accrued from an intervention are taken into account (DCPP, 2008; Kee, 1999). Görlach28 also expresses this concern stating that CEA does not consider co-benefits from its original objectives because it is not able to convert different types of benefits into one unit thereby losing some of the important benefits of the intervention. Görlach adds that CEA is not able to tell the level at which the programme can be considered most optimal.

One more challenge is related to the interpretation of the results. Some authors such as Weintraub and Cohen (2009) and Yabroff and Schrag (2009), state that in most cases there is no cutting point at which cost-effectiveness ratios are considered cost-effective. This is why Diamond and Kaul (2009) in Weintraub and Cohen (2009) criticise CEA as being not useful. However, in some fields there are thresholds that have been determined by the experts. For example, Weintraub and Cohen state that in renal dialysis, $50,000 per QALY has been generally used as a threshold in the United States derived from people’s willingness to pay. This has therefore been taken as a benchmark for others who are conducting similar cost-effectiveness studies in the same field. Others have used the GDP

per capita income as the threshold for deciding whether an intervention is cost-effective or not (Bikilla et al., 2009).

Yabroff and Schrag (2009) also indicate that although there is no universal agreement on any benchmarks in the USA, therapies for cancer are generally considered cost-effective if they are within the range of $50,000 to $100,000 per QALY. However, this is reported to be merely theoretical rather than practical. Some argue that the idea of having threshold may be meaningless in some cases where the drug is effective but the costs are very high. This would mean that people might be denied the opportunity of taking the treatment on the basis that it is not cost-effective with regards to the benchmark. Yabroff and Schrag report that the US Food and Drug Administration mainly focuses on effectiveness data rather than cost-effectiveness data when making decisions on drug approval. This means that the interpretation of CEA is very contextual and should be handled with extreme care. Such that the interpretation of cost-effectiveness results might as well vary according to resource availability, for example, those that have more resources can consider higher ratios of cost-effectiveness to be fine as compared to those with limited resources. Hence, the interpretation of CEA results may also end up being subjective. For instance, using the average per capita GDP income as the benchmark produces very different interpretation and decision options on similar programme outcomes in different countries due to the differences in the per capita income.
Part III: Theoretical Framework and Research Methodology

The importance of theoretical construction and methodological approach in social science research cannot be overemphasised (Byrne and Ragin, 2009). Without proper theoretical conceptualization and systematic and well thought through methodological foundation, it is nearly impossible to yield meaningful, credible and informative empirical findings. A flawed theoretical base and methodological approach is likely to generate faulty results. Therefore these two components are very critical in social science research studies.

This part is demarcated into two chapters; chapter six and seven. Chapter six explains the case study and approach of the research. It highlights selected theoretical arguments that form the theoretical basis of this research and presents the theoretical framework of the study. This includes a brief summary description of all the theories that this study focuses on including cost-effectiveness analysis as a tool for comparing resource allocation efficiencies in antiretroviral therapy (ART) programme in Malawi across three health sectors involved in the provision of the ART services. It also presents the theoretical model within which this research is embodied which expounds on the concept of the HIV and AIDS market in Malawi. Further, a summary of the main measurement dimensions of the research are outlined which include: quality, quantity and cost-effectiveness and a description of variables that are used in this study. Chapter seven presents the methodological process that has been followed in the accomplishment of this research study. It details all the procedures undertaken starting from the choice of case-oriented approach, field research preparation, sampling of interviewees, data collection exercise, data preparation, and data analysis using descriptive analysis, survival analysis and cost-effectiveness analysis. Finally the chapter wraps up with a discussion of the ethical issues that were considered in this research and the challenges that the research encountered during field interviews.
Chapter Six: Theoretical Approach of the study

6.1 Summary of the case study and study approach

This study seeks to assess the role that the non-profit sector plays in HIV and AIDS service delivery in Malawi using a comparative approach. The concept of comparative approach has been discussed by Mills et al, (2006) who have written extensively about comparative research analysis in which they emphasise on the importance and the use of this type of approach in research. They define comparative analysis as a wide terminology that uses both qualitative and quantitative comparison of social units. These social units may be of various forms such as cross-national or regional comparisons, social groups or ethnographic (based on ethnic categorization) among others. They further highlight the problems that are associated with this type of approach which include: “1) sampling of cases, sample size, level and scale of analysis, 2) construct equivalence 3) variable or case orientation and 4) causality” (Mills et al., 2006:621).

Mills et al. indicate that the core aim of comparative analysis is to identify “similarity and variance”. In addition they state that comparative analysis goes further to discover differences between social units and expose distinctive features of a particular unit. If uncovering similarities is the major objective, the use of general theories is recommended where regression equations are applied. And if the aim is to focus on variance then the emphasis must be placed on context and differences (Mills et al., 2006:621). In this study the approach is to compare cases across sectors. The comparative study emphasises on variance so as to identify the uniqueness of the non-profit sector in the provision of HIV and AIDS services in Malawi.

Levi-Faur (2002) also discusses about comparative research methodology where he classifies comparative research into four different categories in the study of politics and policy. These include: the National Patterns Approach (NPA), the Policy Sector Approach (PSA), the International Regime Approach (IRA), and the Temporal Patterns Approach (TPA) (Levi-Faur 2002:2). Table 6.1 shows how these approaches work in terms of the type of cases that are compared and types of prediction (differences and similarities).
Table 6.1: Four Common Approaches to Comparative Analysis

<table>
<thead>
<tr>
<th>APPROACH</th>
<th>CASES TO BE COMPARED</th>
<th>PREDICTIONS AS TO VARIATIONS</th>
<th>PREDICTIONS AS TO SIMILARITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Approach (NPA)</td>
<td>Nations</td>
<td>Across nations</td>
<td>Across sectors, time, and international regimes</td>
</tr>
<tr>
<td>Policy Approach (PSA)</td>
<td>Sectors</td>
<td>Across sectors</td>
<td>Across nations, time and international regimes.</td>
</tr>
<tr>
<td>International Approach (IRA)</td>
<td>International Regimes</td>
<td>Across international regimes</td>
<td>Across sectors, time, and nations</td>
</tr>
<tr>
<td>Temporal Approach (TPA)</td>
<td>Politics before and after major event</td>
<td>Across time</td>
<td>Across sectors, nations, and international regimes</td>
</tr>
</tbody>
</table>

Source: Levi-Faur 2002:5

Although this classification looks very broad, it still has the applicability to any context within research comparison approach. For example, the cases can be nations where one aims at studying variations and/or similarities across nations or across sectors. This can go even further down to include variations and similarities across social classes or ethnic groups (Mills et al, 2006). Levi-Faur quoting Ragin (1987) distinguishes comparative analysis into case-oriented and variable-oriented approaches. Case-oriented comparative method focuses on extensive assessment of “historically defined cases and phenomena” while variable-oriented approach is more concerned with assessing the correspondence between relationships discernible across many societies or countries, on the one hand, and broad theoretically based images of macro social phenomena, on the other"29. He further states that the case-oriented approach is most appropriate in the identification of “invariant patterns common to relatively small sets of cases”. On the other hand, the variable-oriented strategy is best applicable in the assessment of “probabilistic relationships between features of social structures, conceived as variables, over the widest possible population of observations” (Ibid).

This study is interested in searching for the variance between the non-profit sector and the other sectors i.e. the government and the for-profit. The research takes the form of case-oriented approach as it looks at only one country as the case study area which is the unit of analysis. It focuses on Malawi and the analysis of the data is done by comparing variations in quality of service provision across the three health sectors involved in HIV and AIDS

29 http://poli.haifa.ac.il/~levi/weber.html 1.11.12
treatment. The study ensures that all concepts are clearly conceptualised and defined so as to measure the same things across all the sectors. Causality is dealt with by using statistical models through regression analysis. Malawi was preferred as a case study area because the researcher had some prior contacts which made the research achievable owing to the sensitive nature of the subject matter. Generally there is a perception that HIV and AIDS is a sensitive issue which requires a lot of confidentiality and therefore accessing information can sometime prove difficult. The researcher went through the health research ethical approval process before the commencement of the field study.

A cross national study in sub-Saharan countries where the HIV prevalence rates are similar to Malawi would have been ideal for this study for greater chances of generalizability, however due to limited time and financial capacity this was not possible. The researcher also desired to do this study in the education sector as well, but this too was not possible due to the same limitations.

6.2 Summary of the theories used in this study

To ensure objectivity in the assessment of the contribution of the non-profit sector and also for the sake of a solid theoretical base, the research uses a selected number of theories that aid in the explanation of the role of the non-profit sector in HIV and AIDS service delivery in Malawi. These theories include; the government failure theory, the contract failure theory, NGO’s comparative advantage and resource dependency theory. In addition, the theory of principal-agent problem is also used to understand the extent to which these problems occur and if any, how these negatively affect the efforts of the non-profits in contributing to the good cause of fighting the HIV and AIDS epidemic.

The government failure theory which states that the non-profit sector emerge to fill in the gap of service provision left by government, is used to get an understanding of what demand gaps exist if any, which prompts the non-profit sector to come forward and provide their support in Malawi. It is obvious that the demand for public goods and services in Malawi by far exceeds the supply of the same as manifested by the high poverty levels currently estimated at 40% after dropping from 54% in 2004 (Government of Malawi, 2009 report). This theory helps the researcher to study which areas the non-profit sector is concentrating on as a result of government failures. This includes the type of services and in what quantities they are providing i.e. what percentage of HIV and AIDS services are provided by the non-profit sector. This demand gap is further analysed by looking at the type of work relationship that exist between government and non-profits which may include sub-
contracting of services by government as a sign of capacity gaps on the part of government. Overall this theory is considered important in explaining the demand gaps that exist in the government machinery which might induce the mushrooming of the non-profit sector to take up such roles.

On the other hand the contract failure theory with its emphasis on the non-profit as a pointer for better quality of services in a market faced with information asymmetry problems, is applied in a modified form to assess and compare the quality of services provided by the non-profits, the for-profits and the government using certain proxy indicators which are discussed later in this chapter. The theory claims that since the non-profits are not focused on generating profits, they provide better quality services as they invest all their profits into the running of their services and do not have incentives to hide information on the quality of their services unlike the for-profits who aim at profit maximisation. This theory therefore assists in comparing the quality of service provision between the non-profit and for-profit sector as well as government. For poor countries like Malawi, one may argue that the comparison might be a little difficult because for-profit services are usually accessed by well off patients who can afford the high fees that are charged in such health facilities. As such socio-economic status of patients may play a role in the health outcomes. For example, since government services are free of charge in Malawi, most of the poor patients are likely to visit government hospitals which are often crowded and the treatment is regarded as poor and substandard. Although the non-profits also charge user fees like for-profits, most non-profits services are highly subsidised and some of them are fully subcontracted by the government and therefore they offered for free to the citizens on behalf of government through a service level agreement contract as already discussed in the introduction chapter.

This problem is however assumed to be almost eliminated in the ART programme in Malawi because ART provision is universal and free for everyone in Malawi irrespective of which type of health facility one visits. There is only a small minimum administrative charge of MK500 (approx. US$2) that one is required to pay in all the for-profit and some non-profit health facilities whenever a patient goes to collect the medication every two months. This amount is considered negligible since these paying facilities are mostly in urban areas and it is assumed that everyone in the urban area can afford to pay this fee without much difficulty. However it may still be argued that most of the patients taking HIV medication from for-profits may have been already regular clients to the facilities and therefore their socio-economic status might be higher than those getting their treatment from the government and the non-profit sectors. This may therefore affect the assessment of quality by the type of
health provider because if the socio-economic status of the clients is very different, it may impact on their health outcomes also. Unfortunately the data used in this research does not contain socio-economic data of the patients to enable the researcher to assess this aspect as a co-variable.

Since NGOs’ work mostly depends on donations, it was felt necessary for the research to have a fair understanding of how NGOs are affected by this factor. According to Cooley and Ron, the notion of NGOs competing for resources on project basis within certain contractual obligations creates incentives for NGOs and recipients (Cooley and Ron, 2002:13). As donors are preoccupied with successful and effective implementation of projects, the NGOs are more concerned with their organizational survival (Ibid). It is therefore important to study how resource dependency affects the work of the NGOs in Malawi. Ossewaarde et al. (2008) states that resource dependency hampers the legitimacy of NGOs’ work as they are compelled to work under the donors’ wishes and sometimes with the permission of other stakeholders such as the state. This may restrict the innovativeness and effectiveness of NGOs to implement activities according to their best capabilities. For example, in the Malawi case, most of the faith based health facilities commonly known as ‘mission hospitals’ are funded by government using SWAp donor funds and therefore to a greater extent may be forced to follow government procedures of providing services.

Since the non-profits implement projects/programmes on behalf of donor funds, they have the incentives to act contrary to the wishes of the donors due to the problem of asymmetric information. The theory indicates that since the donors who are the principals are not involved in the day to day operations of the activities of the agent (the NGOs), the agent can take advantage of this weakness and use the resources on something else other than the agreed purpose. However this problem is not only unique to the non-profits, it is a universal problem which is expected in the government as well as the for-profit sector to varying degrees. Whatever the case, this behaviour has negative implications on service provision. As such the research seeks to find out whether there are any principal-agent problems in the non-profit, government and for-profit sectors in the HIV and AIDS project/programme implementation in Malawi. This part aims at comparing the severity of the problem in each sector. The assumption is that the more severe the problem the poor the project/programme outcomes as a proxy indicator to programme results.

The claims that NGOs have certain comparative advantages are an important element for their successful contribution to service delivery. If these comparative advantages are proven to be a true reflection of the NGO sector, it can be concluded that their success in
contributing to service delivery is guaranteed. For example, ability to reach and address poor people’s needs is the essence for development. Similarly, flexibility and innovation are significant factors that could ensure high achievement for the NGO sector. It is believed that these comparative advantages have compelled most donors to prefer channelling their resources through the NGO sector with the hope that these resources can achieve better results. The study empirically assesses the validity of these comparative advantages in order to measure NGO’s roles and contribution to social service delivery and specifically in the HIV and AIDS sector in Malawi. This research empirically tests cost-effectiveness of programme delivery as one of the major comparative advantage of NGOs. This analysis compares the cost-effectiveness of HIV and AIDS service delivery in the non-profit sectors with the government and the for-profit sector.

6.3 The theoretical model of the HIV and AIDS Market

The broad theoretical contextualisation of the research in terms of the non-profit sector operations has been explained in the just ended section, however since the research is focused on the HIV and AIDS sector, it is imperative to frame the theoretical model of the HIV and AIDS market that forms the basis for assessing the contribution of the non-profit sector in HIV and AIDS service delivery. This research contends that the nature of the market environment determines the role and contribution that NGOs can make in service delivery. This market involves the interplay of several key players in the service delivery chain each with a unique role to play. In the HIV and AIDS sector these major players can be identified as the donors, the NGOs/non-profit sector, the government, the for-profit organisations and the beneficiaries. The basis of the analysis lies on the market structure in terms of the demand and supply side of resources and services which in turn determine the market behaviour. This behaviour eventually produces certain market results. Figure 6.1 below presents the theoretical framework that depicts the HIV and AIDS market upon which this research bases it empirical findings.
# The HIV and AIDS Market Framework

## Structure

**Number and relative size of agents**
- **Supply side:**
  - Number and type of donors (bilateral, multilateral, private) supplying resources to implementing agents
- **Demand side:**
  - Number and relative size of implementing agents (NGOs, government, for-profits) demanding resources from donors

**Freedom of choice on both markets**
- To supply resources and services
- To demand resources and services
- Who initiates contracts – donors or implementers?
  - Donor - implementer power relationships

**Nature of contracts between donors and different implementers:**
- Homogeneous or Heterogeneous TORs

**Levels of coordination and cooperation among agents:**
- Donors - donor
- Donor - implementing agents
- Implementing agent - implementing agent

**Means of coordination/cooperation**
- Pooling resources together, share tasks, share reports, share lessons in meetings etc.

## Behaviour

**Objectives of the supply and demand agents:**
- **Supply side:** Nature of objectives (MDGs, developmental, budgetary or mixture)
- **Demand side:** Type of behavior by agents
  - **Negative**
    - Profit-maximizing, rent-seeking, covering costs under pretext of developmental goals, other principal-agent problems such as fraud, dishonesty, high remunerations, luxurious office space etc
  - **Positive**
    - Comparative advantages – use of less expensive labor, innovative strategies, flexibility, cost-effectiveness in programme delivery, etc

**Interaction between suppliers and demanders scenarios:**
- **Oligopoly:** A few big suppliers and demanders each trying to either vary unit costs or deliveries. Likely to lead to negative behavior of agents
- **Pure competition:** No one or few suppliers/demanders controlling the market. Likely to lead to positive behavior of agents.
- **Monopoly:** One or a block of suppliers and demanders singularly fixing costs or deliveries likely to influence negative behavior of agents

## Results

**Impacts:**
- **At organizational level**
  - Level of fulfillment of goals/objectives for both agents - suppliers and demanders
  - Quality of goods and services achieved by agents
  - Quantity of goods and services realized by agents
  - Cost-effectiveness of projects implemented
  - Lessons learnt and implemented
  - Organizational growth on the demand side (staff capacity, programme expansion, geographical coverage)

- **At beneficiaries’ level**
  - Level of improvement in livelihoods
  - Access to services
  - Quantity and quality of services accessed
  - Level of empowerment

*Source: Author's own compilation*
6.3.1 The Market Structure

The market structure for service delivery in the HIV and AIDS sector is comprised of various players. Some of the players are on the demand side while others on the supply side of the market. In this research I analyse the major players that are involved in this market namely; the donors, the NGOs/non-profit sector, the government and the for-profit organisations. There are principally two levels of market interaction that can be observed. The first level involves the donor-implementer relationship where the donors are the suppliers of resources to the various implementing agents such as the NGOs and the government and in rare cases the for-profit sector. These implementers in this case are on the demand side for the resources. At the second level, these implementers (NGOs, government and for-profit organisations) become suppliers of services while the beneficiaries are on the demand side for the services. Therefore the NGOs, the government and the for-profits act as intermediaries because at one moment they are on the demand side looking for resources from donors and then they are also expected to supply services to beneficiaries who demand services from them.

Within the resource supply side (i.e. among the donors) there are different players, which are assumed to be either well coordinated/cooperating or competing with one another. Among these are bilateral donors, multilateral donors and private donors (internal and external). When these donors coordinate and cooperate very well they may create a monopolistic resource supply market structure that would determine who they want to supply their resources to as a team. It may also be possible to have a scenario whereby these donors are not coordinating well and that could lead to a competitive market structure. A third scenario could be a likelihood where a few donors that are more influential and powerful than others cooperate well and everyone else follows them. This might produce an oligopolistic type of market. Depending on the prevailing type of market structure from the donor’s side, it will have a corresponding effect on how they interact with the intermediary parties which are the NGOs and government.

Likewise on the demand side of the market are the NGOs and the government who might also form the same type of market possibilities which will also have an effect on the market behaviour, i.e. there might be a monopolistic market structure if there is absolute cooperation and coordination amongst the implementers. Also a pure competitive market structure is possible if the implementers are not cooperating and coordinating very well. In the same manner whatever market type is available it will affect the behaviour of these implementers either positively or negatively. In addition, the size, in terms of numbers on each side of the
market matters. If there are too few donors against too many implementers looking for resources it may create certain market structure compared to a situation where there is a relatively good balance between the sizes of the supply side vis-à-vis the demand side.

Other issues related to the market structure include the working terms that exist between the donors and the implementing agents in terms of the types of contracts i.e. whether the contracts are homogeneous or they differ according to the type of implementer in the sense that donors may impose certain conditions on one specific group of implementers and not on the other implementers. In addition it is important to know the extent to which the implementing agents can negotiate these contracts and who actually initiates this process. All these can also have implications on the behaviours of the implementers.

**6.3.2 The Market behaviour**

As discussed under market structure, some of the market behaviours may be a direct result of type of the market structure. For instance in a monopolistic donor market structure where donors are perfectly coordinating and cooperating with one another, it would be expected that the donors would agree on the terms of contracts and have absolute power to choose who they want to work with. This would be possible because all the donors have a harmonised voice and therefore this would hinder any negotiation powers from the demanding side i.e. the NGOs and government. This would further entail little monitoring because the donors would have much confidence with the partners they have chosen to work with, hence principal agent problems are more likely.

However in a competitive donor environment, the market behaviour would be totally different. There would more negations taking place between the resource suppliers i.e. the donors and demanders i.e. the NGOs and the government institutions because the interests of each donor will be different from each other and therefore they will be looking for implementers whose interests match with theirs. The implementers will also have the freedom to associate themselves with donors whose interests correspond to their ideologies. At the same time principle agent problems are minimised as each implementer fears of being thrown out of the market if they do not perform according to the donors’ desires.

Apart from these factors, there are certain behaviours that are inherent in certain implementers. For instance, the non-profit sector is assumed to possess certain comparative advantages that may assist them to produce unique results.
6.3.3 The Market Results

The final stage of this market continuum is the market results which is the core business of the entire market system i.e. to supply services to the people. The combination of the market structure and the market behaviours produces certain market results. These results are fundamentally the effects of services undertaken by the implementing agents. The results entail the overall outcomes and impacts emanating from the projects/programmes on the beneficiaries and the organisation in general. They are measured in the form of quantity and quality of the services produced, effectiveness of the programmes, cost-effectiveness of the programmes, and impacts of such services on the lives of the people. Referring back to the different types of market structures and behaviours, one may say that in the scenario where the structure is monopolistic or oligopolistic, the impacts on the beneficiaries are likely to be minimal because there is no pressure on the part of the implementers to control their behaviours. Everyone is relaxed and not expecting anyone to push them if they under perform because the system is too harmonised to allow for any dissenting views. Principal-agent problems may also creep in thereby draining the organisational resources on activities other than those related to the goals of the projects.

In the other scenario where the structure is competitive, the impacts are likely to be greater because there are several players and everyone is alert to make sure they perform in order to remain in the system. However this competition also has limits. If the market is too competitive, it may produce negative outcomes because the implementers might get obsessed with the competition fighting for their survival at the expense of programme implementation. This may also depend on the way the implementers relate with the resource suppliers. For example if the type of contracts differ from one group of implementers to another, this may have an effect on the results emanating from the various implementers.

It is however expected that amidst all these negative or positive scenarios, the non-profit sector may capitalise on their comparative advantages and still do better than the other implementing agents. These advantages include closeness to the people, innovation, flexibility and cost-effectiveness among others assuming these they indeed possess these characteristics.

With this HIV and AIDS theoretical framework, the research has a clear focus of what it wants to measure in an attempt to understand and determine the role of the non-profit sector in the provision of HIV and AIDS services. This framework is unique in the sense that it has not been used in any known research in the analysis of the non-profit sector. Therefore the
next section focuses on the operationalisation of the main conceptual measurement in the research theoretical framework for empirical analysis.

6.4 Operationalisation of key measurement concepts in the theoretical framework

This section describes the key measurement concepts used in this study and the indicators used to define these concepts. First, quality of service provision: a few researchers have conducted studies that measure quality of service provision in the health sector comparing the non-profit, for-profit and government services (Batley, 2006; Hollingsworth, 2008; (Palmer, 2006; Ilminen, 2003; Moran, 2006; Forbes et al., 2010; Hsu, 2010). Some have used mortality as a measure for quality (Hollingsworth, 2008), while the others have used cure for specific diseases such as heart attack to measure quality of health service provision.

As can be noted, all these studies concentrated on analysing the effectiveness of health programmes, none focused on cost-effectiveness of those programmes. Therefore this justifies the need for this study to go a step further and do a cost-effectiveness analysis of ART service provision across the three sectors. In this study, mortality rates, risk rates and survival probabilities are used as major indicators for measuring quality of service provision alongside other indicators such as life years and loss to follow up.

Second, quantity of service provision is measured by the proportion of the patients that each service provider serves. Quantity is an essential measurement aspect because it shows how involved the providers are in the provision of the services in terms of numbers of people they are able to reach out to. The specific indicators include number of patients served and the geographical coverage.

The NGOs’ comparative advantages as discussed in the theoretical and literature chapter have put NGOs in the lime light as recipients of donor funds displacing governments in some cases. These comparative advantages are measured by using proxy indicators which are outlined as follows;

a) Closeness to the poor and ability to represent them

- physical distance from NGO office base to the beneficiaries
- frequency of visits to the communities
- frequency of interaction with beneficiaries
- Modes of communication with the beneficiaries
- Ability for the beneficiaries to reach NGO staff

**b) Flexibility in programme delivery**

- Flexibility refers to the ability of the NGOs to easily change their project designs to suit the needs of the people they are serving to ensure that the impacts are maximised.

**c) Innovation in their programme implementation**

According to Leftwich (1970) innovation has five characteristics namely;

i) discovery and development of new kinds of resources

ii) modification of existing resources

iii) development of new technologies

iv) modification of existing products

v) development of new products

He argues that these factors should be cost reducing in nature if they are to contribute to economic progress and to consumer well-being. In addition these innovations must enable the resources used in carrying them to satisfy more needs than if the innovations had not been made (Leftwich 1970:210). However he states that there are certain preconditions that usually induce innovations. These include; a) **underlying conditions**, these are innovations related to change in traditions and cultures on doing certain things that change has to take place if people are willing to depart from the usual way of doing things b) **enabling conditions** which refer to the institutional environment where the innovation is taking place. This may include the financial muscle, availability of other agencies that can accomplish or facilitate research and c) **incentives to innovate** which consider financial gains associated with the innovation. NGOs have been considered to be innovative although these innovations have sometimes been not been cost reducing in terms of overall project budgets especially due to the small nature of their project implementation. However this is one element that keeps them competitive on the market because they have something new to sell to the donors.

Cost-effectiveness which implies efficiency of the intervention is measured in terms of amount of resources used to achieve certain results. Efficiency is defined as the “value of output produced in relation to the value of resource inputs used to produce that output”
This research uses the Malawi ART database and cost data collected from a sample of health facilities to calculate cost-effectiveness ratios for each sector. In this case, the total number of life years calculated from a one year period of observation for each patient from the time starting the treatment. Detailed analysis of the costs and life years are discussed in the subsequent sections.

Finally, principal-agent problems are measured using the following indicators;

**a) Fraud:** Defined as the misappropriation of organizational resources in a deceitful manner.

**b) Dishonesty in reporting:** This includes overstating or understating some elements of the information presented or giving wrong information with the intention of saving oneself from trouble.

**c) Misallocation of resources:** This involves using resources on activities that were not originally planned for without prior permission from the principal.

**d) Poor work quality:** Production of substandard work in relation to the resources used to produce the particular results.

The HIV and AIDS market theoretical framework summaries all the major variables that are used in this study. These variables include the dependent, intermediate and independent/predictor variables. Below is a summary of the variables which the research used to answer the research questions.

**Dependent Variable**

The dependent variable in this research is the outcomes/results that are achieved in the process of providing HIV and AIDS services. These outcomes are measured in terms of programme outcomes of patients using the following indicators; a) mortality rates, b) survival probabilities c) life years, d) programme cost-effectiveness and e) loss to follow up.

**Intermediate Variables**

These are factors that are assumed to have an influence on the health outcomes but they do not have a direct effect on the outcomes. These are termed intermediary/intervening factors which have been outlined under the market structure and behaviour of the HIV and AIDS market framework of this research. These include:
a) NGO comparative advantages

If indeed NGOs possess these attributes as outlined in part II sub-section 2.5.2, i.e. closeness to the people, flexibility, innovation etc, this can be a great asset for them to provide better services hence produce better outcomes as well.

b) Principal-agent problems

If there are so many principal –agent problems, it may mean that the quality of services may be compromised and hence lead to poor outcomes on the patients.

c) Level of competition among implementers

The type of market arrangement is assumed to affect the work performance of the non-profit sector. For example if the market is too competitive, they may be pressured for better results so that they can survive in the market or the opposite might be true, that they are so preoccupied with fund raising at the expense of programme implementation. On the other had if the market is monopolistic, it may create a complacency spirit because there is no one to give them pressure. This would lead to poor performance and substandard outcomes.

d) Programme funding levels /resource capacity

It is assumed that those health programmes with high amounts of direct funding/support from the donors are likely to provide better care for their patients. This could also entail better outcomes compared to those who receive their support through the government system whose funds are usually inadequate.

Independent/Predictor variable

These are the variables that have direct influence on the health outcomes of the patients who are on the ART programme. Since the research aims at comparing the services provided by the non-profit sector in relation to the government and the for-profit sector, type of health care provider is the main predictor variable of the outcomes in this study. However, apart from this variable, there are other co-variables that are used to assess health outcomes of ART programme in Malawi. These co-variables may also have a high influence
on the outcomes of the patients receiving services from the various health providers. Below is a list of these variables as presented in the ART database

a) Age of the patients
b) Sex (male or female)
c) Level of WHO clinical stage when starting the treatment (stages 1/2 and 3/4)
d) Region of the county (north, central or south)
e) Level of urbanisation (urban, semi-urban and rural)
f) Health facility level (central hospital, district hospital, health centre, other hospitals etc.)
g) Year of starting ART (2004, 2005, 2006 and 2007)

These variables are summarised in figure 6.2 as follows:

**Figure 6.2: Summary of variables**

<table>
<thead>
<tr>
<th>Dependent variables (Health outcomes)</th>
<th>Intermediate variables</th>
<th>Independent/Predictor variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Mortality rates</td>
<td>a) Levels and source of funding</td>
<td>a) Type of health provider</td>
</tr>
<tr>
<td>b) Survival rate</td>
<td>b) NGOs’ comparative advantages</td>
<td>b) Age</td>
</tr>
<tr>
<td>c) Life years lived</td>
<td></td>
<td>c) Sex</td>
</tr>
<tr>
<td>d) Programme</td>
<td></td>
<td>d) Level of WHO clinical stage when starting the treatment</td>
</tr>
</tbody>
</table>

Source: Author’s own compilation

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30 The ART database contains information of all patients that have ever been initiated on ART in all the ART clinics in Malawi
Chapter Seven: The Research Process

Most studies on the role of the non-profit sectors have mostly concentrated on in depth case studies of isolated cases of NGOs. This type of approach has yielded either extreme positive or negative results (Johnson, 2001; Cooley and Roy, 2006). This has created a challenge of getting consensus on what the NGOs can really achieve because the results cannot be generalized. Other studies however have attempted to study relatively bigger samples of NGOs in order to get a more objective picture of the roles of the non-profit sector (Ossewaarde et al. 2008). Others have used a comparative approach by comparing the outcomes in terms of quality of services provided by the non-profit to those of the government and/or the for-profit sector (McClellan and Staiger, 2000; Forbes et al., 2010) and (Batley, 2006). While this study also takes a comparative approach with a relatively bigger number of NGOs, it goes a step further to look into the market environment within which these services are provided as discussed in the HIV and AIDS market framework. It relates outcomes/results of the NGO sector and other providers to specific aspects of the market that may have an effect on the outcomes. In addition, this study compares the cost-effectiveness of the providers in the provision of HIV treatment. This section therefore details the process which the researcher undertook in terms of data collection and processing including data analysis techniques. The section also outlines the research ethical considerations that had to be fulfilled prior to data collection and the challenges experienced during the field research.

7.1 Primary and secondary data sources

Primary data collection was done at two levels. The first level was aimed at understanding the HIV and AIDS market within which the various stakeholders operate. In addition, the researcher wanted to establish the specific HIV and AIDS activities the different players are involved in so as to identify easily comparable aspects in terms of impact across all the three HIV and AIDS providers i.e. the government, the non-profit and the for-profit sectors. This exercise revealed that HIV and AIDS treatment was the most plausible area because all the three implementers were involved in the provision of antiretroviral treatment. The second stage was devoted to collecting data on costs incurred by the service providers in the provision of ART services to their clients for the calculation of cost-effectiveness ratios which are used to compare the cost-effectiveness of these players in the provision of HIV and AIDS treatment services in Malawi.

The first part of the field exercise aimed at conducting interviews with a sample of NGOs, government ministries/departments and the for-profit organisations working in the HIV and
AIDS sector and also with donors supporting this sector in Malawi. This part focused on collecting information on understanding the working relationships that exist between and among the donors, NGOs, government and the for-profit making organisations. During this phase, key personnel in these organisations were interviewed on issues related to their project activities, impacts of their projects, funding levels and working relationship with other partners in the HIV and AIDS sector (i.e. interactions between and among donors and implementers (NGOs, government and for-profits). In addition, key informant interviews were conducted with government officials from the department of HIV and AIDS unit in the Ministry of Health and the HIV and AIDS and Nutrition Department in the Office of the President and Cabinet (OPC), the Council for Non-Governmental Organisations (CONGOMA), the NGO Board and the Human Rights Consultative Committee (HRCC). CONGOMA is an umbrella body for all NGOs in Malawi while the HRCC is a networking coordinating secretariat for about 92 NGOs that are working in the area of human rights related activities including HIV and AIDS.

The second part of data collection involved interviews with health facility staff from the non-profit, the government and the for-profits ART service providers. The main aim of this data collection exercise was to collect data on costs that the health providers incur in the provision of ART services in order to compare cost-effectiveness of HIV and AIDS treatment among the three types of providers. This data was collected in collaboration with a Master student who also used this information for her Masters Thesis. Additional interviews were conducted with some district health offices to get extra information on certain costs that the government clinics were not able to provide and referred us to the district offices. Further, a visit was made to the HIV and AIDS unit of the Ministry of Health to get information on costs for the procurement of ART drugs and for trainings of staff in ART provision. Finally, more information was obtained from the Ministry of Health headquarters, the Ministry of Finance and the National AIDS Commission especially on ART financing.

The main tools used to collect the data were structured questionnaires and checklists. In total, five structured questionnaires were developed and used to interview officials from the following institutions 1) NGOs, 2) government ministries/departments, 3) for-profit organisations, 4) donors and 5) health facilities in the government, non-profit and for-profit sectors. Checklists were used to ask open ended questions to key informants on specific issues related to HIV and AIDS and also on NGOs in Malawi. For example CONGOMA, the NGO Board and HRCC were specifically targeted to provide information on the NGO sector while government institutions provided more general information on HIV and AIDS as well as
the involvement of the non-profit sector in HIV and AIDS services from the government’s perspective. In addition some observation was done during the course of the interviews in the offices as well as at the clinics. In the ART clinics it was important to observe the interactions between the clients and the health personnel as well as the working environment in terms of working space and other necessary equipments. As for the NGOs, the observation mostly centred on noting the location of their offices and other physical assets within their premises. All these data sources are used to enrich the quality of the study findings. The data collection tools are presented in the appendices.

Secondary data was collected from the HIV and AIDS unit in form of a database on ART. The ART database is a production based on data collected from all clinics in Malawi involved in the provision of ART services by 2008. Two photographers collected the data by taking photographs of the ART registers in all the clinics in Malawi between April and June 2008. For the purpose of confidentiality, the health workers concealed the names of the patients in the registers before capturing the photographs (Weigel et al., 2012). The ART registers contain information on demographics of the patients which include: age, sex, occupation, reasons for starting ART (WHO stage 1, 2, 3 or 4) date of starting ART, date of loss to follow-up, death or stopping ART. This data was entered into Stata version 10 statistical package.

7.2 Study sites and sample size

Due to limited time and resources, the researcher planned to conduct interviews with a manageable number of NGOs, government ministries/departments, for-profits making organisations and donors. Further, the selection of study sites was carefully done to allow for the possibility of comparison of the results in terms of social economic status of the clients in the case of calculating cost-effectiveness analysis. Therefore the study was done in the urban areas only. This included the four main cities of Malawi namely Lilongwe, Mzuzu, Blantyre and Zomba. For the HIV and AIDS market study the interviews were done in the capital city- Lilongwe because this is where the government headquarters is situated. As such, most of the donors and NGOs are also located in Lilongwe.

Due to various challenges, including the unavailability of officials for interviews in some organisations despite repeated requests and visits, it was not possible to reach the planned number of interviews. Out of the 45 interviews planned for NGOs, only 33 were possible. As for the government institutions, the for-profit making organisations and the donors, 15 interviews were planned with each group, however only 10 interviews were achieved with the government institutions and the donors respectively. Only 1 interview was possible with a
for-profit making organisation. The reason for the poor participation of the for-profit organisations was that they do not take HIV and AIDS activities as one of their major area of focus. As such, most of them were not willing to invest their time in discussing the issue. Some even mentioned that this issue is better discussed with NGOs because they are the ones that are actively engaged in HIV and AIDS activities. Due to this reason there is no information discussed in the research findings concerning how for-profts interact with other players in the HIV and AIDS sector from their perspective. The information available is from the NGOs and government's perspective only.

On a better note, interviews with health facilities were more successful because all the planned 50 interviews were accomplished. There are two major reasons that can be attributed to this success. First, it was because this data was collected in collaboration with a Master student who also needed the same data hence the burden of time limitation was minimised. Second, is that in the health facilities the setting is different from the offices, one could simply walk in and there were always two or more people who were willing to provide information on the ART programme. This was not possible to do in the government, NGO and donor offices.

In terms of sampling techniques, the researcher used simple random sampling wherever it was possible to get a sample of organisations to be interviewed. In some case it was not possible to do random sampling because the number of organisations was too small to do sampling. For instance, interviews with the clinics were done with almost all the available clinics in the cities except those who were not willing to provide the information i.e. one for-profit clinic provider demanded money from us before we could collect data from their clinic. Other exceptions were those that had too few patients for any meaningful analysis. As for the NGOs and the government interviews, a systematic random sampling was done from a list of these organisations obtained from NAC and EU/Non-State Actors office.

7.3 Data processing and analysis techniques

This section describes the data processing and analysis techniques that have been used in this study. All the data on the market analysis that was collected from NGOs, government institutions and the donors was entered into SPSS where descriptive analysis, cross tabulations and some simple significant tests are done. Some of the descriptive results were imported to excel where various graphs were created for presentation in the study findings chapter. Some of the data is presented in tables obtained from cross-tabulations done in SPSS.
Similarly data from the health facilities on costs and other variables was also entered in SPSS from where it was further imported to Excel for further calculations on the various costs for each health sector. Since cost-effectiveness analysis is measured as a cost per outcome in form of a ratio it requires two sets of information to be able to make the calculation: the costs for programme intervention and the outcomes that are achieved as a result of the intervention. Therefore there was need to generate and determine this outcome data for the calculation of cost-effectiveness ratios for each sector. As already discussed in the chapter on cost-effectiveness analysis\textsuperscript{31}, this study uses life years i.e. the number of years the patient has lived from the date they were initiated on ART. Since the patients in the ART database started the treatment at different times, the analysis of life years lived, has been restricted to one year observation time for each patient to eliminate any bias because some entered the programme earlier than others. In addition, this restriction helps to match with the data on costs which was also based on a one year expenditure. The details on how to generate the life years are presented under the sub-section on ART data preparation and analysis process. The total number of life years lived by the patients in the various health sectors are used as the effectiveness indicator for the calculation of cost-effectiveness ratios together with the total costs incurred in administering ART services. These costs include personnel costs, training costs and ARV drug costs. Personnel costs were derived by calculating a percentage of the personnel's wages using proportion of time that the concerned staff dedicated to ART services per month. Therefore cost-effectiveness is calculated as ratio of the total costs for ART provision in one year per sector/ total number of person years (life years) in one year per sector.

Finally the data from the ART database is analysed through descriptive analysis and presented in graphs and tables. The graphs were created in Excel after generating the results from Stata and importing them into Excel. In addition the analysis presents mortality rates and life years which are also used in the calculation of cost-effectiveness analysis. Beyond that, this data has also been used to compare risk ratios and probabilities of deaths among patients receiving ART from the three health providers using survival analysis techniques which include the Kaplan Meier survivor estimate function and the Cox proportional hazard regression analysis. These methods are clearly explained in the next sub-section.

\textsuperscript{31} In part II chapter three under subsection 3.4
7.3.1 ART data preparation and analysis process

Since the ART database was obtained as secondary data, it required considerable cleaning and reorganisation to fit the purpose of this study before using it. The researcher undertook a rigorous data preparation exercise to make the data ready for analysis. This process was done in collaboration with expert health researchers from the Institute of Social and Preventive Medicine at the University of Bern in Switzerland. These researchers had already had used this database before and are experts in the application of survival analysis. For the analysis of the information require in this study, the following data preparation process was followed:

a) Dropping all patients with missing values of key variables

The first step in the data cleaning process was to drop all cases with missing sex, age, ART starting year, outcome, outcome date and stop date because these are the critical variables used in the data analysis.

b) Selection of ART start years for inclusion (2004-2007)

Although the database contains information on all patients that started taking antiretroviral drugs from as early as 1996, this analysis only includes patients who started receiving ART from 2004 to 2007 because before 2004 the number of patients who were on ART was too small for any meaningful analysis in this study. On the other hand the cut off to 2007 is to ensure that most patients have at least 12 months observation period by 2008 when data capturing took place. After 12 months of observation, all the patients who did not experience any event of interest i.e. did not die, were not lost to follow up or did not stop ART are censored.\footnote{Censoring is defined as all observations that have not been fully observed throughout the entire study period for various reasons such as loss to follow up, opting out of the programme, or end of the study before the event of interest is observed.}

c) Dropping all transfer-ins

Another important element was to drop all transfer in cases because they are duplicates. Transfer-ins are patients that were first registered in one health facility and later transferred out and registered again in another clinic. In this case, health personnel capture these patients’ personal data twice because these patients do not have unique identification details IDs. Therefore, when someone appears as a transfer-in in the dataset, it is not possible to match the patients’ data to any transfer out records.
d) Dropping all inconsistent dates

It was also necessary to ensure that all the important dates have the correct entries to ensure accuracy in the analysis. The following dates were assessed and those that were not consistent were dropped out:

(i) if stopdate is before artstart_date
(ii) if stopdate is equal to artstart_date
(iii) if stopdate is after data capture_date

These dates are very important because they determine the survival time of the patients, as such if there are problems with these dates, the analysis will produce wrong information. Therefore, it is very essential to ensure that these dates are correct. As illustrated above, the ART start date must always be before the stop date, because one cannot stop ART before they start. If the stop date is equal to start date then it means the person either died or stopped ART on the very same date when they started the treatment, therefore there is no survival time. Hence, no need to keep this information. Finally, the stop date ought not to be later than the capture date because capture date is the last date when any observation was done on the patients. As such, it is not expected that any other information will be recorded after this time.

In fact, the database contains two “end dates”: cens_date and capture_date. Cens_date is the date when the patient was censored, i.e. anything that happened after this date was not included anymore in the analysis. Capture_date was the date when the actual photo of the information was taken or when the data was taken from the electronic system. The variable stopdate takes care of all possible outcome dates (death, Loss to follow up, Transfer out and stopping treatment). Now since the analysis is restricted to 12 months, we had to update the variable stopdate to newstop to equal to artstart_date+1 year. Also the outcome had to be updated to newoutcome i.e. if an event happened after 1 year, the new outcome was changed to “alive and on ART” since the patient was still alive at 1 year).

After going through all the data cleaning process outlined in the last few paragraphs, and running the syntax in Stata10. The following is the summary of the data used for the analysis.
Table 7.1: Summary and outcomes from the data cleaning process

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial total cases in the database</td>
<td>189,931 patients</td>
</tr>
<tr>
<td>Less cases with missing Age</td>
<td>1226</td>
</tr>
<tr>
<td>Less cases with missing Sex</td>
<td>101</td>
</tr>
<tr>
<td>Less cases with missing ART starting year</td>
<td>508</td>
</tr>
<tr>
<td>Less cases with missing Outcome</td>
<td>54</td>
</tr>
<tr>
<td>Remaining</td>
<td>188,042</td>
</tr>
<tr>
<td>Less cases with missing outcome date or stop date</td>
<td>4051</td>
</tr>
<tr>
<td>Remaining</td>
<td>183,991</td>
</tr>
<tr>
<td>Less all cases that started ART before 1st January 2004</td>
<td>4174</td>
</tr>
<tr>
<td>Remaining</td>
<td>179,817</td>
</tr>
<tr>
<td>Less all cases that started ART after 31st December 2007</td>
<td>40184</td>
</tr>
<tr>
<td>Remaining</td>
<td>139,633</td>
</tr>
<tr>
<td>Less all transfer ins</td>
<td>17142</td>
</tr>
<tr>
<td>Remaining</td>
<td>122,491</td>
</tr>
<tr>
<td>Less all inconsistent dates; Stop before starting ART</td>
<td>14</td>
</tr>
<tr>
<td>Less all inconsistent dates; Start and stop ART on same day</td>
<td>287</td>
</tr>
<tr>
<td>Less all inconsistent dates; Stop after data capture date</td>
<td>269</td>
</tr>
<tr>
<td>Remaining</td>
<td>570</td>
</tr>
<tr>
<td>Remaining</td>
<td>121,921</td>
</tr>
<tr>
<td>Final number of cases eligible for analysis</td>
<td>121,921 patients</td>
</tr>
</tbody>
</table>

Source: Author's own compilation

After ascertaining that the data was now fit for use, the data preparation process took a further step to generate and compute more variables for use in the survival analysis. The following processes were undertaken:

a) Age group creation

Since the database contains specific ages for each patient, creation of age groups was necessary to make the analysis easier and in order to find out whether there are any variations in survival probabilities across certain age categories in the various service providers. We used the following age group categorization:

- 0 - 1.9
- 2 – 5.9
- 6 - 14.9
- 15 - 24.9
- 25 - 34.9
- 35 - 44.9
- 45+

b) Combining WHO clinical stage 3 and 4

The database records this variable as reason to start ART (rsnstart) and the value labels include WHO1/2, WHO3 and WHO4. However, according to the old WHO clinical staging system, children's AIDS diagnosis was up to WHO clinical stage 3 while adults were diagnosed up to WHO clinical stage 4. This therefore poses a challenge to compare the
effects of WHO clinical staging across age groups. To solve this problem, we decided to combine WHO clinical stages 3 and 4 to form one group WHO3/4.

c) Generating new variable for sector

The Malawi’s Ministry of Health HIV and AIDS Unit classifies the health sector into two, public and private. It categorises all church based/mission hospitals and NGO operated clinics together with all government health facilities as public sector. All private for-profit and some private non-profit (especially those that charge high user fees) are categorised as private sector. However, this study is designed to study three sectors, government, non-profit and for-profit, which are defined as follows:

Government: These are health facilities under the control of government in terms of financing. This includes health facilities run by armed forces, police and parastatals.

Non-profit: This sector comprises all hospitals that are independent of government control though they may access financial support from government. Included are all faith-based/mission hospitals, NGO operated clinics irrespective of the amount of user fee they charge to the patients as long as the profits are not distributed among the managers of the clinic.

For-profit: Encompasses all hospitals that are privately owned by individuals or groups of individuals with the aim of generating profits. These clinics distribute profits to the owners of the clinics.

Therefore, a new sector variable was generated using the clinics by replacing sector with an appropriate code for the specific clinics so that all non-profit clinics were given another value label.

d) Recoding variables to define reference groups

For the Cox Regression analysis, new variable labels were generated in order to define the reference groups. Each group with the highest number of cases was labelled as the reference group as recommended by some researchers (Gillespie, 2010). All the codes used in the preparation of this analysis are appended in the annexes.

At this level of data preparation, one can manage to do a survival analysis to compare the survival chances among patients in the various health sectors defined above. The next section describes survival analysis approaches.
7.3.2 Survival analysis

Survival analysis is a technique that is used to study time to event of interest. The event could be onset of a symptom admission or readmission, task completion discharge or death (Fox, 2006; Tableman and Kim, 2004). In some cases it is referred to as lifetime data analysis, reliability analysis, time to event analysis, failure-time analysis and event history analysis depending on the field of application (Leung et al., 1997; Fox, 2006). It also takes care of cases where some information concerning the terminal event is missing as a result of attrition or end of study. Survival analysis provides two important measures: 1) the proportion of subjects surviving at any given point in time and 2) the risk of an event happening to the subjects. Survival methods also assume that observed and non-observed cases have the same chances of the terminal event (Ibid).

There are specific methods that are used to measure survival of subjects. Among these include the Life tables, the Kaplan-Meier survival function and the Cox regression analysis model. Life tables were the first step in the attempt to analyse survival data in the 17th century and were purely designed for measuring mortality patterns at various stages of age in a population cohort. The latter two are more recent and improved methods of dealing with survival data and are able to accommodate other events other than death (Fox, 2006). This study uses the Kaplan Meier Survival function to estimate the survival probabilities of the patients in each sector at any given time until 1 year. The Cox proportional hazard regression method is used to capture the effects of the various variables on the survival of patients. It aims at modelling the relationship between time to event and certain predictors referred to as covariates (Ives et. al., 2007; Fox, 2006). The major covariate of interest in this study is the type of health provider (government, non-profit and for-profit sectors). In this case the model examines how time to event is affected by the type of health provider. This is a multivariate analysis because several co-variables are included in one model i.e. sector, age, sex of the patients, location of the health facility in terms of being rural, urban or semi-urban and region (north, central or southern), level of the health facility whether central hospital, district hospital, rural hospital, health centre or any other, reason for starting ART (WHO stage 1/2 or 3/4) and year of starting treatment as defined earlier in this chapter. This modelling is accomplished by using the Cox proportional hazards regression model (Cox, 1992. Fox also states that survival time is different from calendar time as it is measured relative to a specific time origin. In this case, the date which the patient started receiving ARV drugs. This is so because patients enter into the programmes at different calendar times (Fox, 2006). Therefore in this analysis, art_start date is much more relevant for the
survival of the patient than the calendar time and that is why it is chosen as the time of origin. It is also one of the key variables in the data analysis process.

As already mentioned, survival analysis models examines/analyses the time it takes for an event to take place. Usually this event is death from which the name survival originates (Fox, 2006; Tableman and Kim, 2004). However, in this study, loss to follow up (LTFU) and stopping ART are also events of interest. In the Malawi ART programme, patients are considered LTFU if they do not show up at the ART clinic to collect drugs two months after the completion of their last set of drugs. Normally these patients are censored when death is the only event of interest because the event of interest (i.e. death) would not have been observed on these patients during the study period due to LTFU. Censoring is a terminology used to define all observations that have not been fully observed throughout the entire study period for various reasons. In simple terms, censoring is defined as “incomplete observations of survival time” (Iachine, 2001). These incomplete observations are mostly caused by one of the following reasons, a) loss to follow-up, b) dropping out of the study/programme with consent from the researcher or programme manager, c) end of study before the event of interest occurs and d) late entry into the study. As such, there are also different types of censoring used in survival analysis such as right censoring, left censoring and multiple interval observation (Fox, 2006). In this study, only right censoring is applicable which is further differentiated into two i.e. fixed-right censoring and random-right censoring. Fixed-right censoring occurs when a subject is observed from the beginning till the end of the study but the event of interest has not yet happened, therefore this event is not observed during the study period. It is fixed because the observation period is attached to the fixed date when the study terminates. Random-right censoring happens when a subject who joined the programme from the beginning of the study gets lost to follow up in the middle of the study or stops to participate in the programme. This means that the event of interest for this subject is not observed assuming death is the event of interest.

Fox (2006), reports that right censoring which includes random and fixed censoring is usually observed in most survival analysis studies. In this study, both fixed-right censoring and random-right censoring apply because those that were lost to follow up are randomly censored when death is used as the event of interest in the analysis and those who had died are also randomly censored when LTFU is used as the event of interest in the analysis. Fixed-right censoring applies to those patients who were still alive and on the ART

33 This information was provided by the health providers during the field research interviews.
programme till 12 months when the study was stopped according to this analysis. These patients had not yet experienced any event of interest.

7.3.3 The Kaplan Meier Survival Function

The Kaplan-Meier survival method is used to estimate the probability of patients surviving over a certain period of time. This technique helps to overcome the challenge that some subjects are censored before or after the event of interest has already or not yet taken place for all patients (Bland and Altman, 1998). This is because time of entry into the cohort is different for different patients. Some join the programme earlier and others follow later making it difficult to compare their survival times at a specific time period because some may have died while others are still surviving. In their example, Bland and Altman illustrate that in a study where patients are supposed to be followed for over 2 years, a patient that enrolled towards the end of the study could be alive at one year follow up while another patient who was enrolled at the beginning of the study might have died after two years. In this case the patient who died after 2 years has a much longer observed survival time than the one still living but his/her ultimate survival time is not yet known (Ibid).

The Kaplan-Meier survival function provides the possibility to calculate the proportion of those surviving at any given point in time. This is also defined as “the estimated probability of survival to that time for a member of the population from which the sample is drawn” (Ibid: 2). It estimates the probability of the subjects that survived to the beginning also surviving to the end at each time interval. This method is called conditional probability as it looks at the probability of a subject being able to survive to the end on condition that the subject was a survivor at the beginning. Those surviving at the beginning are termed to be at “risk” of the event of interest occurring to them. The survival probabilities in Kaplan-Meier are presented in the form of curves. It is also assumed that survival probabilities of patients are the same whether they enrolled early or late in the study (Ibid).

Costella (2010) provides a formula for generating the Kaplan Meier survival probabilities. He explains that every time $t_i$ that there is a failure (death), a number of patients at risk $n(t_i)$ is determined. These are patients that are still under observation, not yet lost through censoring or failure. It is the probability of a subject at risk at time $t_i$ surviving that danger time $t_i$. The Kaplan Meier also assumes that the probability of surviving each danger time $t_i$ is statistically independent of every other danger time implying that all that is required is to multiply all the probabilities of surviving all the danger times less than $t_i$. It is also possible that more people experience an event at any given point of time $t$, represented by $d_i$. 96
Therefore the probability \( S(t) \) that a patient who was enrolled at the beginning would survive to the end if not censored is given by the following formula:

\[
S(t) \approx \prod_{t_{i+1}}^{n}\frac{n(t_{i}) - d_{i}}{n(t_{i})}.
\]

(Costella 2010:1; Fox 2006:45)

Further, some literature indicate that the Kaplan-Meier method deals with the censored subjects by letting them be part of those who survived to the end of that time but are removed from those who are at risk at the beginning of the next time period.

While researchers have hailed the Kaplan-Meier function for its visual presentation in the display of survival probabilities through curves showing points of events and censoring, Costella (2010) contests that it is not without shortfalls. First, Costella highlights that the presentation of each event on the curve attracts unnecessary “visual attention” on these “danger times” since the Kaplan Meier estimate of \( S(t) \) remain unaffected till the following time of event occurrence (Costella 2010:2). He criticises that this is too theoretical because patients are not only in danger of experiencing an event at specific points in time, but rather they are continuously in danger all the time except that the level of the risk may vary with time. The second accusation concerns the size of the steps at each level of failure because as the numbers of patients decrease, the failure takes longer time to occur. Therefore the presentation of the curve for one particular failure may be exaggerated. Third, in case the last person fails at the next danger time, then the Kaplan-Meier estimates will be zero, something which is not possible in reality for any “sensible” model (Costella, 2010:2-4). Due to some of these challenges and other limitations, this study also uses the Cox proportional hazard regression method to complement on the survival analysis results from the Malawi ART database. The next section therefore discusses this method.

7.3.4 The Cox Proportional Hazard Regression Analysis

Since the Kaplan-Meier function is a univariate and a non-parametric version of the survival analysis, the Cox regression overcomes these weaknesses as it is a multivariate and also a “semi-parametric” measure because the baseline hazard can take any form, the covariates enter the model through the linear predictor” (Fox, 2006:63; Bull and Spiegelhalter, 1997). Walters, (2009) defines Cox proportional hazard regression model as a “technique for

http://vassarstats.net/survival.html. 30.08.2012

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exploring the relationship between survival of a patient and several explanatory variables” (Walters, 2009:1). It provides concurrent estimations of hazard ratios in the presence of several explanatory variables (Bull and Spiegelhalter, 1997; Chan, 2004; Walters, 2009). Walters also indicate that if it is used in the analysis of survival of patients in a clinical trial, the model permits the separation of the effects of treatment from the effects of other variables. In other words, it gives an estimate of the treatment effect on survival after adjustment for other explanatory variables. It further allows for the estimation of the hazard (or risk) of death for an individual, given their predictive variables (Walters, 2009).

7.4 Ethical considerations

It is a requirement in Malawi that every research in the field of health goes through the ethical approval which is managed by the National Research Council of Malawi (NRCM). In November 2010, I presented my PhD research proposal to the NRCM for approval according to their regulations. In January 2011, the NRCM granted the permission to conduct the research in Malawi because it had complied with all the ethical requirements for health research. HIV and AIDS being a sensitive area, the issue of confidentiality is an important aspect in this study. Apart from this, some information that was asked from the organisations included their budgets which are also regarded as sensitive issues in many cases. Many organisations do not want to divulge information regarding their financial positions for various reasons. Therefore all participants in this study were assured of confidentiality on all the sensitive information they provided to me unless with their prior permission.

The issue of risk was also covered in the ethics documents whereby in case something happened during the course of the field research which could put the participants at risk or if there was any need for compensation, the NRCM would be able to intervene. The researcher clarified all these issues in the ethical approval proposal. Most clinics asked for this NRCM permission letter before we could start interviews with them. In some cases this alone was not enough, we had to go to the district health office to get another letter of permission. It was also important to obtain consent from the interviewees themselves before collecting any information from them and clearly explain the purpose of the research and how the results will be used.

In summary these were the main ethical issues that were considered for the field research to be a success in terms of securing people’s acceptance and willingness to provide the information we needed. Despite this success in the ethical requirements, there were some
challenges that made the field research somehow difficult. These are outlined in the next section.

7.5 Field research challenges

It is almost normal to encounter some problems when collecting data in the field due to lack of control over certain things. Although the field research was generally successful in that it accomplished most of what was planned, there were a few challenges. The first challenge was that there was no comprehensive list of all NGOs and donors operating in the HIV and AIDS sector in Malawi or in Lilongwe in one place from where the sample could be drawn. First, I had to search for this information from various sources in order to ensure that as many NGOs and donors as possible were included in the sampling frame for a fair representation. Related to this challenge was that some of the sampled NGOs and donors were no longer working in the HIV and AIDS sector when they were contacted and this meant that I had to do another sampling to meet the required number of interviews planned.

The second challenge was the unavailability of some NGO and donor staff for interviews. Most of them were busy with work and could not easily make time for the interviews. In other cases, some of the sampled NGOs were unreachable by phone because they had changed offices as well as their phone numbers. Others could not simply pick their phones or some of them were out of use. I therefore had to ask people about the physical locations of those NGOs and then look for the offices in order to contact them to fix appointments. This was the major challenge that affected the number of interviews that could be done within the limited amount of time of the field research. I spent a lot of time trying to phone or search for offices. This meant that the time that could have been used for interviewing people was simply wasted on calling and moving around.

Third was the unwillingness of one group of interviewees, i.e. the for-profit to participate in the research despite using all the connections I had with the people I knew in some of those organisations. They all seemed too busy for this type of interview. As a result only one interview was possible out of the 15 planned interviews. Lastly, during the second phase of field research which involved interviews with health facilities to collect data on costs of ART provision, we had serious transportation problems due to fuel shortages that had paralysed the entire country. Sometimes we could be queuing at a gas station for the whole day instead of conducting interviews. However the situation was manageable because there were two of us and one could still carry on with the interviews whenever it was possible while the other queued at the gas station.
Despite all these challenges, it was still possible to collect a reasonable amount of data to work with which is able to provide an idea about the HIV and AIDS market in Malawi and the costs that are involved in the provision of ART by the various health providers. The field research also managed to unveil some of the challenges faced by the HIV and AIDS providers in Malawi which assists the researcher to holistically analyse the data and make informed conclusions.
Part IV  Research Findings

After having presented in the theoretical and methodological part about the study approach on how the data is processed and analysed, the research findings part translates this information into practice through the presentation of empirical results. This part is organised into three chapters i.e. chapter eight, nine, and ten. Chapter eight focuses on the HIV and AIDS market which presents information on the types of HIV and AIDS interventions in Malawi, the actors involved in the HIV and AIDS market and the working relationships amongst these actors. Further, it looks at NGO’s comparative advantages and principal agent problems. Finally, this section discusses organisational issues which include staff working conditions and organisational growth. All these factors are assumed to have an effect on the work outcomes of the HIV and AIDS providers. Hence, they are regarded as intermediary variables.

Chapter nine focuses on the analysis of health outcomes of patients in the Malawi ART programme using information from the Malawi ART database. Firstly, it presents descriptive analysis of the data in terms of demographic information of the patients served by the three different providers i.e. the government, the non-profit and the for-profit sectors. Thereafter, it dwells on survival analysis using the Kaplan Meier and the Cox regression model to measure survival probabilities and risk ratios for patients in the ART programme in the three health sectors. The variables used in the Cox regression models include the type of service provider as the main predictor of interest. The other covariates include; age, sex, WHO clinical stage for starting ART, level of health facility where the patients receive their treatment, location in terms of regions, level of urbanisation and the year the patients started receiving the treatment.

Finally, chapter ten is dedicated to cost-effectiveness analysis. It presents data on costs that were obtained from the 50 clinics for calculating cost-effectiveness ratios. It also presents effectiveness data generated from the ART database presented in chapter two. These two sets of information are then used to calculate cost-effectiveness ratios for each health sector.

Throughout all these analyses the results are discussed and compared across the three sectors to take note of any variations and try to understand why there are such differences. This is done by linking the information from all the three chapters of the study findings. For example, the discussions in chapter nine and ten are interpreted with reference to the results.
reflected in chapter eight on market structures and behaviours in order to see whether these intermediate variables have any effect on the outcomes. As was discussed in the theoretical framework, it is envisaged that the results of any programme intervention may be positively or negatively affected by the market environment. For instance, principal-agent problems such as misallocation of resources meant for ART services. If there are high principal-agent problems among NGOs compared to the government, then the cost-effectiveness results for NGOs might be negatively affected. This is because they may be spending a lot of resources on other things than on the programme, thereby lowering their programmes effectiveness indicators compared to those of the government. In this particular case, these programme outcomes are drawn from the ART programme database where life years for the patients receiving treatment from each provider are generated as an outcome indicator of effectiveness. If the ART outcomes are good, they are likely to improve the cost-effectiveness of a service provider apart from low expenditures they may have incurred because both factors matter in cost-effectiveness analysis as presented in the cost-effectiveness literature chapter\textsuperscript{35}.

This analysis provides a rich combination of information especially the market analysis which is a unique feature in this particular study because most studies have conducted research on comparing quality of services by various providers but none has attempted to link their differences or similarities to the prevailing marketing arrangement in any systematic way (Forbes et al., 2010; Hsu, 2010).

\textsuperscript{35} Chapter five of Part II
Chapter Eight: The HIV and AIDS Market in Malawi

This section endeavours to answer the first research question which focuses on understanding the type of relationships exist between and amongst donors, the NGOs, the government and the for-profit sectors in the HIV and AIDS sector in Malawi. Further it partly addresses part of question two which seeks to investigate whether the prevailing relationships amongst these players have any affect on the behaviour of the implementers and partly question five whose objective is to find out whether NGOs have any comparative advantages over the government and the for-profit sector in their service delivery.

The chapter presents information gathered from the NGOs and government institutions concerning the HIV and AIDS market in Malawi. Initially the for-profit providers were also supposed to be interviewed, however they were not willing to take part in the research. All those that were approached (such as tobacco companies, banks, etc) gave the impression that they felt not concerned with the issue of HIV and AIDS as they pushed it to the non-profit sector stating that the non-profit sector was better placed to participate in the study. One of the for-profit providers said to the researcher: “if you contact the non-profit organisations they can give you this information”. This implies that the for-profits think that they have much to do with HIV and AIDS issues. Consequently, there are no results from the for-profit sector presented in this chapter. However, this in itself is a noteworthy result from the study indicating that although the for-profit sector provides HIV and AIDS services to their employees and other people within their catchments, their commitment to HIV and AIDS services is merely to comply with the Malawi HIV and AIDS policy framework. The policy calls upon all actors including the for-profit sector to be involved in the fight against the pandemic and fulfil their corporate social responsibility. In reality, it is evidently clear that HIV and AIDS is not an issue of serious concern to them.

Overall, the Malawi government and the non-profit sector are the major players in the provision of HIV and AIDS services in Malawi. The for-profit sector has very limited involvement in the provision of such services although the government is making every effort to get them more involved and committed.

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36 These are for-profit organisations that are supposed to provide HIV and AIDS services to their employees and people within their work surroundings as a form of corporate social responsibility to the nation. Some have clinics but others don’t.
8.1 Summary of HIV and AIDS activities provided by NGOs and government

The HIV and AIDS programme in Malawi takes a holistic approach in addressing issues to effectively fight the epidemic. As a result both the government and the NGOs that were interviewed in this study are involved in various activities ranging from prevention, counselling and testing to treatment, care and support. From the interviews conducted with government institutions and NGOs operating from Lilongwe, the following list of activities emerged as the major areas of HIV and AIDS engagement as shown in table 8.1.

Table 8.1: Number of NGOs and government institutions involved in different HIV and AIDS activities

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Number of government institutions involved (N= 10)</th>
<th>Number of NGOs involved (N=33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV Prevention</td>
<td>10</td>
<td>31</td>
</tr>
<tr>
<td>HIV Testing and Counselling</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>HIV and AIDS Treatment</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Home Based Care</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Nutrition Support</td>
<td>9</td>
<td>21</td>
</tr>
<tr>
<td>Other (e.g. impact mitigation, coordination etc)</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

As can be noted from table 8.1, HIV prevention comes out as a major priority in combating the epidemic. The general understanding is that if HIV infection rates are controlled it will positively impact on the fight against the disease because lesser people will require the services. Hence all 10 government institutions interviewed work in the area of prevention while about 31 out the 33 the NGOs interviewed do likewise. Another high priority area according to these results is nutrition support. Some literature has shown that improved nutrition increases the immune system of HIV infected individuals thereby delaying the progression of the virus to AIDS, especially in the face of limited resources to access treatment (Christian Aid, 2007). In this regard, the government of Malawi has created a special fund for nutrition support for all its employees that have declared their HIV status. The government provides an extra MK5000.00 (approx. US$ 30) per month for nutrition support to these employees in addition to their monthly salaries.
HIV counselling and testing is another area deemed equally important in curbing the virus from further transmission and also to ensure that the infected individuals stay healthier. As such a lot of emphasis is put on enlightening the public about the importance of going for HIV test. If people know that they are HIV negative, then it acts as an incentive for them to take all precautionary measures to prevent themselves from acquiring the virus. For those who are diagnosed to be HIV positive, it also helps them to ensure that they do not get re-infected because this can further deteriorate their health. In addition they can adopt good nutrition habits and refrain from risky habits that may further compromise their health. However since this is a highly specialised field requiring trained health practitioners, not many institutions are involved in this area. Hence the relatively fewer numbers of providers: 6 out of 10 government institutions and 15 out of 33 NGOs that were interviewed.

Similarly and related to this, is the HIV and AIDS treatment aspect. Usually after counselling and testing, if the person is found to be HIV positive and in an advanced stage, they may be referred for treatment. HIV treatment is a highly technical field as such not many organisations are involved in this activity also. This is reflected in the low numbers of providers from both the government and the NGO sectors with only 3 of 10 government institutions and 9 out of 33 NGOs reporting of being involved in this activity.

Home-based care services were reported to be slowing down because it is assumed that with the advent of the antiretroviral treatment, there should not be a lot of people who are bed ridden. Therefore the donors are no longer keen to fund home-based care programmes due to this reason. Hence only 5 of the 10 of the government institutions and 16 of the 33 the NGOs are involved in home-based care services. Finally, the category named “other” in table 8.1 is a combination of various interventions including impact mitigation (programmes meant to cushion people against the impacts of the AIDS pandemic). These include activities such as orphan care programmes, enhancement of agricultural production and enterprise development, among others. Other activities focus on advocacy, capacity building, research and coordination HIV and AIDS activities. As it has been noted in this discussion, both the government and NGOs are engaged in a number of activities and these require some level of financing. Therefore the next section discusses how NGOs and the government institutions finance their HIV and AIDS activities and what their budgets are.

8.2 HIV and AIDS budgets and financing in the NGO and the government sector
As revealed in literature that most donors prefer to channel their funds through the NGOs, this statement is confirmed in the results of this study by looking at the HIV and AIDS
budgets reported by the government institutions in comparison to the NGOs. The interviewees were asked to provide the budgets of their HIV and AIDS projects/programmes for the last five years from the date of interview i.e. 2006-2011. The only challenge was that some of the projects had longer duration than others e.g. some were for 2 year, 3 year or 5 year period. However the aim is to provide a general picture of what budgets these providers were able to secure over this period for each project they had implemented. In general, the results show a very wide gap in the amounts of HIV and AIDS budgets for the different NGOs and government institutions. The range among the NGOs is from US$27,000 to US$6,000,000 while that of government is from US$4,071 to US$657,143. One observation is that there are huge differences in the budgets among these implementers both in the NGO and government sector. The reason for this is that there are some providers that are purely focusing on the HIV and AIDS services, while others are also engaged in other sectors as well. For instance, 82% of the NGOs reported that they were involved in other sectors as well. As such HIV and AIDS is just one of the components of their work and not necessarily the core business of some of these providers. Therefore, the idea here is mostly to get a general impression of how much funding these providers are able to get for any specific project/programme.

An Independent Samples Test was done to compare means to check whether there is a statistical difference in the mean budgets of the NGOs and those of government institutions. The Levene’s test for equality of variance showed a significant difference in the budgets of the two service providers at 95%CI p-value 0.007. One of the explanations for the relatively smaller amount of budgets for government institutions could be that government’s HIV and AIDS projects are mostly mainstreaming in nature unlike NGOs who usually have stand alone HIV and AIDS projects. Another of the reasons for the smaller budgets in government could also be due to lack of capacity to raise funds. This is because government employees do not give enough time for fund raising activities as it was noted during the interviews. Government interviewees reported that there is usually one officer responsible for the coordination of all HIV and AIDS related activities in each government institutions. These officers are also loaded with several other responsibilities and therefore do not have enough time to prepare proposals for funding consideration.

In general the government receives a lot of money for HIV and AIDS activities especially from Global Fund for HIV and AIDS as noted from the information obtained from the Ministry of Finance on donor funds to Malawi. The government of Malawi is currently campaigning for donors to stop providing funds directly to NGOs but rather through government systems so
as to make NGOs accountable to the Malawi government and this would enable the government to monitor the volume of external funds invested in various sectors in the country (Tew, 2008). NGOs are however sceptical and fighting against this idea for fear that government would not be willing to release these funds once they get into government system. This they claim would have negative implications on the implementation of HIV and AIDS activities in the country.

Efforts to get information on national HIV and AIDS budgets from some key HIV and AIDS lead institutions such as Ministry of Health headquarters, Department of HIV and AIDS Unit in the Ministry of Health and the department of HIV and AIDS in the Office of the President and Cabinet did not yield any tangible results as each one pushed the matter to another. The 2002-2004 Malawi National Health Accounts (MHNA) report however indicates that NAC used MK606 million on HIV and AIDS administration which translates to 14% of the total expenditure in 2004/2005 financial year. This according to the report is too high an expenditure on administrative costs and recommends a reduction on such expenditures (Ministry of Health, 2007).

Financial matters are of high concern especially in resource constrained countries such as Malawi where cost-effectiveness of HIV and AIDS service delivery is necessary to ensure that the little available resources are effectively used. Usually the information on costs is very hard to find especially the expenses incurred at a higher level. In Malawi there are no cost-effectiveness analyses that have been carried out to determine the costs of HIV and AIDS activities. None of the donors interviewed were able to tell the cost per unit for the delivery of the various interventions they are supporting. In this way, planning for future interventions is very imprecise because no one knows how much resources are required to achieve certain outcomes. Without cost-effectiveness analysis, it is difficult to know which project/programme is good value for money or not. There is need to track the resources and know what exactly they are used for. Otherwise in some cases, most of the resources may be spent on administrative and overhead costs and only a small amount goes to the actual implementation of the project. In line with this discussion, the NGOs and the government agencies were asked about how much they spend on administrative costs from their total budgets.

37 Interviews with an NGO expert from the Human Rights Consultative Committee (HRCC)
The results from figure 8.1 indicate that NGOs use a lot more resources from their HIV and AIDS budgets on operational costs compared to government institutions. All government institutions stated that they use less than 10% of their total budget for operational costs. On the other hand, about 52% of NGOs indicated that they spend between 10-20% and 35% spend more than 20% of their budgets on operational costs. The most probable explanation for this difference would be that the government already has a budget for salary and usually office space is also available. The NGOs on the other hand rely on project funds to pay salaries and office space given that in most cases they do not have other sources of income to care of these expenses. This has serious implications when it comes to cost-effectiveness of project implementation because these costs reduce the amount of funds that go into actual project implementation hence this may translate into an overall less unit output for the given amount of resources in the NGO sector. However all NGOs that were interviewed indicated that the donors include all operational costs in the budgets such that they do not take project implementation funds to cover operational costs.

The results have also shown that HIV and AIDS financing in Malawi is heavily dependent on external donor support. This is also illustrated by Piot, who indicates that most countries in Africa rely on donor funds to finance their HIV activities. For example the Malawi government
gets 98% of its HIV treatment funds from external support (Piot, 2012). However, the government is now showing some effort to finance its HIV and AIDS activities. For example, there is a directive that each ministry/department should use 2% of their ORT budget for HIV and AIDS activities. However, according to the study findings this amount is not able to meet the HIV and AIDS programme needs that the ministries/departments have.

There are a number of donors that provide funding to NGOs and government agencies for HIV and AIDS activities in Malawi. In general, the bilateral donors and international NGOs are the major sources of funding for most of the HIV and AIDS work in Malawi. Responses from the NGOs and government institutions that were interviewed show that the bilateral donors that support these implementing partners include the US government, United Kingdom, Germany, Australia, the Netherlands, Norway, Ireland, Canada and Scotland. In addition, there are some big international NGOs such as COMIC Relief, PSI, MSH, CARE International and others who are financing HIV and AIDS activities in Malawi. Further, there are also multilateral donors such as the World Bank, the EU and the UN agencies i.e. UNICEF, UNAID, WHO, UNFPA, FAO and WFP. Finally there is a group of private donors such as the Bill and Melinda Gates foundation, the Clinton foundation, as well as private companies like Toyota which are also actively involved in providing financial assistance to this sector.

The study established some notable differences in the way these donors operate and disburse their funds as noted in literature review. Out of all the bilateral donors, the US government has a deliberate policy to work more with NGOs. The US government which operates through various agencies such as USAID, CDC, PACT, PSI and many other agencies, is the major donor to NGOs in Malawi. Although it was not possible to secure an interview with USAID which is the major disburser of the US government funds among all the US agencies, I still managed to capture enough information about the US government funding through other agencies that were interviewed including CDC and PACT. According to these two, they usually do not pool money with other donors in the form of SWAps or budget support. Instead, they identify specific government agencies which they support directly or they work with the NGOs. The organisations that CDC supports in Malawi include five NGOs (MACRO, CHAM, Howard University, Lighthouse and Baobab) and four

38 Presentation made at the University College London Summer School lecture on Social Determinants of Health 12th July, 2012
39 ORT stands for Other Recurrent Transactions, a portion of the budget provided to each government ministry/department every month.
government affiliated institutions (Malawi Blood Transfusion, Malawi College of Medicine, NAC and MoH). PACT clearly indicated that they work with the non-profit organisations only.

On the contrary the UK government through DFID works mostly with government agencies and also prefer to pool its resources with other donors. This is also true with the German government which works through GIZ. During interviews, GIZ could not really tell the specific projects where their money is spent because they put their money in a general pool where the government of Malawi decides how it wants to allocate those resources. All they know is that the money was meant for health systems strengthening and they rely on government progress indicators to measure the success of their aid.

There are other relatively smaller donors such as the DanishChurchAid, NorwegianChurchAid and ICCO\textsuperscript{40} who also indicated that they work with NGOs only. Table 8.2 presents a list of donors that were interviewed and the type of provider(s) they support.

**Table 8.2: List of donors and the type of implementing partners they support**

<table>
<thead>
<tr>
<th>Type of partner</th>
<th>NGOs only</th>
<th>NGOs and government</th>
<th>NGOs, government and for-profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of door</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDC</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>DanChurchaid</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DFID</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GIZ</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ICCO</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAC</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>PACT</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNFPA</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>UNICEF</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>WFP</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*Source: Author’s own compilation*

The results from table 8.2 indicate that most of the donors support both the NGOs and the government. The only difference is the proportion of funding going to each one of these

\textsuperscript{40} ICCO stands for Interchurch Organisation for Development Co-operation (from the Netherlands)
Most bilateral donors support government through pooled funding such as the AIDS Sector Wide Approach (ASWAp), budgetary support and also the Global fund. Global Fund resources are the major source of funding for HIV and AIDS activities in Malawi. It is a fund where several countries\textsuperscript{41} contribute resources to fight the HIV and AIDS pandemic, Malaria and Tuberculosis. In Malawi, these funds are administered by the National AIDS Commission (NAC). NAC disburses these funds to all partners involved in HIV and AIDS implementation in the country including those in the for-profit sector. For example, 42\% of the NGOs interviewed indicated that they got funding from NAC for their HIV and AIDS activities while 90\% of the government institutions got their funds from NAC. Further, about 40\% of all NGOs interviewed received their funding from the US government. Figure 8.2 is an example of one of US agencies that provide funds to various HIV and AIDS implementing partners in Malawi. The figure illustrates the differences in the total amount of funds that are given to government and non-profits in the three financial years.

\textbf{Figure 8.2: Distribution of funds to the government agencies and the non-profit organisations by CDC from 2009 to 2011}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure8_2.png}
\caption{Distribution of funds to the government agencies and the non-profit organisations by CDC from 2009 to 2011}
\end{figure}

\textit{Source: Author’s own computation}

As the figure depicts, overall in each of the three years, CDC provided more resources to NGOs than to the government institutions. For instance, in 2009 the total amount of funds given to NGOs was almost double that given to government institutions. In 2010 the amount for NGOs was 4 times higher than that of the government institutions and in 2011, it dropped slightly to 3 times as much. These high amounts however may also be partly due to the

\textsuperscript{41} \url{http://www.theglobalfund.org/en/donors/list/} 24.01.13
proposals that the NGOs made to CDC. This is mainly because government staff do not prepare very comprehensive project proposals compared to those tendered by NGOs due to capacity problems as mentioned earlier unlike NGOs who have a whole team of experts simply working on HIV and AIDS programmes. This was also confirmed by the responses from the donors who indicated that proposals from NGOs are clear and innovative and grass root focused. While on the other hand, government is nationally focused and uses mainstreaming approaches and therefore their proposals lack clarity. In addition, the donors reported that more than 70% of the proposals come from NGOs. Despite this weakness, there are certain donors that still work with government as a matter of policy. For example, as presented in table 8.3, DFID indicated that 80% of its funds are granted to the government while the non-profit organisations get 20% only, and the for-profits are not considered at all. NAC indicated that 41% of its funding goes to NGOs, government gets 53% and the for-profits get 16%. Although some donors such as GIZ, and the UN organisations were not able to give any specific figures on the distribution of their funding, they however indicated that most of their funds go to government and only a small percentage goes to the NGO sector.

Table 8.3: Percentage of funds provided by donors to various implementing sectors

<table>
<thead>
<tr>
<th>Name of donor</th>
<th>NGOs</th>
<th>Government</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDC</td>
<td>75</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>DanChurchAid</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DFID</td>
<td>20</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>GIZ</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ICCO</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NAC</td>
<td>41</td>
<td>53</td>
<td>16</td>
</tr>
<tr>
<td>PACT</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UNFPA</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>UNICEF</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>WFP</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

It is apparent from tables 8.2 and 8.3 that the for-profit sector is not a target of funding for the donors. This was expected because the for-profits are profit oriented and do not provide free services, therefore funding their HIV activities may prove complicated unless there is a special mechanism put in place. Only the National AIDS Commission (NAC) and UNFPA
indicated of providing funds to this sector. According to NAC the funds are given to the for-profits through an umbrella body called the Malawi Business Coalition against HIV and AIDS (MBCA). These funds are mainly for capacity building. MBCA staff also indicated that they use these funds for coordination issues within the for-profit sector. Further the MBCA is also responsible for distributing ART drugs in all for-profit clinics and ensuring that each clinic has enough drugs at any moment. The for-profit clinics also contribute to the functioning of the MBCA by remitting MK300 (approx.2US$)\textsuperscript{42} to MBCA for every patient who visit their clinics to get ART services. The patient pays MK500 (approx 3 US$) which is shared between the clinic and the MBCA, which means the clinic retains MK200 (approx 1.3US$).

From the information provided by the NGOs about their sources of funding, it is of interest to note that quite a number of NGOs receive funds from fellow NGOs. However, there are more local NGOs that receive funding from fellow NGOs compared to international NGOs. This is shown by the high proportion of 82% of the local/national NGOs who reported of getting some funds from International NGOs compared to only 60% of the international NGOs who reported of getting financial support from some International NGOs. This confirms with the study by Wallace et al. (2007) which found that some big donors prefer to work with a few big NGOs who then subcontract other NGOs. This indicates that some NGOs act as demanders as well as suppliers of financial resources. They subcontract services of fellow NGOs to meet their required outputs.

\textbf{8.3 Collaboration mechanisms and competition among service providers and donors}

In general, there is high collaboration among NGOs and government HIV and AIDS implementers in Malawi. All the NGOs and the government institutions interviewed indicated that they collaborate with other implementers within the sector. However there are different forms of collaborations, which reflect the level of cooperation amongst these players. These include, regular meetings, sharing of reports, and cost-sharing in project implementation (basket funding) or just task-sharing (sometimes referred to as ‘working in a consortium’). Finally they also cooperate through project sub-contraction where one partner asks the other partner to do some work on their behalf. Below is figure 8.4 showing the different ways through which NGOs and government institutions collaborate with each other and also with other implementers such as the for-profit organizations.

\textsuperscript{42} The exchange rate used here is for July 2011 when this data was collected .The US$ to Malawi Kwacha (MK) exchange rate was 1US$ to MK154 according to Oanda currency converter. However the exchange rate has changed to 1US$ to MK308 \url{http://www.oanda.com/currency/convert/} 05.11.12
As figure 8.3 depicts, regular meetings and report sharing as the major channels for collaboration. Basket funding and task sharing are at a slightly higher level of cooperation which requires very good working relationship among the implementing agents for them to collaborate at this level. Hence relatively fewer organisations are involved in these arrangements. Basket funding would involve pooling resources together to do a joint project while task sharing would mostly involve each partner taking a specific role in project implementation using their own resources. These two types of collaboration arrangements usually have challenges in terms of harmonising the different roles for successful project implementation. For instance, in basket funding, each partner has their own procedures of resource use and therefore may have different expectations. As such it requires a lot of trust between the partners for this to work out. This trust may be in the form of certain required capacities and work experience for each partner which might be a hindrance for collaboration.

Figure 8.3: Percentage of government ministries/departments and NGOs reporting on various forms of collaboration with other implementers

![Graph showing collaboration mechanisms](image)

Source: Author's own computation

The researcher further asked the interviewees about which organisations they collaborated with so as to see whether there are certain patterns of relationships amongst these service providers. Figure 8.4 shows the results from this question that 72% of the NGOs interviewed indicated that they collaborate with fellow NGOs as well as government. While about 12% said they only collaborate with government and another 13% said they collaborate with all providers i.e. fellow NGOs, government agencies and for-profit organisations. Only one NGO indicated that it collaborates with fellow NGOs only represented by 3%.
Figure 8.4: Proportion of NGOs collaborating with other HIV and AIDS service providers

<table>
<thead>
<tr>
<th>Type of service provider</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fellow NGOs only</td>
<td>10</td>
</tr>
<tr>
<td>Government only</td>
<td>20</td>
</tr>
<tr>
<td>Government and NGOs</td>
<td>80</td>
</tr>
<tr>
<td>All service providers</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: Author's own computation

Responses from the government institutions show that 9 out of 10 of these institutions collaborate with fellow government partners as well as NGOs while only one, the Ministry of Health, indicated that apart from fellow government institutions and NGOs, they also collaborate with for-profit organisations. This is not surprising because the Ministry of Health is the coordinator of all HIV and AIDS activities especially the HIV and AIDS treatment. These results in general show that there is a very strong working relationship between government and NGOs as well as NGOs among themselves. This type of working relationship may have implications on the impacts these providers are likely to bring to the people they serve. This very high collaboration may actually mean less competition among these players which might lead to a monopolistic market structure and may not be a healthy scenario in terms of productivity due to lack of competition. However this is not exactly true because despite this high collaboration, there still exists some level of competition amongst these players.

Contrary to literature findings which suggest that NGOs work under very high competition against fellow NGOs and government, this situation is not of particular concern in Malawi in the HIV and AIDS sector currently. This is depicted in the results from the interviews as shown in figure 8.5 by the relatively low numbers of NGOs that indicated of experiencing competition from fellow NGOs or from the government and the for-profit sector.
The NGOs in Malawi indicated that they experience some competition from other implementers such as fellow NGOs and government institutions and the for-profit sector but they described the situation as bearable. This is shown by the low percentages of 24% of NGOs who responded to experience some competition from government agencies, 15% indicated that they did experience some competition from the for-profit providers. However there seems to be a bit more competition among NGOs themselves as 51.5% of NGOs indicated that they experienced competition from fellow NGOs. In addition, the information reveals that it is mostly the local/national NGOs that face more of this competition compared to international NGOs as shown in figure 8.5 below.

**Figure 8.5: Proportion of NGOs reporting of experiencing competition from other HIV and AIDS service providers**

Source: Author's own computation

**Figure 8.6: Proportion of NGOs reporting competition from other HIV/AIDS service providers by type of NGO**

Source: Author's own computation
Figure 8.6 shows that about 40% of the local NGOs reported of experiencing competition from government agencies while less than 10% of the international NGOs felt this competition. Also about 65% of the local NGOs experienced competition from fellows NGOs while slightly less than 40% of the international NGOs experienced this competition. This difference may affect the local NGOs in their project performance as they may be more preoccupied with fund raising activities and jeopardise their work.

Out of those NGOs that reported of experiencing competition, the major fight is over financial resources from donors. A few NGOs indicated to have experienced competition over innovative strategies, clients and results. A closer look at the trend also reveals that the local NGOs and the international NGOs experience this competition differently as shown in figure 8.7b below. For instance, the local NGOs experience more competition over clients and innovative strategies. On the other hand, the international NGOs seem to experience more competition over resources, employees and results compared to the local NGOs. When asked about who their main competitor is, most NGOs (53%) indicated fellow NGOs as their greatest competitor and also in particular international NGOs.

**Figure 8.7 a and b: Proportion of NGOs who experienced each type of competition**

a) All NGOs

![Bar chart showing the proportion of NGOs who experienced each type of competition](image)

*Source: Author’s own computation*
b) By type of NGO

![Graph showing percentage of NGOs reporting on each type of competition by type of NGO]

Source: Author's own computation

On the part of government, out of the 10 institutions interviewed, only 3 indicated that they experienced competition from NGOs and one government ministry also indicated of experiencing competition from fellow government ministries/departments. Two of them indicated that the competition was on financial resources while one ministry i.e. Ministry of Health (MoH) indicated that they felt much competition in terms of employees being poached by NGOs who offer better salaries. This ministry also indicated that it competes with other providers for clients because MoH is mostly involved in serving the general public unlike the other ministries who target specific audiences such as their own employees and other groups of people who they work closely with. But overall this competition is not something considered a problem yet. It is a manageable competition.

These outcomes are not shocking because these players have already shown to have a very good working relationship with each other as already observed earlier on in terms of their levels of collaboration. This follows that the possibility of competing with one another is reduced. In economics terms, it can as well be described that the market for HIV and AIDS in Malawi is neither purely competitive nor monopolistic. For example slightly more than 50% of the NGOs mentioned competition with fellow NGOs out of which 65% were local/national NGOs. This clearly shows that quite a good number of local NGOs experience competition.

The relatively small number of implementers experiencing competition for results may be an indication of the none purely competitive market structure which regulates the behaviour of the implementers not to compete so much for results because they are not really pressured in terms of resource access. This as discussed in the theoretical chapter, can have either positive or negative implications on project outcomes. The negative outcomes may include
complacency on the part of implementers due to lack of competition since they are no negative consequences even if they do not produce impressive results. On the other hand, some argue that in such a relatively non-pure competitive environment, the implementers have better concentration on implementation of their programmes and not preoccupied with fundraising activities.

In the Malawi scenario, it may seem that there is some incentive not to be complacent because there is some level of competition which could make them concentrate on programme implementation for fear of losing their funds to other better performing actors. In addition, this absence of pure competition also gives them enough room to dedicate enough time to programme implementation rather than spend most of their time on fund raising. However this may depends on the nature of relationship between the implementers and the donors. If there is a cordial relationship between these two, then the implementers might still be complacent knowing that irrespective of their work outcomes, their funding is secure. This relationship between implementers and donors is discussed in the next section.

8.4 Relationship between donors and their implementing partners

As discussed in the preceding sections, there are several donors that support the work of NGOs and government institutions in the HIV and AIDS sector in Malawi. The study was interested to understand the type of relationships that exist between NGOs and government institutions and their respective donors in terms of financial reliance on specific donors. About 67% of the NGOs indicated that they have special cooperation with their donors. This means that their funding from these donors is guaranteed. While only 40% of government departments indicated of having special cooperation with some donors besides the regular government funding. Further, 66% of the NGOs indicated that they usually maintain the same donors for their funding support. Also 77% of government respondents indicated that they maintain the same donors. The major reason highlighted for such special cooperation is similarity in ideology such as religious convictions and common developmental goals. A few NGOs mentioned country of origin as the major reason for the special cooperation, for example those NGOs that originated from the US get their funding from USAID and have special priority over other NGOs.

This special funding cooperation between donors and specific partners can have both a positive as well as negative impact on the performance of the NGOs. First it minimizes competition among the implementers because most of them will have a guaranteed flow of funds. This is probably the reason for the relatively low competition reported by the NGOs.
The positive aspect comes in because this situation would give the implementing partners more time to concentrate on implementation of their projects rather than spending most of their time on fund raising. On the negative side, this can cause relaxation among the NGOs and not produce results because they are not competing with anyone for the funds because they have secure sources of funding for their next projects. However, this fear could be taken care of by the fact that the contact between donors and their implementing partners is very good as observed in the next sub-section such that the donors can easily detect any smallest problem and discontinue their funding.

Despite the exceptional cooperation between NGOs and some donors, most of the NGOs still emphasised that they do not entirely rely on one donor, they usually have a diverse group of donors from where they source their funding. As also revealed in this study, there is some level of competition for resources and therefore donors can channel their funds to another partner if the current partner does not do a good job. This is why some NGOs have even several donors supporting them. On average, the number of donors per NGO is about three. NGOs do this to ensure that they do not completely shut down if the donor decides to stop supporting them in the case that they have only one donor.

When respondents from the NGOs and the government were asked about their feelings regarding the behaviour of donors in terms of corruption and favouritism, most NGOs and government respondents said that these incidences are very rare although 45% and 40% of NGOs and government respondents respectively felt that some donors favoured certain organisations than others. Similarly on corruption cases, both NGOs and government respondents felt that these incidences are quite rare as shown by the low percentages of 25% and 22% of NGOs and government respondents respectively who indicated they have ever experienced some form of corruption from the donors. The few that mentioned this problem indicated that this was specifically experienced from the National AIDS Commission which is the major source of funds for HIV and AIDS projects in Malawi whose funds come from the Global Fund. From these findings it can be concluded that donors in Malawi work in a relatively professional manner which therefore also minimises biases in terms of objective assessment of the work outputs of their implementing partners. The next sub-section discusses about communication between donors and their implementing agents.

8.5 Communication between donors and their implementing partners

Communication is a very essential element in any kind of relationship for it to remain healthy. Literature has demonstrated that lack of proper/regular communication between donors and their implementing partners can create some negative consequences in terms of resource
management (Cooley and Ron, 2006). As such this study attempted to get information on how often and through which channels do NGOs and government institutions as resource demanders on the one hand, and donors as suppliers of the resources use for communication. This information was partly meant to assess the principal-agent problems which may be caused by the level of communication between the two parties. The assumption being that, the little the contact, the higher the probability for the agents to renage on their commitments. These principle agent problems could be in the form of poor work quality, misuse of funds, cheating of various sort and other undesirable acts on the part of the agent.

This study established that in general there is good communication between the donors and their implementing partners. For example there is regular exchange of information between the two parties through meetings, reports, field visits and other forms of communication as shown in figure 8.8. The figure summarises the various modes of communications between donors and NGOs and the frequency of such contacts.

**Figure 8.8: Percentage of NGOs reporting on the frequency and different types of communication with their donors**

![Graph showing percentage of NGOs reporting on the frequency and different types of communication with their donors.](image-url)

*Source: Author's own computation*

As figure 8.8 shows, reports are the main channel of communication between the NGOs and the donors according to the responses from the NGOs. Most NGOs reported that they write various reports to their donors such as activity reports, financial reports and monitoring and evaluation reports mostly on a quarterly basis. Meetings are another form of communication...
through which these parties share information and as can be noted from figure 8.8, the meetings are also mostly conducted on a quarterly basis. Phone calls and emails were also highlighted as another means of communication as and when need arises for any communication. Finally, the NGOs also reported that the donors once in a while conduct field visits. As can also be noted from figure 8.8, slightly over 10% of the NGOs reported that some of their donors make field visits on a monthly basis while about 30% indicated that their donors make field visits every three months. Slightly over 20% of the NGOs reported that their donors conduct annual field visits. Others reported of being visited by their donors on a bi-annual basis, end of project or as need arises. But in order to triangulate the information on communication between donors and their implementing partners, the donors were also asked a similar question.

**Figure 8.9: Percentage of donors reporting on frequency and different types of communication with their partners**

![Graph showing percentage of donors reporting on frequency and different types of communication]

*Source: Author’s own computation*

When the NGOs’ responses are compared to those of donors as seen in figure 8.9, there are general similarities in their responses. The pattern shows that most of the communication takes place on a quarterly basis except for the phone calls/emails which are usually done more frequently as need arises or on a monthly basis. One slight difference however is that NGOs indicated reports as the most used channel for communication while most donors indicate field visit and meetings as the most common way of communication with their partners on a quarterly basis. Figures 8.8 and 8.9 show these differences. This difference might be as a result of differences in the donors that are represented in this sample.
compared to those reported by the NGOs. The NGOs reported on a much bigger sample of donors that support them some of which are not even based in Malawi. The donors that were interviewed in this sample are all based in Malawi.

In general the contacts between the donors and their implementing partners in Malawi seem to be quite high as can be observed by the various channels of communication and the frequency there of. About 88% of the NGOs indicated that all their donors had ever visited them at their offices and 12% reported that some of their donors had never visited them. This situation could help to minimize principal agent problems and therefore increase the impact of the outcomes of the work of NGOs. Further to this, the respondents were asked to rate the level of communication with their donors. On average 94% of the NGOs respondents felt that their communication with their donors is ranked as relatively high to very high and also equally a high percentage of 90% of government respondents also expressed a relatively high to very high communication levels with their donors.

This information in general shows the intensity of communication and contacts between the implementers and their donors. This is likely to minimize principal-agent problems, because the principal (the donor) would be able to detect problems early enough and rectify the situation. Besides the agent (the NGO or government) would also feel unsafe to do something contrary to what they agreed with the donor for fear of losing trust because they know that the donor will be able to discover problems very easily with this level of constant communication. This strategy seems to have worked well as will be noted in the next section where the issue of principal-agent is discussed. The results show that these cases are very rare among the NGOs and government.

8.6 Principal-Agent (PA) Problems

The Principal-Agent theory explains about the problems that often arise between two parties where one delegates authority to another. These problems occur as a result of information asymmetries between the two parties i.e. the principal and the agent. The theory is hinged on the fact that the principal is usually not involved in the day to day operations of the organisation, this creates room for the agent to act in his/her own self-interest rather than the interest of the principal (Kasper and Streit 1998:271). The agent takes advantage of the information asymmetry problem to act opportunistically contrary to the principals' wishes and this has a negative outcome on the work output. In this study, the principal-agent relationship applies between the donors as principals and implementing partners as agents. The study therefore sought to investigate whether there are some principal-agent problems that could
affect the outcomes of the work of the agents. The agents in this case include the
government agencies, the non-profit and for-profit organisations which provide HIV and
AIDS services in Malawi. This information assists in getting a general picture on extent of the
problem which may negatively affect the effectiveness of service delivery among the agents.

In this study principal-agent problems were measured using four proxy indicated which
included: a) misallocation of funds, b) fraud, c) poor work quality and d) dishonesty in
reporting as explained in the theoretical framework and methodology chapter under the sub-
topic 43 “Operationalisation of key measurement concepts”. These were chosen because they
are more general and easier to measure compared to others provided by Kasper and Streit
(1998) e.g. creation of unnecessary subsidiary positions as a reason for promotion to
supervisory positions, numerous enjoyable conferences, pointless business trips,
unwarranted investment in equipment which is afterward underutilized, frequent staff
lunches, use of business facilities for personal gains and many other avoidable costs all of
which do not add value to the success of the organization. Some of the principal agent
problems such as office location and value of the offices were simply observed by the
researcher during the interviews because most of the interviews were conducted at the
interviewees’ premises. A few NGO interviewees cited misuse of office facilities especially
company vehicles as major problem.

It was observed that most of the NGOs that were interviewed were located in reasonably
valued property. Approximately 80% of the NGOs were premised in low cost offices which
are mostly located in residential areas surrounding the city of Lilongwe, the capital city of
Malaw. Some of the NGOs had actually moved from expensive buildings to less expensive
ones. As for government, this does not apply because they are housed in government
owned buildings. The results indicate some differences in responses from NGOs, donors
and government workers in their perception of how they experience these problems.

Figure 8.10 a, b and c: Perceptions and experiences on principal-agent problems
among the three players NGO, government institutions and for-profit organisations

Figures 8.10a, b and c, presents the general perceptions which are based on personal
experiences of the respondents on occurrence of principal-agent problems in the three
health sectors in Malawi. The results from figures 8.10a show that NGO staff feel that the
level of these malpractices between government institutions and NGOs themselves are
similar.

43 Part III, chapter , sub-section 1.4
124
Over 70% of the NGO respondents indicated that they had heard of about these principal-agent problems taking place in the NGOs and government sectors while only about 50% indicated the occurrence of such incidences in the for-profit sector.

While over 70% of the NGOs respondents confirmed the presence of these principal-agent problems in the government as well as in the NGO sector, less that 40% of government respondents felt that misallocation of funds is a problem in the government compared to 90% who indicated of thought this was a problem in the NGO sector. However more government interviewees (40%) felt that there were fraud incidences in government while only about 20% indicated of these incidences in the NGO sector. The perception for poor quality work and dishonesty in reporting is almost the same for the NGO and government sector as shown by the same percentage of government employs that gave their observation regarding these two principal-agent problems.
Finally all the donors (100%) think that NGOs produce poor work quality and about 75% and 66% of these donors observed that the government and for-profit organisations respectively also produce poor work quality. About 80% of the donors perceive that misallocation of funds occurs in government compared to 60% and 66% who responded the same for NGOs and for-profit respectively.

Although these responses show some differences in the perception among the respondents on the occurrence of these principal-agent problems towards each implementing agent, the general idea is a confirmation of the occurrence of such incidences. However, when these respondents were asked about the frequency of these incidences, the majority expressed that these cases are quite rare. All (100%) of the donor respondents expressed that these cases were not so common. Similarly 76% and 75% of the NGO and government respondents respectively stated that these incidences were rare. This may be a further confirmation that the close relationship between the donors and their implementing partners minimise the occurrence of such incidences. As the results on communication between the NGOs and their donors have shown, there may not to be much room for NGOs to mismanage resources due to the constant contact with their donors.

The perceptions have also revealed that in general, these principal-agent problems are more common among NGOs and government than in the for-profit organisations. The explanation for this could be that the for-profits in most cases work for their own enterprises and therefore are more vigilant and monitor their employees more closely unlike the non-profit and government institutions whose resources are provided by donors who are not always there to directly observe the actions of these agents and so they take advantage of this, a situation known as moral hazard.

Despite these problems, the NGO sector still remains a major cooperating partner to the donor community as noted earlier on, to the point that some donors have chosen to work with NGOs only as a matter of policy. Literature attributes this to the comparative
advantages that NGOs possess which act as an attraction for donors to cooperate with them with the hope of achieving better results. The next section explores how true this claim is.

8.7 NGOs’ comparative advantages

Literature on NGOs indicates that these organisations have certain comparative advantages compared to the government and the for-profit sector. Among these advantages include efficiency, flexibility, effectiveness, less costly, closeness to the people, cost-effectiveness and innovation. One of the study’s research questions was to find out whether these comparative advantages are indeed reflected in the operations of the NGO sector in Malawi. The donors were asked this question as it was assumed that they may not be biased and also that they work with NGOs more directly which could enable them to give objective responses. The government and NGOs were also asked the same question in an indirect manner as a way of triangulating the responses from donors.

The overall response is that there are certain areas where NGOs do seem to have an upper hand compared to government. This has been revealed from all the three types of respondents. Ability to reach and serve the poor, flexibility and innovation seem to be ranking high among NGOs’ comparative advantages. About 88% of the donors indicated that NGOs are indeed able to reach the people including the less advantaged.

The NGOs and government were asked the same question but indirectly through questions like who their target population is, the distance from their offices to the location of their beneficiaries, frequency of contacts with their beneficiaries and the modes of communication they use to get in contact with their beneficiaries. From the responses provided by the NGOs and government agencies, there does not seem to be a clear picture between government and NGOs in measuring their closeness to the people because the information is quite mixed up. About 59% of NGOs indicated that their offices were less than 100km away from their beneficiaries while all government respondents said that their offices were located less than 100km from their beneficiaries. This is so because government has got offices at different levels including community level which serves as their outlet to the people they work with at that level. As for NGOs, they usually have a central office in the city from where they operate to different target areas. In this case the physical distance between the beneficiaries and NGOs is much longer than for government agencies as also noted in the literature (Wegner, 1993).

However when other issues are considered such as the target beneficiaries, the government usually targets the whole population while NGOs mostly target the poor. About 60% of the
NGO respondents indicated that their main target groups were the less privileged category of the population such as the poor, orphans and vulnerable children, the elderly, and people living with HIV and AIDS (PLWHAs). There are also some slight differences between the NGOs and the government in their frequency of visits to their beneficiaries. About 50% of NGOs indicated that they visit their beneficiaries either weekly or fortnightly while only 38% of government visit their beneficiaries over the same time frequency despite being close to the people in terms of the physical distance. In terms of modes of communication, both NGOs and government indicated that they mostly communicate with their beneficiaries in person as shown by the high percentage of their responses 93% and 100% respectively. In addition, 84% of the NGOs also communicate with their beneficiaries by phone while only 30% of government do the same. This gives the NGOs the opportunity to interact with their beneficiaries more regularly than government agencies do. This frequent communication allows NGOs to be able to detect problems much earlier and resolve them before the situation gets out of hand. In this case it can be concluded that NGOs are closer to the people than the government despite that the government has offices at local levels where the people are.

The NGOs have also been credited for being flexible in their work approach. The responses show that 100% of the donors confirmed that NGOs are flexible in their work approach and adapt to the environment very easily to the benefit of the people they serve than government does. While about 90% of the NGOs rated themselves as being very flexible to relatively flexible and 80% of government institutions rated themselves likewise. On innovation, 86% of the donors feel that NGOs are more innovative than government while 85% and 100% of NGOs and government rate themselves as being innovative respectively. This means that government providers rate themselves much higher than what donors perceive them.

However when it comes to other aspects such as less expensiveness and cost-effectiveness scores for NGOs diminish drastically, all the donors interviewed stated that NGOs are not less expensive and only about 29% felt that the NGOs are cost-effective. This cost-effectiveness is further verified in chapter ten where cost-effectiveness analysis is discussed in details and the results also confirm what the donors indicated.

8.8 Organisational development and perceived impacts of HIV and AIDS projects in the government and NGO sector

To establish how in general the NGOs and government service providers view their work and development of their organisations, the researcher asked some questions related to organisational growth in terms of programme, staff and financial capacities. The responses
show that 71% of the NGOs interviewed, indicated that over the past 5 years, their programmes had expanded geographically which entails their ability to reach more people now. Only 56% of the government institutions indicated the same. Figure 8.11 below illustrates these figures. In general, at least 60% of the NGOs reported of organisational growth in all the aspects under review. A higher percentage of government institutions (90%) reported of organisational growth in terms of areas of operation i.e. more diverse activities of engagement in the past 5 years compared to NGOs.

Figure 8.11: Proportion of NGOs and government institutions reporting positive developments in various aspects of organisational growth

Since financial and other rewards are known to be a motivating factor for staff to work harder and achieve more (Malawi-Germany Health Forum Report, 2008), the research wanted to find out whether there are any differences in the amount of wages and other benefits between NGOs and government staff. The results show that there are some differences between the wages for staff in NGOs and government. While there are differences at all levels within the government and NGOs, these differences are particularly high in government from one level to another. The differences in the amount of salaries in the high level category of director in the NGO sector and government sector is not very much compared to the other levels below the director. The Independent Samples Test of means found a significance difference between the salaries of directors in the NGO and those in the government at 95%CI (P value = 0.015).
Figure 8.12\textsuperscript{44} below illustrates these differences. The figure shows that about 42% of the NGOs interviewed, their directors receive less than US$1,954 per month and 4% receive between US$1,954 and 2,280US$. In the government sector all the directors receive between US$1,954 and 2,280US$ per month. This means that 42% of the NGO directors have got a lower salary than that of directors in the government sector and 4% receive similar amount of salary as the directors in the government sector and 55% of the directors from the NGO sector receive more than 2,280 US$ per month. The results also indicate the wide gaps in salary benefits among NGO staff which may also have implications on the outcomes of their work.

**Figure 8.12: Percentage of NGOs and government reporting about the wages for the position of director in their organizations**

![Figure 8.12](image.png)

*Source: Author's own computation*

Table 8.4 below shows that at all the levels of employment in the NGO and the government sectors, the wages for government staff are generally lower than those of the NGO staff. For instance, while only 26.9\% of employees in top management positions in the NGO sector earn less than 1303US$ a month, all government employees at this level earn less than this amount per month.

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\textsuperscript{44} I used the US$ to Malawi Kwacha exchange rate of 31 July 2011 from Oanda Currency Converter (1 US$ = MK153.05782)
Table 8.4: Monthly wages for the NGOs and government staff in various positions

<table>
<thead>
<tr>
<th>Top Management</th>
<th>Middle Management</th>
<th>Upper level support staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly pay (US$)</td>
<td>NGO (%)</td>
<td>Govt (%)</td>
</tr>
<tr>
<td>&lt;1303</td>
<td>26.9</td>
<td>100</td>
</tr>
<tr>
<td>1303-&lt;1629</td>
<td>15.4</td>
<td>-</td>
</tr>
<tr>
<td>1629-&lt;1954</td>
<td>15.4</td>
<td>-</td>
</tr>
<tr>
<td>1954-&lt;2280</td>
<td>11.5</td>
<td>-</td>
</tr>
<tr>
<td>2280-&lt;2605</td>
<td>19.2</td>
<td>-</td>
</tr>
<tr>
<td>≥2605</td>
<td>11.5</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

Further, 30.7% of the NGOs reported that their staff at this level get a salary of 2280US$ or more per month. The same is true for the middle management level staff. Only 18.5% of the NGOs reported that their staff on this position receive less than 651US$ per month while all government employees at this level earn less than 651US$ a month. This trend is observed throughout all the levels of employment as shown in table 8.4 for the upper level support staff. Also the lower level support staff whose data is not shown in the table has a similar pattern. In addition, the NGOs and government institutions were asked about other benefits apart from monthly wages such as availability of pension scheme, medical care, security, transport subsidy, education for their children and yearly bonus.

Apart from pension funds and transport provision (only for directors), the rest of the benefits do not apply for government employees. As for the NGO sector, at least more than 85% of the NGOs that were interviewed provide medical insurance to all their staff members, the other benefits also apply to most of the NGOs’ staff members except for security which is only provided by a few NGOs to their staff in the director and top management positions.
Table 8.5: Proportion of NGOs and government staff reporting on each type of employment benefit

<table>
<thead>
<tr>
<th>Position</th>
<th>Medical Insurance</th>
<th>Pension</th>
<th>Transport subsidy</th>
<th>Children’s education</th>
<th>Security</th>
<th>Yearly bonus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NGO (%)</td>
<td>Govt (%)</td>
<td>NGO (%)</td>
<td>Govt (%)</td>
<td>NGO (%)</td>
<td>Govt (%)</td>
</tr>
<tr>
<td>Director</td>
<td>92.9</td>
<td>N/A</td>
<td>66.7</td>
<td>100</td>
<td>42.9</td>
<td>N/A</td>
</tr>
<tr>
<td>Top mgt</td>
<td>93.1</td>
<td>N/A</td>
<td>67.9</td>
<td>100</td>
<td>28.6</td>
<td>N/A</td>
</tr>
<tr>
<td>Middle mgt</td>
<td>93.1</td>
<td>N/A</td>
<td>71.4</td>
<td>100</td>
<td>10.7</td>
<td>N/A</td>
</tr>
<tr>
<td>Upper level support staff</td>
<td>86.2</td>
<td>N/A</td>
<td>67.9</td>
<td>100</td>
<td>7.1</td>
<td>N/A</td>
</tr>
<tr>
<td>Lower level support staff</td>
<td>85.7</td>
<td>N/A</td>
<td>64.3</td>
<td>100</td>
<td>7.1</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Source: Author’s own computation  
Note: mgt stands for management

Lastly the question on daily travel allowances was asked because usually most people in Malawi top up their incomes by saving from their daily travel allowances whenever they travel out because in most cases the salaries are not enough to meet up people’s monthly expenses especially government employees. For example all lower level support staff in the government receive less than 100US$ a month. These include people like messengers, typists, receptionists and cleaners. Yet these people have families that look up to them for their daily livelihoods. In several cases there have been arrests in the government sector due to the issue of allowances. Most officers get allowances as a way to compensate for their meagre salaries as a result they create vouchers as if they went for field work and pay themselves. Therefore it was necessary to find out how much in allowance these employees receive whenever they work outside their normal work station. However what is lacking is data on frequency of travel which was not possible to do during this study as this would require a lot of time since there is no standard pre-planned number of days of travel per
month. From personal experience, the general trend is that in most offices senior management staff travel more regularly than any other staff except drivers who may be asked to drive the officers.

The results in tables 8.6a and b show that the amount of travel allowances also varies a lot between the government and the NGOs and also within the NGO sector. Although a higher proportion of NGOs have better allowance there are a few that get less than what government staff are paid. For example, about 31% of the NGO directors get less than US$65 for travel allowance while those in government receive between US$65 and US$98. This trend is observed throughout all the categories of employment. In this case one may conclude that NGOs do not really have an upper hand over government employees when it comes to income from travel allowances. The major difference is therefore on monthly salaries and other benefits.

Table 8.6 (a) and (b): Daily travel allowance\(^{45}\) for employees by sector and level of employment

a) Top and middle management

<table>
<thead>
<tr>
<th>Director</th>
<th>Top Management</th>
<th>Middle Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily travel</td>
<td>NGO</td>
<td>Govt</td>
</tr>
<tr>
<td>&lt;65</td>
<td>31.3</td>
<td>-</td>
</tr>
<tr>
<td>65-&lt;98</td>
<td>25.0</td>
<td>100</td>
</tr>
<tr>
<td>98-&lt;130</td>
<td>12.5</td>
<td>-</td>
</tr>
<tr>
<td>130-&lt;163</td>
<td>12.5</td>
<td>-</td>
</tr>
<tr>
<td>≥163</td>
<td>18.8</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

In general it is expected that NGO employees would have incentives to work hard and perform well. On the contrary, government staff will have fewer incentives to work hard

\(^{45}\) This travel allowance caters for accommodation and meals within Malawi
which may negatively affect their work performance. The next chapter provides more information on whether this statement is true or not depending on the outcomes of the ART programme from the government in comparison to the non profit sector.

b) Upper and lower level support staff

<table>
<thead>
<tr>
<th>Daily travel Allowance (US$)</th>
<th>Upper level support staff</th>
<th>Lower level support staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGO (%)</td>
<td>Govt (%)</td>
<td>NGO (%)</td>
</tr>
<tr>
<td>&lt;13</td>
<td>6.3</td>
<td>&lt;7</td>
</tr>
<tr>
<td>13-&lt;16</td>
<td>12.5</td>
<td>7-&gt;10</td>
</tr>
<tr>
<td>16-&lt;20</td>
<td>-</td>
<td>10-&gt;13</td>
</tr>
<tr>
<td>20-&gt;26</td>
<td>-</td>
<td>13-&lt;16</td>
</tr>
<tr>
<td>≥26</td>
<td>81.3</td>
<td>≥16</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

8.9 Perceptions on project impact

Finally in an attempt to get a feeling of the market results from the providers’ perspective, a question on project impacts was asked in order to find out about the impact the actors think their projects have on their beneficiaries. The interviewees were asked to rank their performance on each programme they were involved in. Tables 8.7a and 8.7b show responses from the NGOs and the government respondents respectively. The responses show that the implementers view their impacts as being very positive. Over 60% of those interviewed gave a score of relatively high to very high in all the different programmes they implement on a score scale of very high, high, relatively high, low and very low.
Table 8.7a and b: Perception on project impacts by NGO and government respondents

Table 8.7a) NGOs’ perception on impacts of their projects

<table>
<thead>
<tr>
<th>Activity/level of impact</th>
<th>Very high</th>
<th>High</th>
<th>Relatively high</th>
<th>Relatively low</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV and AIDS Prevention (N=29)</td>
<td>27.6%</td>
<td>37.9%</td>
<td>31%</td>
<td>-</td>
<td>3.4%</td>
</tr>
<tr>
<td>HIV Counselling and Testing (N=16)</td>
<td>31.3%</td>
<td>43.8%</td>
<td>12.5%</td>
<td>6.3%</td>
<td>6.3%</td>
</tr>
<tr>
<td>Home Based Care (N=18)</td>
<td>44.4%</td>
<td>44.4%</td>
<td>11.1%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nutritional Support (N=21)</td>
<td>14.3%</td>
<td>42.9%</td>
<td>19%</td>
<td>19%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

Source: Author's own computation

As it can be observed from table 8.7a above, most of the NGOs indicated that their impacts are relatively high and above. Very few NGOs indicated that their impacts are relatively low or low. This is an indication that most of the NGOs consider their work to be considerably successful. A similar pattern is also observed from the government side despite the challenge of sample sizes. There is however a slight difference in that most of the government responses are more concentrated around high and relatively high impacts except for nutrition support and HIV and AIDS prevention as compared to NGOs where quite a few reported of very high impacts in all their programmes. It is also worth noting that a few NGOs were also modest enough to say that some of their activities had relatively or low impacts and also a few government institutions acknowledged some low impact in their nutrition support projects.

Table 8.7b) Government institutions’ perception of their projects

<table>
<thead>
<tr>
<th>Activity/level of impact</th>
<th>Very high</th>
<th>High</th>
<th>Relatively high</th>
<th>Relatively low</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV and AIDS Prevention (N=9)</td>
<td>11.1%</td>
<td>55.6%</td>
<td>33.3%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>HIV Counselling and Testing (N=5)</td>
<td>0</td>
<td>60%</td>
<td>40%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Home Based Care (N=4)</td>
<td>0</td>
<td>50%</td>
<td>50%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nutritional Support (N=8)</td>
<td>37.5%</td>
<td>37.5%</td>
<td>12.5%</td>
<td>12.5%</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Author's own computation

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Overall, both government providers as well as non-profit providers feel that they are doing a relatively good job. This is further verified using the actual data from the ART database whose results are presented in the next chapter.
Chapter Nine: Analysis of the Malawi ART Programme

This analysis is based on the 2008 Malawi ART database which contains a total of 189,931 patient records out of which a total of 121,921 patient records are used in this analysis after a systematic data preparation process as detailed in the methodology chapter. These records only include patients who joined the ART programme from 2004 to 2007 and the observation period was fixed to 12 months so that all the patients were given a chance to be observed for a period of 12 months. This restriction removes any bias when making conclusions on survival probabilities arising from differing observation time periods because some patients joined the programme in 2004 and others much later in 2007. However, there are a few patients who started ART in 2007 who may not have had the chance to be observed for 12 months because data capturing started as early as April 2008. This may imply that for instance those who started ART on 31 December 2007 and their data was captured on 1st April 2008 were only observed for 3 months. Therefore the study assumes that this anomaly is equally distributed in all the three sectors.

This section therefore analyses the survival pattern of patients from the three service providers – the government, non-profit and for-profit sectors. The first part focuses on descriptive analysis of the data in terms of demographic characteristics of the patients in relation to the variables in the database that are of interest to this study which include type of provider (sector), sex, age, location, health facility level, reasons for starting ART, year of starting ART, region, and health outcomes. The second part focuses on survival analysis using the Kaplan Meier survival function and the Cox proportional hazard regression model. Lastly the section attempts to analyse the effects of funding levels and sources on the performance of the health facilities. This chapter answers the third research question in this study which tries to find out if there is any significant difference in the quality of services delivered by the non-profit sector in comparison to the government and the for-profit sectors in the provision of ART.

9.1 Descriptive analysis of major co-variables in the Malawi 2008 ART database

This section presents demographic statistics of patients in the ART database. This data is presented in form of tables and charts in percentages. These charts and tables are accompanied by a brief description and analysis of the data.
Distribution of patients on ART by sector

Figure 9.13: Proportion of patients on ART in each Sector

As can be seen in figure 9.1, from the total number of 121,921 patients included in the analysis, 78,166 (64%) were served by government health facilities while 41,163 (34%) and 2,592 (2%) received their treatment from the non-profit and for-profit health facilities respectively. These figures further confirm the findings in the first part of this chapter where I presented about the for-profit sector’s limited participation in the HIV and AIDS response in Malawi. This distribution of patients closely follows the pattern presented in the introduction part where 60% of the health services are provided by the government (Banda and Simkonda, 1994) and 37% by the non-profit (REACH Trust, 2011) and the remaining 3% by the for-profit sector. Therefore this may mean that HIV patients usually enrol in the ART clinics where they usually go for other regular/non ART treatment. This would to a large extent indicate class differences which may affect outcomes of the patients from these three sectors.

Distribution of patients on ART by year of starting ART

As mentioned in the introductory part of this study, the Malawi government introduced the free ART programme in 2004. Prior to this, very few people were able to afford ARVs due to the high prices of the drugs. Out of the 121,921 clients which have been included in this analysis who were initiated on ARV drugs between the years 2004 and 2007, only 6,795 patients representing 6% were enrolled in 2004, followed by 19,615 patients (18%) in 2005, then 41,451 (33%) in 2006 and finally the highest number of patients totalling 52,680 i.e. 43% were initiated on ART in 2007. Figure 9.2 below presents the absolute number of patients enrolled in each year. The trend shows a consistent growth in the number of patients that are being initiated on ART in Malawi every year as the health care systems
continues to expand by opening new ART sites as was shown in table 1.5 in the introduction part.

**Figure 9.14: Distribution of patients by year of starting ART**

![Graph showing distribution of patients by year](image)

*Source: Author’s own computation*

The number of patients requiring ART services is expected to keep growing especially due to the new WHO guidelines that recommend patients to start taking ARV drugs at CD4+ cell count of 350/ml³ compared to the previous CD4+ cell count of 200/ ml³ (WHO, 2009). This means that more people will qualify for ARV intake with this new approach. The only challenge will be the absorption capacity of the health care system in terms of personnel to take up new patients as more and more health facilities get involved in the provision of HIV treatment after undergoing thorough training.

**Distribution of patients on ART by Region**

The southern part of Malawi has the highest HIV infection rates of all the three regions of the country according to the Malawi Demographic Health Survey (MDHS), 2010. The MDHS (2010) indicates that southern region had an HIV prevalent rate of 14.5% while central region and northern region had 7.6% and 6.6% respectively (NSO and IFC Macro, 2011). In addition the country’s general population distribution is such that there are more people in the southern region (45%) followed by the central region (42%) and then the northern region (13%). This implies that the majority of the people infected with HIV are in the southern region of Malawi. Hence it follows that 53% of the patients on ART are from the southern
region followed by the central region with 33% and lastly the northern region (14%) as shown in figure 4.14 below is a reflection of a fair distribution of the ART service provision in Malawi.

**Figure 9.15: Proportion of patients on ART by region**

Further analysis of distribution of service provision by region and type of service provider indicates that the government and the for-profit sector cater for more people in the southern region compared to the non-profit sector which covers more in the central region. Table 9.1 shows the distribution of patients by region and sector. The pattern here also follows the need in terms of the numbers of patients requiring treatment. The northern region has the lowest percentage of patients being served by the three providers because it also has the least proportion of patients on ART.

**Table 9.1: Distribution of patients on ART in each region by type of provider**

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>Government</th>
<th>Non-profit</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern region</td>
<td>61.5%</td>
<td>36.6%</td>
<td>75.7%</td>
</tr>
<tr>
<td>Central region</td>
<td>21.7%</td>
<td>55.2%</td>
<td>22.5%</td>
</tr>
<tr>
<td>Northern region</td>
<td>16.9%</td>
<td>8.2%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

*Source: Author’s own computation*

**Distribution of patients on ART by location**

The ART database disaggregates patients according to the locations where they stay in terms of whether it is an urban area, semi-urban or rural. These locations have effects on patients’ outcomes as it is later discussed in the Cox-regression analysis.
Figure 9.16: Distribution of patients on ART by location

Figure 9.4 shows that the distribution of patients on ART by location corresponds to the HIV and AIDS prevalent statistics which indicate that there are more infections in the urban settings compared to the rural areas. According to the ART database, 53% of the patients in the ART programme are from the urban areas while 17% are from semi-urban and 30% are from rural areas.

This information is further disaggregated by type of sector in tables 9.2a and b. Table 9.2a presents how many patients come from each location in each sector from the total number of patients served the sector.

As can be noted from table 9.2a, a higher percentage of the patients in the government and the for-profit sector are from the urban areas as indicated by the high figures of about 57.9% and 96.3% respectively. The non-profit sector has a higher coverage in the rural areas as shown by the high percentage of 56.9%. An analysis of aggregate coverage of patients in each location by each service provider is presented in table 9.2b.

Table 9.2 a and b: Proportion of patients on ART by location

a) Proportion of patients on ART in each sector by location

<table>
<thead>
<tr>
<th>Location</th>
<th>Government</th>
<th>Non-profit</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>57.9%</td>
<td>40.9%</td>
<td>96.3%</td>
</tr>
<tr>
<td>Rural</td>
<td>16.3%</td>
<td>56.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Semi-urban</td>
<td>25.8%</td>
<td>2.3%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Source: Author’s own computation
b) Proportion of patients in each location by sector

<table>
<thead>
<tr>
<th>Location</th>
<th>Urban</th>
<th>Rural</th>
<th>Semi-urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>70.1%</td>
<td>35.3%</td>
<td>95.3%</td>
</tr>
<tr>
<td>Non-profit</td>
<td>26.0%</td>
<td>64.7%</td>
<td>4.4%</td>
</tr>
<tr>
<td>For-profit</td>
<td>3.9%</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

*Source: Author’s own computation*

The results show that the government is serving about 70% of all the patients on ART in the urban areas and 95% of those in the semi-urban while the non-profit serves only 26% of all the patients on ART in the urban areas. On the other hand, out of all the patients on ART in the rural areas, 64.7% are served by the non-profit sector while government serves only 35.3% with the for-profit serving only 0.1% of the rural ART clients. This scenario concurs well with the findings from part I which revealed that the non-profit sector has a comparative advantage of being close to the poor and these poor are usually located in the rural areas. This acts as empirical evidence to this claim and authenticates this comparative advantage for the non-profit sector.

**WHO Clinical stage at the start of ART**

The Malawi ART programme mainly uses the WHO clinical staging approach to initiate patients on ARV drugs due to limited CD4 count machines which are used to determine someone’s CD4 cell count. The WHO clinical stages are categorised into four levels as already mentioned in the introduction chapter. However in this analysis, these stages have been regrouped into two by combining WHO stages 1 and 2 and WHO stages 3 and 4 as discussed in the methodology chapter. The analysis shows that overall about 13% of the ART patients started receiving ARVs at clinical stages 1/2 while the remaining 87% started at clinical stages 3/4. This means that the majority of HIV and AIDS patients in Malawi start taking ARVs very late which is likely to reduce their survival chances (Severe et al. 2010).

**Table 9.3: WHO clinical stage for starting ART by type of service provider**

<table>
<thead>
<tr>
<th>Provider</th>
<th>WHO Stage</th>
<th>Government</th>
<th>Non-profit</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WHO 3 and 4</td>
<td>87.2%</td>
<td>81.6%</td>
<td>67.4%</td>
</tr>
<tr>
<td></td>
<td>WHO 1 and 2</td>
<td>12.8%</td>
<td>18.4%</td>
<td>32.6%</td>
</tr>
</tbody>
</table>

*Source: Author’s own computation*
Looking at the figures from table 9.3 from the service provider perspective, the for-profit sector have the highest percentage of 32.6% of their clients starting ARV treatment at WHO stages 1 and 2 followed by the non-profit sector with 18.4% and lastly government with 12.8%. This may have an effect on the overall outcomes in terms of mortality rates since WHO stage 1 and 2 are associated with lower death rates. It has been proven that starting ART at CD4+ cell count of 350/mm³ improve chances of better survival than starting much later as was the case in the earlier WHO guidelines (Severe et al. 2010).

One possible reason for having a higher percentage of clients in the for-profit sector starting treatment with a higher CD4+ cell count could be that these patients were already regular clients to the for-profit and therefore were diagnosed on time by their doctors. Normally the doctors in the for-profit hospitals are also the owners of the hospitals and they have personal connections with the patients and can easily follow a patient's health status compared to the government and the non-profit sector where doctors usually work on shifts and can be transferred at any time. For example in one of the big for-profit hospitals, the doctor I interviewed indicated that their patients are not willing to see any other doctor except those who know about their condition both for privacy reasons as well monitoring the health status of the patient and this is respected by the hospital. This revelation is a positive trait for the for-profit sector in ART provision worth appreciating.

Another explanation could be that most of the for-profit hospitals use the CD4 count to initiate patients on ART. Since the WHO guidelines indicate that patients with cell count <200 or 350/mm³ should be initiated on ART regardless of the clinical signs, it is possible that most of these patients were initiated in the WHO group 1 and 2 because their CD4 cell count had decreased to <200 or 350/ mm³ but they may not have been so sick. There are cases where some patients may have very low CD4 cell counts yet they are still strong and doing their normal work and therefore may not be initiated on ART on the basis of WHO clinical staging. Although empirical data shows that only 30.8% of the for-profit hospitals own CD4 count machines compared to 45% of government facilities and 58.8% of the non-profit facilities, the relatively small number of patients in the for-profits enables them to take the blood samples of their patients and do a CD4 count in hospitals where there are CD4 count machines. Besides, their patients are able to pay for this expense as some hospitals indicated that they even used to send the blood samples to South Africa to make the tests before the CD4 count machines were available in Malawi.
Distribution of patients on ART by sex

Table 9.4: Distribution of patients on ART by sex in each sector

<table>
<thead>
<tr>
<th>Provider</th>
<th>Sex</th>
<th>Government</th>
<th>Non-profit</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>60.4%</td>
<td>60.2%</td>
<td>47.0%</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>39.7%</td>
<td>39.8%</td>
<td>53.0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s own computation

Overall the gender distribution of patients all the patients in the Malawi ART programme shows that about 60% are women and 40% are men. This distribution closely reflects the pattern observed in the government and the non-profit sector presented in table 9.4 above. On the contrary, the situation is surprisingly different in the for-profit sector which has less female clients compared to males. The for-profit sector has 53% of it clients as males and 47% females. This is an interesting difference as it may have an effect on the overall outcomes because of the gender differences in the HIV and AIDS outcomes. Usually women with HIV live longer compared to their male counterparts\(^{46}\) (Prairie Women’s Health Centre of Excellence, 2010; Taylor-Smith et al., 2010). This peculiar difference may be as a result of gender-based economic differences that can afford men to patronise for-profit hospitals unlike women who are financially less independent compared to men.

Distribution of patients on ART by health facility level

Table 9.5: Percentage of patients treated at each facility level within type of provider

<table>
<thead>
<tr>
<th>Provider</th>
<th>Facility Level</th>
<th>Government</th>
<th>Non-profit</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>District hospital</td>
<td>55.6%</td>
<td>54.3%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Central hospital</td>
<td>19.7%</td>
<td>2.6%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Rural hospital</td>
<td>4.4%</td>
<td>4.6%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Health centre</td>
<td>17.5%</td>
<td>0.9%</td>
<td>2.5%</td>
<td></td>
</tr>
<tr>
<td>Other hospital(^{47})</td>
<td>-</td>
<td>0.1%</td>
<td>33.1%</td>
<td></td>
</tr>
<tr>
<td>Other(^{48})</td>
<td>2.9%</td>
<td>37.6%</td>
<td>64.0%</td>
<td></td>
</tr>
<tr>
<td>Dispensary</td>
<td>-</td>
<td>-</td>
<td>0.5%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s own computation


\(^{47}\) This comprises of relatively big hospitals that are not owned by government but rather by private individuals or non-profit organisations.

\(^{48}\) Non-governmental organizations, armed forces, occupational clinics
The results in table 9.5 above indicate that most of the patients served by government are at district hospitals (55.6%), followed by central hospitals (19%) and then health centre (17.5%). A much smaller percentage of 4.4% is in rural hospitals and 2.9% in other types of hospital. The non-profits also have the highest number of their patients in the district hospitals (54.3%) and then in “other” clinics (37.6%) while for-profits are operating at the level of other hospitals (33.1%) and “other” clinics (64.0%). “Other” clinics represent the small clinics which do not fall into any of the categories in this list. These levels of health facilities also have an impact on the outcomes of patients because some of these facilities are fairly well equipped with health personnel, diagnosis equipment and medication than others. These differences have an effect on the outcomes of patients as is presented later in the Cox Regression analysis.

**Distribution of patients on ART by age**

**Table 9.6: Proportion of patients on ART by age group and sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Age group</th>
<th>Government</th>
<th>Non-profit</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-1.9</td>
<td>0.9% (702)</td>
<td>1.2% (488)</td>
<td>0.3% (7)</td>
</tr>
<tr>
<td></td>
<td>2-5.9</td>
<td>2.9% (2,287)</td>
<td>3.6% (1,483)</td>
<td>1.0% (25)</td>
</tr>
<tr>
<td></td>
<td>6-14.9</td>
<td>4.0% (3,109)</td>
<td>4.6% (1,889)</td>
<td>2.5% (65)</td>
</tr>
<tr>
<td></td>
<td>15-24.9</td>
<td>7.7% (6,024)</td>
<td>6.9% (2,856)</td>
<td>5.1% (132)</td>
</tr>
<tr>
<td></td>
<td>25-34.9</td>
<td>34.7% (27,094)</td>
<td>34.1% (14,014)</td>
<td>36.9% (956)</td>
</tr>
<tr>
<td></td>
<td>35-44.9</td>
<td>30.8% (24,061)</td>
<td>31.1% (12,811)</td>
<td>30.3% (786)</td>
</tr>
<tr>
<td></td>
<td>45+</td>
<td>19.1% (14,889)</td>
<td>18.5% (7,622)</td>
<td>24.0% (621)</td>
</tr>
</tbody>
</table>

*Source: Author’s own computation  Note: Absolute figures are given in brackets*

The distribution of patients on ART by age across the sectors shows a similar pattern in all the three sectors as shown in table 9.6 above. The highest number of the patients is in the age bracket of 25 -34.9 years in all the three sectors. The children comprise of the smallest percentage of all the patients on ART. For example, out of all the patients under government’s care only 7.8% are children (0<15 years) while the non-profit has 9.4% and the for-profits only 3.8%. Although the percentage of children is higher in the non-profit compared to that of government, the absolute numbers are higher in government, implying that the government is reaching out to more children with the ART services.
9.2 Outcomes from patients on ART

Figure 9.17: Outcomes from patients on ART (1 year observation period)

The ART database recorded five outcomes from patients which are analysed in this sub-section. These outcomes include 1) being alive and still on treatment, 2) lost to follow up (LTFU), 3) dead, 4) stopped taking treatment and 5) transferred out to another clinic. Figure 9.5 shows that from the overall 121,921 patients in the analysis, about 70% were alive and still on treatment after one year of follow up, about 10% were lost to follow up, while 12% had died. Further, 8% were transferred out and a small percentage of 0.2% (shown as 0% to the nearest whole figure) had stopped taking the treatment.

When this information is disaggregated according to type of service provider, the picture is slightly different. Table 9.7 presents this information.

Table 9.7: Summary of outcomes from patients on ART by type of provider (percent)

<table>
<thead>
<tr>
<th>Provide</th>
<th>Government</th>
<th>Non-Profit</th>
<th>For-Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>68.6%</td>
<td>71.1%</td>
<td>74.1%</td>
</tr>
<tr>
<td>LTFU</td>
<td>9.9%[(9.7-10.1) 95%CI]</td>
<td>10.1%[(9.8-10.3) 95%CI]</td>
<td>5.7%[(4.8-6.6) 95%CI]</td>
</tr>
<tr>
<td>Died</td>
<td>12.7%[(12.5-12.9) 95%CI]</td>
<td>11.1%[(10.8-11.4) 95%CI]</td>
<td>9.2%[(8.1-10.3) 95%CI]</td>
</tr>
<tr>
<td>Stopped ART</td>
<td>0.2%</td>
<td>0.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Transfer Out</td>
<td>8.4%</td>
<td>7.4%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

Mortality rates

The percentage of patients that died within the first 12 months of their treatment in the government is 12.7%, followed by those in the non-profit sector at 11.1% and lowest in the
for-profit sector at 9.2%. These differences are statistically significant at 95% Confidence Interval. The results therefore imply government has the worst outcomes in terms of mortality for patients on ART programme in Malawi. This confirms with literature which suggests that government provides poor services which might contribute to higher deaths. However it would be expected that the non-profit sector would have the lowest deaths, but this is not the case. Instead the for-profit sector has the lowest deaths, which is contrary to the contract failure theory which indicates that due to profit maximisation mindset, the for-profit sector is likely to provide poor quality services while the non-profits provide better quality services.

The lower deaths in the for-profit sector may however be explained by the higher percentage of patients who start the treatment at an early WHO clinical stage of 1 and 2 as observed in table 9.3. The table illustrates that 32.6% of the patients in for-profits started taking the treatment when they were in WHO clinical stage 1 and 2 compared to 18.4% and 12.8% in the non-profit and government respectively. Level of WHO clinical stage at which a patient starts taking treatment has been proved to be a major contributing factor in one’s survival chances when receiving ART as discussed earlier under the subsection on WHO clinical stage at the start of ART. This is also observed in the Cox regression analysis later in this chapter.

In addition, it has also been shown that for-profits mostly serve the urban community i.e. about 96% of their total clients are from the urban whose socio-economic status is assumed to be relatively better compared to rural and semi-urban counterparts. It is expected that the living conditions of these urban based patients in terms of nutritional intake is better than those in the rural area. Good nutrition is an important aspect for better survival for people living with HIV and AIDS and on ART (Piwoz, 2004; Raiten et al., 2005). Interviews with experts in Malawi who are involved in management of the ART programme indicated that most of the patients that get their ART from the for-profits are usually regular clients of the for-profit clinics which means they have the resources to pay for any extra treatment they may require at any price. This can also be verified by the fact that the for-profit sector has a higher percentage of male clients compared to females because men are generally more economically empowered than women.

Further, analysis was done to look at the rate of mortality per 100 person years lived. The results also follow a similar pattern as observed in the proportion of deaths in each sector explained above. These results are presented in table 9.8 below.
Table 9.8: Mortality rates per 100 person years lived by type of service provider

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>Total number of patients</th>
<th>Number of person time (years)</th>
<th>Number of failure (deaths)</th>
<th>Rate of failure per 100 person years</th>
<th>[95% Confidence Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>78,166</td>
<td>56,145.87</td>
<td>9,936</td>
<td>17.7</td>
<td>[17.4, 18.1]</td>
</tr>
<tr>
<td>Non-profit</td>
<td>41,163</td>
<td>30,209.90</td>
<td>4,581</td>
<td>15.2</td>
<td>[14.7, 15.6]</td>
</tr>
<tr>
<td>For-profit</td>
<td>2,592</td>
<td>1,959.13</td>
<td>238</td>
<td>12.2</td>
<td>[10.7, 13.8]</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

Table 9.8 shows the total number of patients in each sector and the total number of years they contributed in one year. It also shows the total number of deaths that occurred during this period from where the rates of death per 100 person years at risk are derived. This rate of occurrence of an outcome event of interest is a measure of the number of new incidences. For instance, deaths in this case, that occur per 100 person years and is denoted by the Greek letter \( \lambda \) (lambda). This rate of failure is approximated from a “study data by dividing the total number of failure events (deaths) observed, by the total time of the individual person years of observation”, (Kirkwood and Sterne, 2003:229).

The rate of occurrence of death for patients on ART in government health facilities is 17.7 per 100 person years. This is followed by the non-profit sector which registered 15.2 deaths per 100 person years and the for-profit has the lowest number of these incidences with 12.2 deaths per 100 person years. In other words, one can expect to see about 18 out 100 people die in government health facilities if observed over a period of 1 year. Similarly, it would be expected that about 15 and 12 people would die in the non-profit and for profit, respectively, if 100 patients are observed over the same period of one year. These mortality rates are statistically significant from each other as shown by the Confidence Intervals as they do not overlap.

**Proportion of patients lost to follow up (LTFU)/defaulters**

The other outcome of interest in this research is lost to follow up (LTFU). A person is considered LTFU when he or she does not report at the clinics for 2 months (60 days) after the completion of the last consignment of the medication according to the Malawi ART programme guidelines. Two months is considered as a grace period in case the person travelled away and may come back to get the medication. However, if he/she does not show up after the two months then she/he is recorded as a defaulter or LTFU. In some instances, these patients would have died but their care takers did not report this death to the clinic. This is why in some cases the mortality rates for ART patients are adjusted using the rate of
LTFU. This takes care of the unreported deaths which show as LFTU in the registers. This indicator shows that the non-profit sector has a higher percentage of patients being lost to follow up i.e. 10.1% compared to those in the government has 9.9% and the for-profit sectors with 5.6%. The reasons for these differences are hard to tell because the non-profit sector has been proven to be close to the people and therefore the default rate should have been the lowest. All the clinics interviewed during the field research indicated that follow up of patients is generally difficult because the patients do not provide true information about their contacts.

**Proportion of transfer outs**

Although the for-profit sector has fared well with other outcome indicators, it is not the same when it comes to transfer outs. The for-profit sector has the highest percentage of patients transferring out to other clinics. However this research is not able to establish where these patients go to after transferring out. Whether they go to other for-profit clinics or not is something that need to be established. It may be that most of them are going to the non-profit or government health facilities because they do not want to pay any administrative fees when they visit the clinic to get their medication. The database is not able to show this information because the patients do not have unique identification which can link their information from one clinic to another. The other reason for these high transfers could be due to change of place of residence in general because most of the for-profit clients are urban based and they are more likely to be in employment and can be transferred to other places at any moment.

**Proportion stopping treatment**

In all the three sectors, the percentage of patients stopping ART is very small. Table 9.7 shows that only 0.2% of patients in government stopped taking ARV drugs and only 0.3% in the non-profit did. In the for-profit sector the number is almost negligible i.e. 0.04% and to the nearest 1 decimal point it is 0.0%. As shown in table 9.7, the major reason mentioned by health workers why patients stop taking treatment was the negative side-effects of the drugs on some of the patients. Others indicated that some patients claim that they have been cured from AIDS and no longer need the medication. The cure is mostly realised through prayers. I have personally heard and even know some patients that have openly testified in churches that they used to be HIV positive and now they no longer have the HIV after undergoing several post-healing medical tests. But as can be noted the percentage of patients with such prayer healing miracle is negligible.
In general, most of the results on the outcomes of the ART programme show that the non-profit sector has better outcomes compared to the government sector in terms of proportion of patients surviving after one year. This is revealed by the proportions of 71.1% and 68.9% respectively. Likewise the proportion of those dying over the same period is lower in the non-profit sector (11.1%) compared to the government sector which recorded 12.7% of deaths. However the percentages of patients who were LTFU and those who stopped taking the treatment are slightly higher in the non-profit sector than in the government. As for the for-profit sector, they have the best outcomes of all with 74.1% of their patients surviving and still on ART, only 9.2% of patients who died and 5.6% LTFU. Although the general pattern in terms of patients' outcomes shows that the for-profit sector has better outcomes compared to the non-profits and government using these indicators, this however does not immediately warrant a conclusion that qualify the for-profit sector to be the best provider. Other methods are used to further analyse the differences in the survival probabilities of the patients in these three sectors as well as their relative risks of dying. The next section dwells on these methods of survival analysis which include the Kaplan Meier survival estimate function and the Cox proportional hazard regression model which analyse survival patterns among patients receiving ART in the government, the non-profit and the for-profit sectors in Malawi.

9.3 Survival Analysis

9.3.1 The Kaplan Meier Survival Function

The Kaplan Meier survival function displays a pattern of survival curves from a group of people where there is no precise information on the survival times of individuals, but rather the number of individuals that survived to a certain point of time. The Kaplan Meier survival curves are shown in figures 9.6a and b below. The figures show that there are some differences in the survival probabilities amongst patients receiving ART in the three health providers under study. Figure 9.6a shows the survival probabilities of patients where death only is the event of interest for the estimation. These results however may not be a true reflection of the actual mortality because it has been proved that mortality rate is higher among patients lost to follow up (Brinkhof et al. 2009; Egger et al., 2011). In order to capture fair picture of the survival probabilities of these patients, figure 9.6b has been generated which combines patients that were dead, LTFU and stopped treatment as the failure event in one analysis.
Taylor-Smith et al. (2010) also analysed similar data at two levels concerning gender differences in retention and survival on ART for adults in Malawi. First they used death as the failure event to analyse mortality rates. They indicate that due to “the incomplete ascertainment of deaths and in order to control for potentially differential ascertainment of death by gender” they did another analysis combining “death, ART stop and loss to follow-up as the failure event (‘ART drop-out’),” (Taylor-Smith et al., 2010: 50).

Figures 9.6a and b in general show that survival probabilities among patients differ slightly depending on the type of service provider. In both cases, patients in the for-profit sector have higher survival probabilities followed by those in the non-profit sector. Patients in the government sector have the lowest survival probabilities of all the ART patients in Malawi at any given point in time as shown by the parallel line throughout the entire period of observation. Figure 9.6a shows that patients in all the three sectors have at least 85%
chances of surviving to 1 year after starting the treatment. In the second scenario where LTFU and stopped ART were included as failure events in the analysis, the survival probabilities of patients surviving to 1 year in all the sectors decrease slightly. In the government and the non-profit sectors it goes down to about 75% while in the for-profit sector the survival probabilities are still as high as around 80% as shown in figure 9.6b.

In summary the survival probabilities in the two figures can be viewed as the lower and upper boundaries for survival probabilities of these patients within a 1 year observation period i.e. figure 9.6a as upper boundary and 9.6b as lower boundary. This is because the survival probabilities in figure 9.6a may be considered as an overestimation of the actual survival since death among those lost to follow up is not included. On the other hand, in figure 9.6b the survival probabilities may also not be entirely a true reflection of the reality because some of the patients that are lost to follow up may actually have gone to other clinics and may still be in care but did not report that they had moved to another clinic so that they are recorded accordingly (Brinkhof et al., 2009). Having looked at the survival probabilities using the Kaplan Meier Survival function, the next sub-section analyses the pattern of risk to mortality in the patients using the Cox proportional hazard regression analysis.

9.3.2 The Cox Proportional Hazard Regression Model

The Cox proportional hazard regression model is a multivariate analysis used to analyse the effects of several risk factors on survival. In this analysis, the Cox regression model includes the following categorical variables: sector, age, sex, reason for starting ART, health facility level, region, location and year of starting ART. The analysis predicts three types of failure events. The first prediction uses mortality (deaths) while the second prediction applies loss to follow up and lastly attrition, which is a combination of deaths, loss to follow up and stopping ART. In simple terms a hazard is a rate at which events take place. A hazard ratio expresses the chance or hazard of events happening in one group as a ratio of the hazard of the events happening in the treatment group. The assumption in the proportional hazard model is that the hazard in one group is a constant proportion of the hazard in the other group (reference category). The models were run in Stata 10 using codes which are attached in annex 2. As a first step, all the covariates were put into the model together to check their contribution to mortality.

At a second step one covariate was excluded at a time to check its effect on the overall model and observing the changes in the remaining variables. In this case the main interest was on the sector variable. Then all the variables were excluded and only the sector variable
was regressed. The results showed that patients in the for-profit sector had a 30% lower risk of dying compared to those in the government sector while those in the non-profit sector had 14% lower risk of dying compared to those in the government sector as well. However when the regression is done using all the covariates in the model then the risk of death for patient in for-profit sector compared to those in the government sector goes down to 20% while those in the non-profit sector their risk of death compared to those in the government goes up to 25%. This comes in due to the effects of the other covariates and this means the risk of patients dying in these sector is also highly influenced by other factors other than the type of provider. Finally several other regressions were done to get single p-values for each covariate because in the first regression model only p-values for each category of a covariate were generated without the overall p-value of the covariates. The results from these regression analyses are summarised in table 9.9.

Overall, the Cox regression results presented in table 9.9 show that all the variables included in the model significantly contribute to the prediction of risk of death for the patients in each of the three scenarios (mortality, LTFU and attrition) as evidenced by the significant P-values (<0.001). The results reveal that patients receiving ART in the government sector have higher risk of dying compared to those getting their treatment in the non-profit and the for-profit sector. After controlling for all other covariates, there is a 25% [HR = 0.75 (0.72 - 0.79, 95% CI) P <0.001] and 20% [HR = 0.80 (0.69 - 0.95), 95% CI, P<0.001] lower risk of dying for patients who receive their treatment from the non-profit and the for-profit health sector respectively compared to those receiving their treatment from the government sector. However when it comes to loss to follow up, there is 11% [HR=1.11(1.05-1.17)] higher risk of being lost to follow up if one receives treatment from the non-profit sector compared to being in a government health facility. On the other hand, those in the for-profit sector have about 31% [HR=0.69(0.58-0.83)] lower risk of being lost to follow-up compared to their counterparts in the government sector.
Finally when a combination of all these failures is used to analyse the overall risk of dropping out of the treatment (attrition), the general picture is that patients in the for-profit sector emerge to have the lowest risk of dropping out of the treatment. These patients have 25%
lower risk of dropping out of treatment [HR=0.75(0.66-0.85)] compared to those patients in the government sector. Those in the non-profit sector have only a 9% [HR=0.91(0.88-0.95)] lower risk of dropping out of the treatment compared their colleagues in the government sector.

These results are closely related to the outcomes of the Kaplan-Meier estimations as well as the descriptive analysis where the government showed higher mortality rates among its patients compared to those in the non-profit and the for-profit sector. The Kaplan Meier estimator showed that there is only a small difference in the survival probabilities for patients in the government and the non-profit as by the close gap in the curves between the two sectors compared to the for-profit where there is a wider gap as seen in figure 9.6a and 9.6b.

The analysis further reflects on the other covariates that also constitute the risk factors for patients in the ART programme in Malawi. For example in terms of sex of a patients, the results show that men have 40% higher risk of dying compared to women [HR=1.40(1.35-1.44)], they have a 26% higher risk of being lost to follow up [HR=1.26 (1.21–1.30)] and hence they have 33% [HR=1.33(1.30–1.36)] higher risk of dropping out of the ART programme in one way or another compared to women. As for the WHO stage at which patients are initiated on [HR=1.33(1.30–1.36)] ART, the regression analysis reveals that patients who are initiated at WHO stage 1&2 have a 52% lower risk of dying, 47% lower risk of being lost to follow up and 49% lower risk of dropping out of the ART programme [HRs=0.48(0.45–0.51), 0.53(0.50–0.57) and 0.51(0.49–0.53)] respectively.

On a different note, health facility level has some interesting differences. While patients in the central and rural hospitals have 33% and 22% lower risk of dying, [HR=0.67(0.63–0.71) and 0.78 (0.72–0.86) respectively compared to those in the district hospitals, the risk of loss to follow shows a different outlook. Patients in the central and rural hospitals have 29% and 13% higher risk of loss to follow up [HR=1.29(1.22–1.37) and 1.13 (1.03–1.23)] compared to those in district hospitals respectively. All the patients in the other types of health facilities also have lower risk of dying compared to those in the district hospitals. The descriptive analysis showed that 55% of the patients in the government are in district hospital and 54.3% of the non-profit patients are also in district hospitals. This entails that most of the patients in government as well as in the non-profit are at higher risk of dying as a result of being district hospital setting.

The remaining three covariates, region, location and year of starting ART also show some interesting variations. The results show that patients from the northern region have a
relatively higher risk of dying compared to those from the southern region [HR=1.24 (1.17–1.31)]. Nevertheless, these patients have a 12% lower risk of getting lost to follow up [HR=0.88 (0.83–0.93)] compared to those in the southern region. But, patients from the northern region have a 7% higher risk of dropping out from the programme in general either through death, LTFU or stopping ART [HR=1.07 (1.03–1.11)] compared to those from the southern region. Those in the central region have a 10% risk of dying, 8% risk of being LTFU and 9% of generally dropping out of the ART programme in comparison to those who are taking their treatment in the southern region. Descriptive statistics revealed that 55.2% of the non-profit clients are in the central region. This exposes these clients to a further risk of dying and affects the non-profit performance in ART health outcomes. Likewise, patients in the rural areas have 18% higher risk of dying [HR=1.18(1.13–1.24)] compared to those in the urban areas, but they have a 21% lower risk of being lost to follow up [HR=0.79 (0.75–0.84)].

Finally, the patients who were initiated on ART in the years 2004, 2005 and 2006 have a 59%, 55% and 32% higher risk of dying [HRs=1.59 (1.49–1.70), 1.55 (1.48–1.62) and 1.32 (1.27–1.37)] compared to those that joined in 2007 respectively. On the contrary, these patients have lower risks of being LTFU than those in the 2007 cohort. In fact, the trend is that as the years move from 2004 to 2007 the risk of mortality for patient is getting lower while the risk of getting lost to follow up is rising. One of the possible explanations for this result could be due to the new and improved knowledge on personal care including nutritional education which may contribute in lowering the risks of mortality. In addition, there seems to be a general acceptance among communities about the disease and slowly the stigma is going away. Consequently, people are no longer afraid to disclose their HIV status and get the relevant support from family members and the community in general. On the other hand, loss to follow up may be aggravated by the lack of capacity of the health facilities to handle the ever increasing number of patients being initiated on ART to enable proper follow up and support to patients. As discussed in the introduction chapter, Malawi has a significant shortage of health personnel to effectively deal with the epidemic.

These results have shed more light on some of the contributing factors to the outcomes from the ART programme apart from type of sector as the determining factor for survival of patients on ART. While this analysis looked at all the covariates, including the sector variable as one of the covariates, the next analysis by modelling covariates in each sector to
compare the differences in the hazards ratio in each sector using the same covariates. These results from this analysis are presented in table 9.10. Differences in the risks to mortality across the sectors by each risk factor (covariate)

Table 9.10: Hazard Ratios for Mortality on ART by type of health provider

<table>
<thead>
<tr>
<th>Variables</th>
<th>Government</th>
<th>Non-profit</th>
<th>For-profit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hazard Ratios (95% CI)</td>
<td>P values</td>
<td>Hazard Ratios (95% CI)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5</td>
<td>1.39 (1.15–1.69)</td>
<td>&lt;0.001*</td>
<td>1.74 (1.35 – 2.25)</td>
</tr>
<tr>
<td>6-14</td>
<td>0.77 (0.67–0.88)</td>
<td>&lt;0.001*</td>
<td>0.95 (0.80–1.13)</td>
</tr>
<tr>
<td>15-24</td>
<td>0.81 (0.54–0.70)</td>
<td>&lt;0.001*</td>
<td>0.68 (0.50–0.81)</td>
</tr>
<tr>
<td>25-34</td>
<td>1.17 (1.08–1.26)</td>
<td>&lt;0.001*</td>
<td>1.19 (1.06–1.34)</td>
</tr>
<tr>
<td>35-44</td>
<td>0.93 (0.89–0.98)</td>
<td>&lt;0.001*</td>
<td>0.95 (0.89 – 1.03)</td>
</tr>
<tr>
<td>45+</td>
<td>0.95 (0.90–1.01)</td>
<td>&lt;0.001*</td>
<td>1.03 (0.95–1.12)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.40 (1.35–1.46)</td>
<td>&lt;0.001*</td>
<td>1.40 (1.32–1.49)</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WHO stage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1 and 2</td>
<td>0.44 (0.40–0.47)</td>
<td>&lt;0.001*</td>
<td>0.51 (0.45–0.56)</td>
</tr>
<tr>
<td>Stage 3 and 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care Facility Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>0.68 (0.64–0.73)</td>
<td>&lt;0.001*</td>
<td>0.61 (0.47–0.80)</td>
</tr>
<tr>
<td>District</td>
<td>0.68 (0.61–0.76)</td>
<td>&lt;0.001*</td>
<td>1.00 (0.87–1.16)</td>
</tr>
<tr>
<td>Rural</td>
<td>Dropped-collinearity</td>
<td></td>
<td>0.75 (0.24–2.34)</td>
</tr>
<tr>
<td>Other hospital</td>
<td>Dropped-collinearity</td>
<td></td>
<td>0.52 (0.35–0.81)</td>
</tr>
<tr>
<td>Health Care Dispensary</td>
<td>0.52 (0.45–0.60)</td>
<td>&lt;0.001*</td>
<td>1.06 (0.98–1.15)</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern</td>
<td>1.32 (1.25–1.39)</td>
<td>&lt;0.001*</td>
<td>1.06 (0.96 – 1.18)</td>
</tr>
<tr>
<td>Central</td>
<td>1.26 (1.20–1.32)</td>
<td>&lt;0.001*</td>
<td>0.86 (0.73–0.92)</td>
</tr>
<tr>
<td>Southern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of urbanization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>1.29 (1.20–1.39)</td>
<td>&lt;0.001*</td>
<td>1.12 (1.03–1.23)</td>
</tr>
<tr>
<td>Urban</td>
<td>0.95 (0.91–1.01)</td>
<td>&lt;0.001*</td>
<td>1.55 (1.23–1.95)</td>
</tr>
<tr>
<td>Semi-urban</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year of starting ART</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>1.58 (1.45 – 1.73)</td>
<td>&lt;0.001*</td>
<td>1.63 (1.47 – 1.82)</td>
</tr>
<tr>
<td>2005</td>
<td>1.64 (1.56 – 1.73)</td>
<td>&lt;0.001*</td>
<td>1.36 (1.26 – 1.48)</td>
</tr>
<tr>
<td>2006</td>
<td>1.38 (1.32–1.45)</td>
<td>&lt;0.001*</td>
<td>1.21 (1.13–1.30)</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s own computation  Note: All 1s represent reference category

Table 9.10 shows that there are similarities as well as variations in hazard ratios across the sectors for some of the variables. Some of the hazard ratios have statistical significance at 95% CI while others do not. This is especially true for the for-profit sector as noted by their high P-values. In terms of similarities, for instance, age groups 0-1, 15-24, and male sex are

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50 Hospitals owned by the for-profit sector
51 Non-governmental organizations, armed forces, occupational clinics

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risk factors that are significantly associated with higher mortality rates irrespective of the type of health sector. Similarly WHO stage 1/2 is associated with lower risk of mortality for the patients in all the three health sectors. Patients in age groups 0-1 have 39% and 74% higher risk of dying [HR=1.39(1.15–1.69) and 1.74(1.35-2.25)] compared to those in the reference group (25-34 years) in the government and the non-profit sectors respectively. For the age group 15-24 the hazard ratios are [HR=1.17(1.08–1.26) and 1.19(1.06–1.34)] and for sex [HR=1.40(1.35–1.46) and 1.40(1.32–1.49)] in the government and the non-profit sectors respectively.

This implies that if someone is receiving ART services in the government sector and is in age group 0-1 has a 39% higher risk of dying compared to someone who is in age group 25-34 which is the reference group. For patients in the same age group receiving treatment in the non-profit sector, they have a 74% risk of dying than someone in age group 25-34 in the same health sector. In both sectors, men have a 40% risk of dying compared to the females. Notably, patients in age group 6-14 years have relatively much lower risk for mortality in the government and the non-profit sector compared to the rest of the other age groups as shown by lower hazard ratios of [0.61(0.54–0.70) and 0.68 (0.50– 0.81)] respectively. This means that a patient, who is in the age group 6-14 years and receives treatment in the government sector, has a 39% lower risk of dying than someone in the 25-34 year age-group also in the government health facility. Similarly those in age group 1-14 years in the non-profit sector have a 32% lower risk of dying compared to those that are in the age group 25-34 years in the same sector. Although the hazard ratio for patients in the for-profit sector show a higher risk of dying in all the age groups relative to the reference group (25-34) these results are all non-significant due to small amount of data. Therefore we cannot draw any conclusions on them.

Furthermore, high risk of mortality is also associated with being in the northern or central region of Malawi, living in the rural area, having started taking treatment at WHO stage 3 or 4, as well as having been initiated on ARVs before 2007 as can be seen in table 9.10. For instance, the results show that starting ART at WHO stage 1/2 lowers the risk of mortality by 56% [HR = 0.44(0.40–0.47)] for patients receiving their treatment in the government sector, 49% [HR = 0.51(0.45–0.56)] for those in the non-profit sector and 43% [HR = 0.57(0.41–0.78)] for those in the for-profit sector compared patients who were initiated on treatment at WHO stage 3/4 in each.

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The type of health facility i.e. central hospital, district hospital, health centre etc. also has an effect on one's risk of mortality although this variable faces some collinearity problems with the sector variable because some types of health facilities highly correlate with the type of health sector variable. However, the general picture is that the district hospital level, which is also the reference group in this case, has the worst outcomes in terms of risk of mortality for the ART patients in all the sectors. For example, in government there is a 32% [HR=0.68(0.64-0.73) and HR=0.68(0.61–0.76)] lower risk of death for patients in the central and rural hospitals respectively compared to those in the district hospitals which means that a patient receiving treatment in the central region or rural hospital in the government has a 32% lower risk of dying than someone receiving treatment in a district hospital in the same government sector.

The reasons for this lower risk of death for patients in the central hospitals is attributable to the availability of qualified medical staff and the presence of better medical facilities such as CD4 machines, NRA test machines X-ray machines and other important equipment. In addition medication for the treatment of opportunistic infections is also readily available in central hospitals compared to any other type of hospital (MSH, 2007). As for the rural hospitals, the reasons are hard to imagine, however looking at the list of hospitals in this category, one sees that these hospitals are situated in some notable rural trading centres and not in the typical rural setting. Another feature is the small numbers of patients enrolled in these hospitals, which makes manageability of the patients by the health care staff much easier, unlike in the district hospitals where they have high case management against very few health care staff.

**Testing for significant differences in survival patterns among patients on ART across the sectors**

Since the major interest in this study is to assess whether there are any differences in the performance among the three health care providers, the above analysis is not enough unless the hazard ratios between the sectors are tested and proven significantly different. Therefore a further analysis is done to check whether the hazard ratios between patients receiving their treatment in the government health facilities compared with those getting their treatment in the non-profit and for-profit ART clinics as discussed above differ significantly. For example, does it mean that patients receiving treatment in the government sector in the central region have lower risk of death compared to those in the non-profit sector as indicated by the hazard ratios of [0.86(0.79–0.92) and [1.26(1.20 – 1.32)] respectively
compared to those in the southern region which are the reference category? Does this imply that patients living in the central region and receiving their treatment in the non-profit hospitals have 14% lower risk of death compared to patients in the non-profit clinics of the southern region while those receiving their treatment in the government hospitals have a 26% higher risk of dying in the central compared to those in the southern region? Importantly, the question is whether there are any significant differences in the hazard ratios of patients across the sectors for each covariate. To answer this question a further Cox regression analysis with interaction between sector and the specific covariates was performed to test this hypothesis. Table 9.11 below presents a summary of results of the likelihood ratio tests for each covariate.

**Table 9.11: Results of the likelihood ratio tests**

<table>
<thead>
<tr>
<th>Interaction</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector * Age group</td>
<td>0.129</td>
</tr>
<tr>
<td>Sector * Sex</td>
<td>0.247</td>
</tr>
<tr>
<td>Sector * WHO stage</td>
<td>0.006*</td>
</tr>
<tr>
<td>Sector * Health facility level</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Sector * Region</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Sector * Location</td>
<td>0.065</td>
</tr>
<tr>
<td>Sector * Year of starting ART</td>
<td>&lt;0.001*</td>
</tr>
</tbody>
</table>

*Source: Author own computation*

Table 9.11 above presents the P-values of the likelihood ratio tests. All the interactions that have a P-value <= 0.05 are statistically significant (95% CI). Therefore the conclusion is that the hazards ratios across the sectors for the particular variables which have P-values <= 0.05 are statistically different. In this case, the hazard ratios for WHO stages, health facility level, region and year of starting ART across the sectors are significantly different. Therefore it is possible to make some conclusions concerning the performance on risk to mortality across the sectors using these four variables. For example, from the classified analysis we see that a patient’s risk of death increases by 26% if they are in the central region in a government health facility compared to being in the southern region, while in the non-profit sector, a patient’s risk of death decreases by 14% if they are in the central region compared to being in the southern region. Since the interaction between sector and region is statistically significant, then we can conclude that being in the non-profit and in the central region decreases the patient’s risk of mortality.
On the other hand, being in the government sector and in the central region increases the patient’s risk of death. Therefore we can say that in government, being in central rather than southern is an additional risk while in non-profit it is a shield. The reason for this difference could be that the non-profit health facilities that operate in the central region are generally good at proving better ART services compared to those in the southern region while on the contrary in the government health facilities in the central region provide poor ART services compared to those in the southern region. This may be true because in the southern region there are a few NGOs that closely work with government hospitals in ART programme i.e. Zomba Central and Thyolo district hospital and their outcomes have been quite successful. On the other hand, in the central region there are no such initiatives by NGOs to work with government hospitals directly. On the part of the non-profit sector, there are a lot more of their facilities that are heavily supported by some donors and these non-profit ART providers serve a very large proportion of patients in the central region e.g. the Lighthouse Trust and Bwaila.

Similarly, since patients in the government sector who started taking ARVs at WHO stage 1/2 have 56% lower risk of death, while those in the non-profit have 49% lower risk of death and those in the for-profit have 43% lower risk of death compared to their colleagues who started ART at WHO stages 3 and 4, it means that being in the government and having started ART at WHO stage 1 and 2 lowers one’s risk of death more than being in the non-profit or for-profit sector. Finally, starting ART in 2005 and 2006 is associated with a slightly lower risk of dying when one receives treatment in the non-profit sector compared to being in the government sector.

In general, the results from this analysis show a mixed pattern and therefore create a challenge to come up with a clear conclusion to determine which sector is doing better in terms of reducing the risk of mortality. There are some areas where the non-profit sector is doing well and others where the government is doing much better. These differences may be due to certain factors that play a role on the performance of the individual clinics and one such factor is the resource base of the clinics. The next subsection attempts to link source of funding for the various health providers and outcomes of their services.

9.4 Source of funding and outcomes from the ART programme
Since Malawi mostly depends on donors for funding the ART programme as discussed in the introduction chapter, it is of interest to know whether certain donor resources have more effects on the outcomes of the programmes they support than others do as a result of
funding procedures. In chapter eight of the study findings, there is a discussion on the various donors in Malawi that support different organisations. Each donor has its own policy on how it engages with the local partners. For example, some donors such as the US government through its subsidiary organisations USAID, CDC and others believe in directly supporting the partner whether government agency or non-governmental organisation while other donors such as the United Kingdom, the Federal Republic of Germany, and other bilateral donors believe in pooled funding. This means that the money provided by these donors goes into the government machinery and in turn government is supposed to allocate these resources to programmes which are either run by government institutions or by non-governmental organisations. It is envisaged that the two types of funding approaches might have an effect on the final outcomes of the programmes. This study attempts to measure this by looking at some specific clinics that are funded by different donors and compare their mortality outcomes with those clinics that are purely funded by government to assess whether there are any significant differences in their outcomes.

From a list of some randomly selected clinics from the database as well as specifically from the 50 clinics that were interviewed during the field research in July/August 2011 and had indicated source of funding for their ART services. Hospitals that indicated to have received some funding from donors for their ART operations were mostly non-profits and central hospitals and were very few i.e. only 11 out of 50 clinics which is 22%. The rest either use government funding or other ordinary sources of funding such as user fees in the case of the for-profits and some non-profits. Generally there seems not to be any special attention given to the actual implementation of the ART programme at the clinic level. It is assumed that as long as the drugs are supplied, all is well. However an attempt is still made to analyse the situation using the little information available. The selected health facilities have various sources of funding which are assumed to impact the health outcomes of the patients on ART. The assumption is that those facilities that receive direct financial support from donors would perform better than those who get their support through the government system. This is because government-managed resources are usually associated with inefficiencies. The result of mortality rates in table 9.12 in general supports this assumption as can be noted that all the hospital that receive some direct funding from donors except one have mortality rates of less than 15 deaths per 100 person years. This particular hospital (Likuni), is directly supported by CDC and UNICEF on top of its normal operational funds. However one of the contributing factors to this negative result would be the location of the hospital. The hospital is located close to rural Lilongwe district surroundings. This might entail that some of the
patients come from this rural area where mortality rate is generally higher compared to urban areas due to socio-economic factors as observed in the Cox regression analysis.

There are examples of some of the non-profit organisations with very low mortality rates of 8.1 and 8.6 per 100 person years. One of them is funded by the Clinton Foundation and the Malawi government. This impressive low mortality rate is an indication that this clinic is doing very well in the treatment of HIV and AIDS among the children under its care considering that it reaches to about a third of all the children in the non-profit sector according to this data base. Another good example is another NGO which is funded by NAC and CDC and runs clinics in Lilongwe, Blantyre and Mzuzu cities and also conducts mobile clinics services in some remote areas where HIV and AIDS patients have difficulties to access ARV services. It is one of the NGOs that purely focuses on HIV and AIDS service delivery in Malawi.

Similarly there is another non-profit with the highest number of ART patients in the whole country and receives funding from several donors including CDC and GIZ as some of the main donors. This organisation puts in more resources in their work by conducting research as they champion innovative ways of providing ART services in Malawi. However these resources may have an effect on their cost-effectiveness in services delivery. The next section which is the final part of the study findings focuses on cost-effectiveness analysis.

On the other hand, there are also some isolated government health facilities that are purely funded by the government and seem to be doing well and these are mostly based in the cities. The reason could be that the social economic status of individuals who are served by these urban locations is relatively good and therefore can afford to live healthy lives that increase the opportunities for their survival. On the contrary, all the district hospitals which are purely government funded have very high mortality rates ranging from 20 up to 28.3 deaths per 100 person years. However one district hospital is an exception with a mortality rate of 12.8 deaths per 100 person years but it receives direct support from Medicines San Frontier apart from normal government resources.

Although it is difficult to statistically prove the differences from this analysis, at least a rough picture has been captured which indicate that additional direct funding to health facilities to support ART services improves the health outcomes of the patients in terms of mortality. However funding is just one among the so many covariates that affect mortality as discussed in the Cox regression analysis including. Other variables that were not included in the regression model include; the socio-economic status of the patients and the number of
patients in the clinic against staff capacity as most of the clinics complained that they were not able to provide all the support to their patients due to lack of human capacity. Therefore while type of donor/funding might be one contributing factor to health outcomes, there are so many other factors beyond the scope of this study that might affect health outcomes. This study has not exhausted all of them.

In conclusion, this chapter has provided a detailed descriptive analysis of all the relevant factors and demographics in the ART database such as age, sex, regional distribution of patients by type of providers, the residence of patients in terms of urban or rural, facility level where the patients get their treatment and the WHO clinical stages at which they started taking the medication. These are compared across the three sectors. This analysis has revealed some interesting differences. For instance, the government has been shown to cover more patients in the urban areas while the non-profit sector is serving more people in the rural areas. Another noteworthy discovery is that the for-profit sector has more male clients compared to the government and the non-profit sector. In addition, the for-profit sector has a much higher proportion of its patients starting to take the treatment at WHO stage 1 and 2 which is a positive factor compared to the government and the non-profit sectors with much smaller percentage of their clients starting ART at WHO stage 1 and 2.

In terms of the ART outcomes, the results are not very distinctive in the sense that one sector seems to do fairly well in one aspect than the other. However the for-profit sector has generally better outcomes in all the indicators except for the number of patients that are transferring out of their clinics to other clinics. In general, the government has been found to have poor performance in term of mortality outcomes among its clients compared to the non-profit sector and the for-profit sector. On the other hand, the non-profit sector has a higher proportion of its clients LTFU than the government and the for-profit sector while the for-profit has the highest proportion of transfer-out amongst its clients.

With regards to survival analysis results, both in the Kaplan Meier estimator as well as the Cox proportional regression analysis, patients in the government still have a higher risk of death compared to their counterparts in the non-profit and for-profit sector. Since mortality is the major outcome of interest, then the government is considered the worst performer among the three providers. Finally, the chapter has attempted to examine whether there are any differences in the performance of health facility as a result of source of funding for their ART activities. The results from this analysis point to the fact that direct external support to the clinics positively influences the outcomes of the ART programme.
Chapter Ten: Cost-effectiveness of the ART Programme in Malawi

In order to objectively measure the role of the non-profit sector and also to test one of the comparative advantages of NGOs, the study attempts to measure the cost-effectiveness of the ART service provision in Malawi by comparing the cost-effectiveness ratios of the non-profit sector to those of the government and the for-profit sectors. This analysis is based on cost data collected from the health facilities that provide ART in the four main cities of Malawi namely; Lilongwe, Blantyre, Zomba and Mzuzu. The choice of the cities was made on the basis that patients in these cities have comparable socio-economic status so as to avoid any biases on the outcomes of the patients on account of their socio-economic status. Secondly, there are more health facilities run by all the three types of health providers operating in close ranges with one another which, makes comparison of the services possible because the patients have a choice to make which provider to go to.

A structured questionnaire was administered to a sample of 50 clinics and we interviewed health facility personnel that were directly in charge of the ART clinics. The major information collected included, the cost of delivering ART to the clients, the number of staff involved in the ART clinic and their qualifications. In addition information on patient outcomes in the last 12 months, financial sources for the implementation of their ART programmes, availability of some important equipment for diagnosis of HIV and related diseases e.g. CD4 count machine, challenges related to availability of ART drugs and general challenges for the entire ART programme. This chapter therefore answer the forth research question which asks the question;

How cost-effective is the non-profit sector in the provision of ART services compared to the government and the for-profit sectors?

10.1 Brief summary about cost-effectiveness analysis as applied in this study

Cost-effectiveness analysis in this study uses cost data from a selected number of ART clinics in Malawi and effectiveness indicators generated from the Malawi ART 2008 census database. With respect to the type of data available in this analysis, it is only possible to calculate the average cost-effectiveness ratios as opposed to incremental cost-effectiveness ratios which is the most common way of measuring cost-effectiveness. The average cost-effectiveness ratio is derived by “dividing the total costs by the total effects”, (Glick, 2012). On the other hand, incremental cost-effectiveness ratio looks at the difference in costs between two programmes divided by the difference in the effects of the two programmes.
(Phillips, 2009). Görlach indicates that in general, CEA is most significant when alternative interventions produce similar effects, but differ in costs”, (Görlach\textsuperscript{52}).

### 10.2 Description and derivation of effectiveness indicators

According to literature, most economic evaluation methods use indicators such as quality adjusted life years ((QALY), disability adjusted life years (DALY), life years gained (LYG), life years saved, number of deaths averted etc. However, due to the limitations of these methods in measuring health effects, they have not been used in this study. For example, QALYs and DALYs require that patients are asked about their health status and assigned a value of quality of their lives ranging from 0-1 where 1 represents perfect health and 0 represents death in case of a QALY. The DALY measures the opposite of QALY as it looks at the number of years lost to ill health. Therefore on the range of 0-1, 0 means absence of disease while 1 represents death. These methods have however been criticised as being subjective and unethical because they require assigning a value to a person’s health. As such, the scores may be affected by individuals' personalities on how they view life and also socio-cultural differences. Besides, these types of measurements require a lot of time to explain the concept to the patients for them to understand and allocate scores for the various components of their health.

Due to time limitations and measurement problems highlighted, these measurements were not an option in this study. Likewise, life years gained were also not an option because they require that the patients should have stayed for a long time on treatment to be able to calculate the years gained compared to those who were not on treatment as controls. But in this case study, most of the patients are still on treatment and just started a few years ago such that calculation of LYG would not be appropriate. Other than this option, one can make estimations by using life expectancy of people in the normal population to come up with estimated LYG for those on treatment but this is only possible when calculating national estimates but in this case study the comparison is among health providers within the same country and in a few specific hospitals. The theoretical chapter provides more discussion on these measurement methods. Therefore this analysis uses person life years as a measure of health effects of the programme. This measure simply looks at the amount of years the patients have so far lived since their enrolment in the ART programme. The technical details of these calculations have already been discussed in the methodology.

\textsuperscript{52} http://www.ivm.vu.nl/en/Images/CBA10_tcm53-161546.pdf 30-12-12

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The calculation of life years lived are derived from the variable outcome indicators that are recorded in the Malawi 2008 ART database. This database is one among the rare data sets on ART in Africa according to the Institute of Social and Preventive Medicine (ISPM), University of Bern. They used this data base to study certain trends on ART outcomes in Malawi in comparison with other countries such as Zambia. This data is very comprehensive in the sense that it includes all the patients that were ever enrolled on ART as of 2008 from all ART clinics in Malawi. Data preparation regarding the decision about which variables to include in the analysis was done in collaboration with the ISPM research fellows who have also worked on this same database before.

The analysis of person life years is based on a one year observation period for each patient from the date that each patient commenced the treatment up to end of 12 months except for those who were lost to follow up or stopped taking the treatment before 12 months elapsed. The analysis focuses on patients that were enrolled in the ART programme in the years 2004, 2005, 2006 and 2007 in the three sectors i.e. government, non-profit and for-profit. These life years are the total sum of the survival time of all the patients in each sector. For example, for those who had died within the same year and had lived for 5 months, these 5 months will be the clients’ contribution of survival time.

Since the analysis is done by sector, the person years are also generated per sector by taking all the clinics from one sector together to calculate the total person years for the entire set of clinics from the particular sector. Since some of the interviewed clinics had started providing ART after 2007, they are not included in this analysis i.e. out of 19 government facilities only 18 are included in the analysis, 15 out of 18 non-profit facilities and 12 of the 13 for-profit facilities that were interviewed. The total person years calculated from these clinics are as follows:

**Table 10.1: Number of person years contributed by patients in each health sector**

<table>
<thead>
<tr>
<th>Type of provider</th>
<th>Total number of patients</th>
<th>Number of person time (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government (18 clinics)</td>
<td>22,849</td>
<td>17,083.31</td>
</tr>
<tr>
<td>Non-profit (15 clinics)</td>
<td>18,668</td>
<td>14,072.54</td>
</tr>
<tr>
<td>For-profit (12 clinics)</td>
<td>1,155</td>
<td>911.22</td>
</tr>
</tbody>
</table>

*Source: Author’s own computation*
10.3 Generating cost data

Data on costs concentrates on costs incurred by the health care providers in administering ART services to the patients because the objective is to compare the cost-effectiveness of the three health providers. The researcher asked the health facility staff to provide information cost of drugs, training, salaries for personnel, administrative costs such as rent, utilities, security, and communication and other expenses such as nutritional support for those who had such components in their ART programme. However as discussed in the literature in terms of limitations of cost-effectiveness analysis, the information on certain costs such as administrative costs was hard to get from most of the clinics. This is because ART activities in Malawi have taken an integrated approach so that there is no ART administrative budget. Administrative costs are generalised for all the services provided in the clinics which proved very difficult for the clinic staff to isolate ART administrative costs. Very few clinics were able to provide such kind of information after long discussions. Mostly it was possible in the for-profit and some non-profit hospitals to get such information. As such, administrative costs are not used in the calculation of cost-effectiveness ratios in this study. Only salaries for personnel were relatively easier to isolate by taking a proportion of the time each staff dedicates to ART activities per month which was then converted into monetary terms from their monthly wages.

Costs for the ART training and drugs were obtained from the HIV and AIDS Unit in the Ministry of Health which is responsible for overseeing the procurement of all ART drugs and training of health staff in the provision of ART services in the country. These costs are covered by the Malawi government through funding from Global Funds for HIV and AIDS interventions in Malawi. It was reported that ARV drugs cost 11US$ per patient per month while the trainings cost 500US$ per training session per health worker. The calculation of total costs is derived by multiplying 500US$ with the total number of health personnel in each clinic that were reported have undergone training. As for drug costs, an approximation is made using the person years' information which converted into months. These months are then multiplied with cost of drugs per month to come up with the total cost for drugs in each sector. A summary of these costs are presented in the next subsection where cost-effectiveness ratios are generated.

In general cost-effectiveness analyses have proven difficult to undertake worldwide due to the problem of getting reliable as well as all the required data. It has proven to be very costly to do a comprehensive cost-effective analysis. As such scholars tend to make certain waivers so that they are still able to get an idea about cost-effectiveness of programmes. In
this study, similar challenges were faced as already explained. Due to this problem, cost-effectiveness analysis in this case study will mostly rely on personnel costs to compare the cost-effectiveness of ART service delivery among the three providers in Malawi namely government, non-profit and for-profit. This is the only cost that was fully provided by all the clinics and it is fully shouldered by the health providers unlike other costs that are fully covered by government.

Beyond this, the study also makes an attempt to calculate cost-effectiveness ratios using costs for training personnel on ART delivery although the costs are shouldered by the government using the Global Funds resources. This is done to check whether training has any effect on the cost-effectiveness ratios of these health providers in case one of the provider is training more people than the others so that the variation among the providers will depend on the number of staff that have so far undergone the required trainings for them to effectively handle ART services. Also for the sake of getting a closer to reality idea of how cost-effectiveness of the general ART programme may look like, a cost-effectiveness analysis is also done which includes drug costs.

Before the calculation of cost-effectiveness is done, there is need to highlight one issue related to the calculation. This concerns three clinics that are treated as outliers and at some point are excluded from the calculation. These non-profits have a special mandate in leading the ART programme in Malawi. They do operational research in HIV treatment and the results are later scaled up at the national level. They also have a comprehensive monitoring and evaluation component to ensure up to date information which is disseminated nationwide in the ART programme. One of these non-profits is also responsible for conducting all trainings on ART provision to all ART providers on behalf of the government of Malawi\(^{53}\). The other one specialises in dealing with integrated TB and HIV services (Phiri et al., 2011) in collaboration with the Lilongwe District Health Office. This non-profit is also financed through the former non-profit organisation so that it monitors the integrated TB and HIV programme for lessons so they can scale-up the programme in future. As such the costs collected from these two non-profit were simply split into two to serve for the two clinics because they have one budget line although they have different names and located in two different premises. Therefore the costs for these clinics are similar.

The third non-profit that is also excluded in some of the analysis is a clinic that specifically offers paediatric HIV and AIDS treatment. It also has a college where they train specialists in

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paediatric AIDS treatment and therefore their work is supposed to be scaled up nationwide depending on the best practices they experience in their pilot projects in the treatment of children with HIV and AIDS\textsuperscript{54}. As such, these three health facilities have specialised staff not just clinical/medical staff but also for M & E and social mobilisation which is not the case with other ART clinics which makes their personnel costs unnecessarily high. In other words, all personnel costs for the organisations were included because the core business of these organisations is to provide ART services. Therefore cost-effectiveness calculations for the non-profit sector are analysed at two levels to take away the cost effects from these clinics. In the first analysis all the health facilities are included and the second calculation excludes the three health facilities which have unusually high costs.

10.4 Calculation of cost-effectiveness ratios

Since the cost data was collected in 2011 but the person years are from 2004, 2005, 2006 and 2007, an assumption is made that the costs in real terms were constant over these years (2008-2011) to allow for the calculation of cost-effectiveness ratios using this cost data.

\textit{Using personnel costs}

As mentioned earlier, personnel costs were calculated by getting a percentage of the time per month that was dedicated to ART by the staff that was involved in the administration ART services in the clinics. This proportion of time was then multiplied by the amount of salary per month for each particular health worker and then multiplied again by 12 to get costs per year and then adding up these costs at clinic level as presented in table 10.2. The clinics have been coded for confidentiality purposes.

\textsuperscript{54} http://www.natap.org/2006/newsUpdates/110906_06.htm 05.10.12
Table 10.2: Information on personnel costs by service provider

<table>
<thead>
<tr>
<th>Facility Code</th>
<th>Government Personnel Costs (US $)</th>
<th>Non-profit Personnel Costs (US $)</th>
<th>For-profit Personnel Costs (US $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>34,786.00</td>
<td>29,956.00</td>
<td>12,010.00</td>
</tr>
<tr>
<td>04</td>
<td>28,750.00</td>
<td>38,571.00</td>
<td>19,546.00</td>
</tr>
<tr>
<td>09</td>
<td>21,857.00</td>
<td>38,571.00</td>
<td>15,864.00</td>
</tr>
<tr>
<td>17</td>
<td>35,351.00</td>
<td>8,151.00</td>
<td>25,750.00</td>
</tr>
<tr>
<td>21</td>
<td>30,338.00</td>
<td>801,429.00</td>
<td>11,122.00</td>
</tr>
<tr>
<td>22</td>
<td>31,132.00</td>
<td>48,922.00</td>
<td>22,265.00</td>
</tr>
<tr>
<td>24</td>
<td>15,496.00</td>
<td>272,664.00</td>
<td>2,000.00</td>
</tr>
<tr>
<td>25</td>
<td>54,882.00</td>
<td>19,971.00</td>
<td>19,020.00</td>
</tr>
<tr>
<td>26</td>
<td>56,089.00</td>
<td>272,664.00</td>
<td>20,873.00</td>
</tr>
<tr>
<td>27</td>
<td>24,135.00</td>
<td>68,613.00</td>
<td>16,458.00</td>
</tr>
<tr>
<td>28</td>
<td>45,376.00</td>
<td>32,890.00</td>
<td>4,447.00</td>
</tr>
<tr>
<td>29</td>
<td>159,766.00</td>
<td>62,150.00</td>
<td>26,912.00</td>
</tr>
<tr>
<td>32</td>
<td>81,325.00</td>
<td>41,313.00</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>58,644.00</td>
<td>31,142.00</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>23,657.00</td>
<td>24,278.00</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>36,857.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>42,886.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>19,535.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL COSTS</td>
<td>855,308.00</td>
<td>1,791,285.00</td>
<td>196,267.00</td>
</tr>
</tbody>
</table>

Source: Author's own computation

Cost-effectiveness ratio is therefore derived by:

**Total amount of resources spent on personnel in one year per sector/ total number of person years lived in one year per sector**

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55 The clinic and clinic 07 are served by same health workers but one clinic is for paying and another for free to cater for those who cannot afford the payment. Costs are split into two.

56 This clinic and clinic 18 are served by same health workers but one clinic is for paying and another for free to cater for those who cannot afford the payment. Costs are split into two.
Table 10.3: Calculation of cost-effective ratios for government, non-profit and for-profit sectors using personnel costs only.

<table>
<thead>
<tr>
<th>Service provider and # of clinics</th>
<th>Total Number of patients</th>
<th>Number of person time (years)</th>
<th>Personnel costs by provider in 2011 (US $)</th>
<th>Cost-effectiveness ratio (cost per person year) (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government health Facilities (18)</td>
<td>22849</td>
<td>17083.31</td>
<td>855,308.00</td>
<td>50.07</td>
</tr>
<tr>
<td>Non-profit health facilities (15)</td>
<td>18668 (8664)</td>
<td>14072.54 (6383.98)</td>
<td>1,791,285.00 (444,528)</td>
<td>127.29 (69.63)</td>
</tr>
<tr>
<td>For-profit health facilities (12)</td>
<td>1155</td>
<td>911.22</td>
<td>196,267.00</td>
<td>215.39</td>
</tr>
</tbody>
</table>

Source: Author’s own computation. Note: The figures in brackets show the scenario where the three health facilities in the non-profit sector have been excluded.

The cost-effectiveness ratio results in table 10.3 above where only personnel costs are considered show that government has the lowest cost-effectiveness ratio of 50.07US$/person year followed by the non-profit sector with 127.29US$/person year lived and finally the for-profit sector with 215.39US$/person year lived. This implies that the government sector spends lesser amount of money on personnel costs to produce one person year compared to the non-profit and the for-profit providers.

One reason for this low cost-effectiveness ratio in the government sector may be influenced by the number and cadre of staff involved in the provision of ART services. The results from the interviews with health facilities show that the government sector has fewer doctors compared to the non-profit and for-profit sectors. For example, the mean number of doctors per hospital in the government sector is 0.79 compared to 1.61 and 1.23 doctors in the non-profit and for-profit health facilities respectively. The non-profit sector also has more registered nurses and clinical officers per clinic compared to the government sector. But government has a higher average number of enrolled nurses, medical assistants and clerks per health facility compared to the non-profit and for-profit sectors. With this information, it is likely that government spends less on personnel costs than the non-profits and for-profits do because it has less doctors, registered nurses and clinical officers who are more senior and

57 The number of clinics is lower than the total interviewed because some facilities started operations after 2007 so they are excluded from this analysis
58 These patients are taken from the 2004, 2005, 2006, 2007 cohort
59 The life years are calculated for the duration of 1 year of treatment for each patient from the 2004, 2005, 2006, 2007 cohort.
60 Cost-effectiveness ratio after excluding Lighthouse, Bwaira and Baylor Children Centre of Excellence ART clinics
require higher salaries/allowances compared to enrolled nurses and other junior staff. Yet these low qualified staff are still able to administer ART services as long as they have undergone the ART training programme.

In addition, as discussed in chapter eight, the first part of the study findings, government employees are paid lower salaries in general compared to their counterparts in the non-profit sector, this further reduces the costs for the government sector. This is why even after the three extraordinary health facilities have been excluded from the calculation in the non-profit sector, the cost-effectiveness ratio for the non-profit sector is still higher than that of government although this ratio lowers considerably i.e. from 127.29US$ to 69.63 US$ per person year lived compared to the cost-effectiveness ratio of 50.39US$ per person year lived in the government sector.

**Training costs**

Training costs were obtained from the HIV and AIDS unit in the ministry of Health. The officials indicated that it costs 500US$ to train one health worker per session. Using information from each clinic on the number of health workers that had been trained on ART and the number of sessions attended, a calculation was done to come up with the total amount of costs for all the health workers that had been trained in each health facility. This information is presented in table 10.4.
Table 10.4: Information on training costs by service provider from the 50 health facilities interviewed

<table>
<thead>
<tr>
<th>Facility Code</th>
<th>Staff training Costs (US $)/year</th>
<th>Facility Code</th>
<th>Staff training Costs (US $)/year</th>
<th>Facility Code</th>
<th>Staff training Costs (US $)/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>4000.00</td>
<td>01</td>
<td>3000.00</td>
<td>03</td>
<td>500.00</td>
</tr>
<tr>
<td>04</td>
<td>3500.00</td>
<td>06**</td>
<td>13000.00</td>
<td>05</td>
<td>3500.00</td>
</tr>
<tr>
<td>09</td>
<td>5500.00</td>
<td>07</td>
<td>13000.00</td>
<td>08</td>
<td>2500.00</td>
</tr>
<tr>
<td>17</td>
<td>5000.00</td>
<td>10</td>
<td>7066.80</td>
<td>20</td>
<td>1000.00</td>
</tr>
<tr>
<td>21</td>
<td>3500.00</td>
<td>11</td>
<td>10500.00</td>
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<td>22</td>
<td>23000.00</td>
<td>12</td>
<td>5500.00</td>
<td>33</td>
<td>1500.00</td>
</tr>
<tr>
<td>24</td>
<td>2500.00</td>
<td>15**</td>
<td>7252.00</td>
<td>34</td>
<td>500.00</td>
</tr>
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<td>25</td>
<td>1500.00</td>
<td>16</td>
<td>2500.00</td>
<td>35</td>
<td>4500.00</td>
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<tr>
<td>26</td>
<td>7000.00</td>
<td>18</td>
<td>7252.00</td>
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<td>2500.00</td>
</tr>
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<td>43</td>
<td>1000.00</td>
</tr>
<tr>
<td>28</td>
<td>5500.00</td>
<td>31</td>
<td>3000.00</td>
<td>44</td>
<td>1000.00</td>
</tr>
<tr>
<td>29</td>
<td>12000.00</td>
<td>37</td>
<td>6000.00</td>
<td>45</td>
<td>500.00</td>
</tr>
<tr>
<td>32</td>
<td>9500.00</td>
<td>40</td>
<td>5000.00</td>
<td>47</td>
<td>1500.00</td>
</tr>
<tr>
<td>38</td>
<td>20500.00</td>
<td>41</td>
<td>3500.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>4500.00</td>
<td>42</td>
<td>7500.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>7500.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>5000.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>17500.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>139,500.00</td>
<td></td>
<td>108,570.80</td>
<td></td>
<td>21,500.00</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

These costs are then combined with personnel costs to come up with CEA ratio of the two types of costs.

The cost-effectiveness ratios are therefore derived by:

\[
\text{Total amount of resources spent on personnel in one year plus training costs per sector} / \text{total number of person years lived in one year per sector}
\]

---

61 This clinic and clinic 07 are served by same health workers but one clinic is for paying and another for free to cater for those who cannot afford the payment. Costs are split into two.

62 This clinic and clinic 18 are served by same health workers but one clinic is for paying and another for free to cater for those who cannot afford the payment. Costs are split into two.

174
Cost-effectiveness analysis using personnel costs combined with staff training costs also follows a similar pattern as that of personnel costs only. The government sector still has the lowest cost-effectiveness ratio compared to the non-profit and the for-profit sector as can be observed in tables 10.3 and 10.5. The cost-effectiveness ratios for the non-profit sector is 142.07US$/person year compared to the governments’ cost-effectiveness ratio of 67.74 US$/person year.

Table 10.5: Calculation of cost-effective ratios for the government, non-profit and for-profit sectors using personnel plus staff training costs.

<table>
<thead>
<tr>
<th>Service provider and # of clinics included</th>
<th>Total Number of patients</th>
<th>Number of person time (years)</th>
<th>Personnel and staff training costs by provider in 2011 (US $)</th>
<th>Cost-effectiveness ratio (cost person year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government (18 health Facilities)</td>
<td>22849</td>
<td>17083.31</td>
<td>1,157,308.00</td>
<td>67.74</td>
</tr>
<tr>
<td>Non-profit (15 health facilities)</td>
<td>18668</td>
<td>14072.54</td>
<td>1,899,855.80</td>
<td>142.07 (82.72)</td>
</tr>
<tr>
<td>(8664) 1245 patients/clinic</td>
<td>(6383.98)</td>
<td>(528,094.80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(722 patients/clinic)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For-profit (12 health facilities)</td>
<td>1155</td>
<td>911.22</td>
<td>217,767.00</td>
<td>238.98</td>
</tr>
<tr>
<td>96 patients/clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s own computation  
Note: The figures in brackets show the scenario where the three health facilities in the non-profit sector have been excluded.

However when training costs only are used to calculate cost-effectiveness, a different pattern emerges. Table 10.6 below shows that the non-profit sector has the lowest cost-effectiveness ratio i.e. 7.86 US$/person year lived compared to government with 8.17 US$/person year lived and the for-profit sector with 23.59/person year lived. This is an indication that the government spends slightly more on staff training compared to the non-profit sector but saves a lot from personnel costs.

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63 The number of clinics is lower than the total interviewed because some facilities started operations after 2007 so they are excluded from this analysis
64 These patients are taken from the 2004, 2005, 2006,2007 cohort observed for one year period each
65 The life years are calculated for the duration of 1 year of treatment for each patient from the 2004,2005,2006,2007 cohort.
Table 10.6: Calculation of cost-effective ratios for government, non-profit and for-profit sectors using staff training costs only

<table>
<thead>
<tr>
<th>Service provider and # of clinics included</th>
<th>Total Number of patients</th>
<th>Number of person time (years)</th>
<th>Training costs by provider in 2011 (US $)</th>
<th>Cost-effectiveness ratio (cost per person year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government (18 health Facilities)</td>
<td>22849</td>
<td>17083.31</td>
<td>139,500.00</td>
<td>8.17</td>
</tr>
<tr>
<td>Non-profit (15 health facilities)</td>
<td>18668</td>
<td>14072.54</td>
<td>108,570.80</td>
<td>7.72</td>
</tr>
<tr>
<td>For-profit (12 health facilities)</td>
<td>1155</td>
<td>911.22</td>
<td>21,500.00</td>
<td>23.59</td>
</tr>
</tbody>
</table>

*Source: Author’s own computation*

However since training is not a recurrent cost, the government sector is likely to be more cost-effective in general due to the low personnel costs. On the other hand, the for-profit sector has consistently high cost-effectiveness ratios in all the scenarios. One reason for this outcome could be due to the small number of patients they reach out per clinic. For example, the data shows that the for-profit sector has on average 96 patients per clinic compared to 1269 patients per clinic in the government sector. While the non-profit sector serves about 1244 patients per clinic if the three outlier clinics are included and 722 patients per clinic when these clinics are excluded.

*Drug costs*

Finally the study attempts to incorporate drug costs in order to create a much broader picture of what cost-effectiveness of the ART in Malawi may look like because ART drugs are the major cost in ART provision. Marseille et al. (1998) reported in their study that cost-effectiveness was highly sensitive to drug costs. Therefore this calculation can help to show a close to reality picture of the cost for providing ART in Malawi. The costs were calculated using person years to get the total number of months for all the patients in each sector. Since the information obtained from the HIV and AIDS unit indicated that they spent 11US$ per patient per month, these total months are then multiplied by 11US$ to get the total cost for drugs in each sector for the patients that contributed to these life years. The person years lived are taken from table 10.1 where the effectiveness indicators are presented.

*Calculation of drug costs*

---

66 The number of clinics is lower than the total interviewed because some facilities started operations after 2007 so they are excluded from this analysis

67 These patients are taken from the 2004, 2005, 2006,2007 cohort observed for one year period each

68 The life years are calculated for the duration of 1 year of treatment for each patient from the 2004,2005,2006,2007 cohort.
Total number of person years lived/sector x 12 months = total number of ARV drug bottles distributed to these patients X 11US$

**Table 10.7: Total amount of drug cost by sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Cost per sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>17083.31 person years x 12 months x US$ 11 = US$ 1,857,575.28</td>
</tr>
<tr>
<td>Non-profit</td>
<td>14072.54 person years x 12 months x US$ 11 = US$ 1,857,575.28 OR without the three health facilities 6383.98 years x 12 months x US$ 11 = US$ 842,685.36</td>
</tr>
<tr>
<td>For-profit</td>
<td>911.22 person years x 12 months x US$ 11 = US$ 120,281.04</td>
</tr>
</tbody>
</table>

Source: Author's own computation

These costs were then added to the personnel costs and training costs to calculate another set of cost-effectiveness ratios with this information as follows:

**Total amount of resources spent on personnel, training costs and drug costs in one year per sector / total number of person years in one year per sector**

**Table 10.8: Cost-effectiveness ratios for personnel, training and drug costs**

<table>
<thead>
<tr>
<th>Service provider and # of clinics included</th>
<th>Total Number of patients</th>
<th>Number of person time (years)</th>
<th>Personnel, ARV drugs and staff training costs by provider in 2011 (US $)</th>
<th>Cost-effectiveness ratio (cost per person year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government (18 health Facilities)</td>
<td>22849</td>
<td>17083.31</td>
<td>3,412,304.92</td>
<td>199.74</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-profit (15 health facilities)</td>
<td>18668</td>
<td>14072.54</td>
<td>3,757,431.08</td>
<td>267.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(6383.98)</td>
<td>(1,370,780.16)</td>
<td>(214.72)</td>
</tr>
<tr>
<td>For-profit (12 health facilities)</td>
<td>1155</td>
<td>911.22</td>
<td>338048.04</td>
<td>370.98</td>
</tr>
</tbody>
</table>

Source: Author’s own computation

---

69 The number of clinics is lower than the total interviewed because some facilities started operations after 2007 so they are excluded from this analysis
70 These patients are taken from the 2004, 2005, 2006, 2007 cohort observed for one year period each
71 The life years are calculated for the duration of 1 year of treatment for each patient from the 2004, 2005, 2006, 2007 cohort.
This analysis which includes costs of the drugs shows that ART service delivery is quite sensitive to drug costs as can be noted by the huge differences in CEA ratios between the scenario where only personnel and training costs are considered and where personnel, training and drug costs are included. These costs are summarised in table 10.9. The table shows a huge jump in cost-effectiveness ratios from personnel and training costs to those where drug costs have been added. This indeed confirms other studies that have also found that ART services are sensitive to drug costs (Marseille et al., 1998; Badri et. al., 2006).

**Table 10.9: Summary of all the different levels of CEA ratios by service provider**

<table>
<thead>
<tr>
<th>Service Provider</th>
<th>CEA ratio with personnel costs only</th>
<th>CEA ratio with training costs only</th>
<th>CEA ratios with personnel plus training costs</th>
<th>CEA ratios with personnel, training and drug costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government sector</td>
<td>50.07</td>
<td>8.17</td>
<td>67.74</td>
<td>199.74</td>
</tr>
<tr>
<td>Non-profit sector</td>
<td>127.29 (69.63)</td>
<td>7.72</td>
<td>142.07 (82.72)</td>
<td>267.00 (214.72)</td>
</tr>
<tr>
<td>For-profit sector</td>
<td>215.39</td>
<td>23.59</td>
<td>238.98</td>
<td>370.98</td>
</tr>
</tbody>
</table>

Source: Author’s own compilation

From these cost-effectiveness ratios, an average ratio for all providers in Malawi is calculated to be 279.24 US$ per life year lived using personnel, training and drug costs. This ratio is generally lower compared to other cost-effectiveness ratios in ART provision obtained in other countries as was noted in chapter three of the literature review part. Most of the studies conducted in Africa reported cost-effectiveness ratios of above 300 US$ per life year gained (Bikilla et al., 2009; Badri et. al., 2006).

In summary this section has endeavoured to do a cost-effectiveness analysis of ART service provision in Malawi by comparing the cost-effectiveness ratios in the government, non-profit and the for-profit sectors operating in the four main cities of Malawi. The general picture shows that the government sector is most cost-effective in ART delivery compared to the non-profit and the for-profit sectors. This is irrespective of the fact that the government sector spends slightly more on training staff compared to the non-profit sector. The for-profit sector has on the other extreme consistently exhibited the worst cost-effectiveness ratios throughout as various costs were varied in the calculations.

Although these results do not cover all the costs, (i.e. administrative costs, monitoring costs, treatment of opportunistic infections were not available), the study has managed to produce some preliminary differentiation of cost-effectiveness ART programme delivery among service providers. As discussed in chapter eight on the HIV and AIDS market, it was
revealed that government receives a lot of money for HIV and AIDS services at the central level but little of trickles down. One may argue that these administrative costs would negatively affect the outcomes of the cost-effectiveness ratios if these costs were included in the calculation, however this would not be the case. This is because the costs that were considered in this analysis are only those that are available at the health facility level. All the resources that did not reach the health facilities are not included in this analysis. Therefore it is beyond doubt that the government run facilities are the most cost-effective in the provision ART services in Malawi.
Part V: Summary of Findings, Conclusions and Recommendations

This part wraps up the whole study with a summary of the findings linking to the theories and literature that guided the development of this study. It confirms some of the theoretical arguments but others are not supported by the empirical findings. This may be due to differences in the market setting in which the NGOs' roles are assessed. This study has used the HIV and AIDS market in Malawi as the major basis for analyzing and interpreting the empirical findings. The market approach to studying NGOs' roles is not new as some have used it such as Ben Ner and Ren (2008) and Hsu (2010). However, the approach used in this study is unique in the sense that it is very comprehensive as it incorporates various aspects of the market and at various levels i.e. the market structure, behaviour and results in a systematic manner. This framework has been very instrumental in understanding the patterns of the study outcomes in terms of NGOs' contributions to the HIV and AIDS sector in Malawi, in particular the antiretroviral programme.

This part has two chapters, which include chapter eleven and twelve. Chapter eleven provides a summary of the major study findings and chapter twelve presents a final conclusion of the main findings of this study and provides list of recommendations emanating from the findings of the study, some of which are of immediate applicability while others are in form of further research.
Chapter Eleven: Summary of findings

This chapter summarises the major findings of the study in relation to the research questions. These findings include; the outlook of HIV and AIDS market in Malawi, the extent to which the theoretical and literature arguments reflects the empirical reality in the case of Malawi concerning the role of the non-profit sector in terms of quantity and quality of their work in comparison to the government and the for-profit sector. The differences in cost-effectiveness of ART service delivery among these providers and the effects of the type of financial assistance in relation to programme outcomes are also highlighted.

11.1 The HIV and AIDS market in Malawi and implications on service delivery

Overall, this study has established the type of market structure that exists and influences the work of the NGOs and other implementers in the HIV and AIDS sector in Malawi. Most literature present the negative side of NGOs in accessing resources i.e. a purely competitive market where the NGOs are heavily competing for the resources, however this study has revealed a relatively different scenario. The market for HIV and AIDS in Malawi has proved to be a moderately competitive one as only about 50% of the NGOs indicated of experiencing some form of competition from fellow NGOs who are their major competitor.

The moderately competitive market structure serves as a good balance in regulating the behaviour of the NGO sector. It helps to deter the NGOs from being complacent, coupled by the good working relationship and special cooperation with the donors enables these NGOs to concentrate on programme implementation rather than wasting much of their time and resources on fund raising as literature suggests. This is reflected in their programmes/projects outcomes as reported by NGOs who expressed a relatively high to high impact rating of their projects according to their own assessment. Government institutions also reported relatively high impacts of their programmes/projects. Their success may also be partly influenced by the pressure they face from the NGOs who they compete with for resources from NAC. NAC as the major dispenser of HIV and AIDS resources from the Global Fund in Malawi provides funds to all HIV and AIDS implementers in Malawi based on proposals and past achievements.

The study also establishes that the NGOs are more proactive in asking for funds from donors including NAC for the implementation of HIV and AIDS activities. Some donors indicated that they receive a lot of unsolicited proposals from NGOs unlike government agencies who usually wait to be asked by the donor to hand in a proposal. The Malawi
government acknowledges that the NGO sector is a major implementing agent for HIV and AIDS activities in Malawi (GoM, 2009). The government and the non-profit sector work very closely in HIV and AIDS programme implementation according to the information reported by both parties. They reported of coordination in their programme implementation through meetings, sharing reports, work sub-contracting and basket funding. However, despite this cooperation, there is still some level of competition at higher level whereby government wants to be in control of all donor resources so that NGOs should only access funding through the government system but the NGOs are fighting against this idea. This revelation was made during an interview with one of the NGO experts. This analysis of the HIV and AIDS market has been very instrumental and enriching in the interpretation of the results of the ART outcomes amongst the service providers.

11.2 The extent to which theories explain the role of non-profit sector in Malawi

This study was based on some theories that guided the development of the research framework. These included the government failure theory, the contract failure theory and resource dependency theory as the main theories. According to the empirical findings, it is possible to determine how well these theories are able to explain the role and existence of the non-profit sector in Malawi.

The government failure theory

The government failure theory states that NGOs emerge to fill the service demand gap left by the governments due to various failures such as legislative failure, administrative failure, judicial failure and enforcement failure (Dollery and Wallis, 2001:2). Empirical evidence shows that this theory explains the existence of NGOs to a great extent in the case of Malawi where there is huge demand gap for services which the government is not able to fulfill to most of its population. As noted in the background information, as of end of 2010, only 63% of the ART deserving patients were able to receive the treatment. The non-profit sector has been found to provide about one third of the health and HIV/AIDS services in Malawi which is quite a high contribution in terms of quantity. However despite all this contribution by the non-profit sector the service gaps still remain high, encouraging the establishment of more and more non-profit organizations. However the question is why this gap still remains despite all these efforts. As Makuwira (2004) notes, the government of Malawi does not have a clear policy on how it should collaborate with NGOs. As a result sometimes NGOs’ efforts are invested in non crucial developmental areas. He also states that this is also partly due to the NGO’s limited understanding of the economic and social environment in which they operate (Makuwira 2004:115) although this second argument may
not really be applicable at present because most NGOs are actually very knowledgeable about the social and economic environment but may just need to be further guided by government’s policies. This shows a general problem of legislative failures. If this gap filling phenomena is to be realized, it would be important for government to collaborate more closely with NGOs in policy analysis, formulation and implementation. But this is not the case. Interviews with some of the NGOs leaders and the CONGOMA officials revealed that the NGO sector still feels that government does not fully involve them in policy formulation. This may also be attributed to the fact that Malawi does not yet have an NGO policy which makes it difficult for the NGOs to have a legal platform to present their case.

Further, although the non-profit sector is able to cover part of the service gaps left by the government, it is not possible for it to entirely substitute the responsibilities of the government. In this case, Salamon et al.’s argument of inter-dependency and partnership between the state and the non-profit sector fits well (Salamon et al, 2000). For example most donors are highly concerned with sustainability of NGO initiatives and therefore sometimes force NGOs to work in partnership with government. If the government does not have the basic infrastructure for the non-profit sector to build upon, they may not be able to effectively contribute to the much needed social services. This includes having institutions that are efficient in registering and monitoring the non-profit sector as well as creating an environment that is conducive for the operations of this sector. As presented in the background information, registration of NGOs in Malawi is not centrally managed and sometimes it takes long for the NGOs to be registered. I would therefore call this an institutional failure.

Based on the empirical results in the ART programme, human capacity problem has been identified as the major failure for government. The sources from the Global Funds for universal coverage of ART provision are available, what is lacking is the absorption capacity of the government system who is the main supplier of ART services in Malawi. As discussed in the introduction, Malawi declared its health care capacity as an emergency, therefore the coming in of NGOs to fill in this capacity gap is a real need for the government in the health sector. This may be the reason why the Malawi government in its HIV and AIDS National Action Framework clearly states that the NGOs are the core partners in the implementation of HIV and AIDS activities in Malawi. This situation is not unique to Malawi, a similar scenario occurred in Indonesia in a World Bank funded HIV and AIDS project in 1996-1997. The NGOs were used as the major implementers of the activities through a sub-contract arrangement. Unfortunately the project was not successful because of administrative failures.
in the government system to support the implementation of the programme (World Bank, 2005). The use of service level agreement in health service provision in Malawi is a good example.

Apart from the policy and capacity gaps, the study also found that there are some resource gaps in the government of Malawi to provide the required services to its citizens. In one of the interviews with a senior government official it was indicated that one of the strengths of the NGOs is that they have funds to implement HIV and AIDS activities. This statement may be true because from the list of donors that provide funds to Malawi there are some that only fund NGOs and others who are not even based in Malawi. This is a positive feature of NGOs in filling the resources gaps that the governments in developing countries may face. Since some of these are international NGOs and are from different origins, they have the leverage to source money from their countries to support their activities which the government may not access. For example, since the last half of 2010 till early 2012, Malawi was under sanctions from some donor countries e.g. the UK government and could not get budget support and this greatly affected service provision. However NGOs continued to get support from the same countries without any interruptions.

**The contract failure theory**

The other theory that was very important in guiding the formulation of the research frame work was that of contract failure which states that the non-profit sector provides better quality services compared to the for-profit because they are not profit seeking unlike for-profits whose aim is to maximize profit and they may do this at the expense of quality. The understanding is that it is very costly for the clients to get all information about the quality of health providers in the world full of asymmetric information, therefore the non-profit sector acts as a signal for better quality to non-informed clients because it is believed that the non-profits are not profit seeking and therefore they invest all their profits into the running of their programmes and that they are considered trustworthy. However the empirical results do is not support this theory in the case of Malawi. Just as Hirth (1993), Zuindervaart (2000) and others have argued, this theory seems to be indeed an overstatement of the trustworthiness of the non-profits forgetting that some of them are merely non-profits in disguise but basically they are for-profits at heart. Others have observed that although the non-profits may not distribute profits in cash, they are still able to distribute these profits in an indirect manner such as through huge salaries and other employment benefits. These arguments concur well with the results obtained in this study. The study found out that the non-profit staff have
higher salaries compared to the government staff at all levels of employment. In addition the non-profits have a lot more employment benefits than government employees do. For example, they have benefits such as health insurances, security, transport costs, children’s education and yearly bonuses all of which take a lot of money from the non-profit providers. In fact, some health facilities run by some faith based organizations are regarded as for-profits in Malawi due to the very high fees they charge to their clients. This study did not find any proof that the non-profits provide better quality services compared to the for-profits. On the contrary, the results show that the for-profits provide better quality services as evidenced by the better health outcomes of their clients compared to the health outcomes of patients from the non-profit sector. Therefore as Fletcher et al. (1995) state, the contract failure theory is indeed mostly a theory of consumer beliefs rather than the actual performance of the non-profit sector.

**Resource dependency theory**

The theory of resource dependency focuses on the interrelationships between donors and the non-profits in relation to the resources that donors provide to the non-profit sector. Scholars believe that the non-profits’ contribution to service delivery is hinged on the type of relationship that prevails between these two parties. This entails that the NGOs’ capacity to supply goods and services both in terms of quantity and quality is to some degree dependent on the donors as stated by Viravaidya and Hayssen (2001). They indicate that NGOs are like beggars who simply accept whatever the donor dictates, in order to survive in the market. Donors have their own priorities and strategies and they impose these on NGOs. Therefore depending on the donor’s goals and the amount of resources they are willing to provide, the NGOs may either contribute more or less.

The study also established that most of the NGOs are purely donor dependent, with a few NGOs clearly indicating that they decided to operate in the field of HIV and AIDS due to availability of funds from donors. These resources are mainly from the Global Funds for HIV and AIDS which are administered by the NAC and accessible to any organisation involved in HIV and AIDS implementation. For those accessing funds through this channel, the issue of being imposed on by the donors does not arise because these funds are not directly administered by the donors. However some NGOs expressed that they needed more resources to increase their coverage and impact but the donors could not provide the resources. In addition some complained that sometimes the donors force them to work in partnership with government and this does not always work very well due to the differences in work ethics. In terms of the effects of donor dependency is that sometimes the donors do
not fulfil the pledges they make such that some of the activities are not done thereby rendering the NGOs less effective. However the issue of resource shortage in a poor country like Malawi is not exceptional to the NGO sector, the government institutions also expressed the same limitation. For example, 40% of the Malawi government’s annual budget is supported by donors and this shows that the government is also highly donor dependent.

**NGOs comparative advantages**

One element that has made the non-profit sector to receive high recognition is their comparative advantages which have also earned them trust from the donor community. Although there are several of these comparative advantages, some seem to be no longer applicable while others hold true and are a major contribution for the non-profit sector to social service delivery. This study has established that the non-profit sector is indeed able to reach to the poor both through mere interviews with the NGOs and the donors and also through the results of the ART services where the non-profit sector is found to provide about 65% of the services to the total patients in the rural areas where most of the poor are based.

Further, it has been proven that NGOs are more flexible and therefore more sensitive to peoples need and are quick to adjust their projects to suit people’s needs. Although government providers also indicated that they are flexible in their programme implementation, the donors did not agree with this assertion. Government are known to be bureaucratic and may not be able to easily change a programme that is already running. Innovation is also another area of comparative advantage for NGOs as observed by the donors. It is believed that since most NGOs also work at international level, they have the advantage of knowledge transfer from one area to another and also because they work on project basis they have the opportunity to innovate and try different approaches which can then be replicated by huge government programmes once certified to have reasonable impact and are cost-effective. Cost-effectiveness was given special attention because it is very crucial in informing choice of allocation of funds in programme interventions due to the scarcity of resources. This is further elaborated in the next section.

**11.3 Comparison of cost-effectiveness among service providers**

Both the results obtained from the interviews with donors and the calculation of cost-effectiveness analysis on cost per life year lived on ART from a sample of health facilities, reveal that the non-profit sector is less cost-effective compared to the government sector. The government has proved that it uses less resources to produce a life year lived among its patients. The reasons for this may be due to the low salaries the government pays to its staff
and the use of lower cost staff members as shown chapter eight and ten respectively. The average of salaries for government staff are significantly lower than those of NGOs and for-profit sector employees at all levels and also the government mostly relies on nurses and clerks to administer ART services because in general they have less qualified staff such as doctors. On the other hand, the non-profit and for-profit sectors pay higher salaries and also have more qualified staff who are also involved ART services. Another reason for the low cost-effectiveness ratios for the government sector could be the fact that it has the advantage that it has a higher number of patients per clinic therefore benefiting from economies of scale. For example the government has on average 1269 patients per clinic compared to the non-profit with 1244 patients per clinic in the scenario where the three outlier clinics are included and 722 patients per clinics when these three clinics are excluded. On the other hand the for-profit sector only has 96 patients per clinic. Therefore these three factors may be instrumental in reducing costs in the government health facilities.

Drawing conclusions on cost-effectiveness regarding type of health provider have proven difficult mainly because cost-effectiveness analyses worldwide have yielded very mixed results such that till today there is no conclusion on which service provider is most cost-effective. Hollingsworth (2008) did a meta-analysis of 317 published articles on efficiency of public, non-profit and for-profit service delivery and concluded that the public sector was most efficient, followed by the non-profit sector and the for-profit sector was most inefficient (Hollingworth, 2008). Hsu (2010) however cites several examples of researchers that reported contrary to what Hollingsworth found. For instance Chang et al. (2004) found out that the for-profits were more efficient than the public sector in Taiwan. In Germany the picture is mixed up because some authors found that the public sector was more efficient than the for-profit, others found the inverse and another author found no difference between the two providers. In Zambia the private sector was found to be more technically efficient. Another study in the US in nursing homes found that the for-profit sector were highly cost-efficient compared to non-profits (Ben Ner and Ren, 2008). Forbes et al, (2010) also found no differences in technical efficiency between the public and private hospitals in Australia. Therefore Hsu concludes that cost-effectiveness in highly contextual depending on the market environment and also the shifting patterns with time as was observed in Germany as a result of new policies (Hsu, 2010). However the general outlook seems to suggest that the government sector is more cost-effective as observed by Hollingsworth who found the public sector to be most cost-effective after doing a meta-analysis of 317 published studies on efficiency of service providers.
In general, cost-effectiveness findings in this study contribute to the limited worth of information on cost-effectiveness analysis among service providers in low and middle income countries. Hsu (2010) laments the general lack of studies on technical efficiency in these countries.

11.4 The effects of the type of donor on health outcomes

This is one of the major unique findings that this study contributes to the knowledge of research on the effects of aid in a contextualised sense. Although not very comprehensive, these results are critical for future programme intervention in terms of funding approaches by the donor community. Unless donors come to understand how best the resources should be channelled for greater impacts, the aid inefficiency problems will continue to persist. From the discussion on donor funding, it was noticed that there are some donors that believe in direct support to the institution implementing the project whether governmental or non-governmental such as the USA donors, Japan and other smaller donors. While others do both direct support as well as budget support or SWAps such as DFID, GIZ, the World Bank, the EU and other like-minded donors. However most of their resources go to SWAps or other pooled means of funding as noticed from GIZ who could not tell what percentage of its funds went to NGOs because they do not have much control over these resources once put in the common basket. They can only monitor the outcomes of the sector which they support in a broad sense.

It was hypothesised that those health facilities that receive direct support are more likely to have better ART outcomes because the funds are directly provided to the implementer and therefore monitoring the use of funds by the donor is easier. Besides there are not so many hands involved in handling the funding and therefore minimising possibilities of wastage and unnecessary delays in the release of funds for the required purpose.

From the results which are based on the ART mortality outcomes, there is a mixed picture to enable any meaningful conclusion. Besides, the absence of the actual amount of resources provided in each clinic makes it even more challenging to compare outcomes. However one can make some impression that the government health facilities which had received extra direct support either from donors or from some NGOs have better mortality outcomes than those that simply relied on government funding alone. This is especially the case for district hospitals because most health facilities in the cities of Lilongwe and Blantyre showed good patient outcomes although they totally depend on government funding. For example, the cases of Zomba general and Thyolo district hospitals where Zomba general is supported by UNICEF who provide nutritional support for their patients and an NGO, Diginitas...
International whose staff assist in counselling patients and diagnosis of opportunistic diseases. On the other hand Thyolo district hospital is supported Medicines in a similar fashion. These hospitals have better patient outcomes compared to other district hospitals which rely on government support alone. Therefore, these two hospitals had extra resources on top of what the government provides to each hospital any this may have contributed to the outcomes of their patients in a positive way.

In general, it is difficult to come up with a very clear answer to conclusively state whether certain donors funds have higher impacts on the programmes they support than others due to lack of data. In addition, there are other factors that also play a role in the success of the health facilities which need to be controlled for in order to make a solid conclusion.


Chapter Twelve: Conclusions and Recommendations

This chapter provides a final conclusion of the study and presents some recommendations for health practitioners. There are several areas where this study would like to contribute to policy recommendations. Some of the recommendations are straightforward that simply require the policy makers and those concerned to implement. However there are a number of recommendations that are in the form of further research.

12.1 Conclusions

In summary this study has established that in Malawi, the HIV and AIDS market is mostly controlled by the government as the main policy guider but working in close partnership with the non-profit sector and trying to get the for-profit sector involved as well in the implementation of HIV and AIDS activities. In addition, there are donors who are also a very crucial partner in the supply of resources. The government and the non-profit sector get most of these resources to implement various HIV and AIDS activities, the for-profit sector does not benefit much from these resources because they are not fully involved in HIV and AIDS programmes and also because of their profit oriented goals which may not fit with the objectives of these funds.

The study has also found that the non-profit sector is playing a very important role in the provision of HIV and AIDS services in Malawi. First this is noted by the recognition that the government gives to the non-profit sector in the Malawi HIV and AIDS Extended National Framework where the NGOs are named as the core implementers of HIV and AIDS activities in Malawi. Interviews with government officials also confirmed and emphasized the vital role that NGOs play in this sector. Although the percentage of patients under the non-profit’s care is 34% in the provision of ART services according to the 2008 ART database information, there is a lot of support that the non-profit sector is providing to the government sector which has not been factored in this figure. For example, Medicines San Frontier supports Thyolo district hospital in the provision of ART services, the information in the database only shows Thyolo district as the provider which is a government facility. The same is true with Zomba general hospital which is supported by Dignitas International, another NGO. Therefore, the actual proportion of patients that are supported by NGOs in the ART programme only may be well close to 40% of the entire number of ART patients in the country.
In addition the study has shown that quality of services using mortality as a measure is better in the for-profit sector followed by the non-profit sector and the government comes last. This is revealed through the higher mortality rates per 100 person years lived in the government health facilities compared to those in the for-profit and the non-profit sector. However it should also be mentioned that type of service provider is just one among other factors that influence health outcomes as noted in the Cox regression analysis. It was found that WHO clinical stage or level of CD4 count at the time of starting ART, health facility level, region and year of starting ART also significantly influence health outcomes of patients across the three sectors. Age, sex and location of patients are also additional factors that affect the outcomes of the patients. However this study was mostly interested in the service provider as a factor affecting outcomes. In this case the results showed that after considering all these other covariates, overall patients in the non-profit sector have 25% lower risk of dying compared to their counterparts in the government sector while those in the for-profit sector have 20% lower risk compared to patients in the government ART clinics.

There are some key areas where NGOs have been found to be more critical. One such aspect is their ability to reach out to the poor populations in the rural areas. Both the interviews with the NGOs and donors and results from the ART database confirm this finding. This has been confirmed in this study as one of the NGOs' comparative advantage. The government and the for-profit sector concentrate more in the urban area because this is where they have their hospital infrastructure while the non-profit sector has gone to construct hospitals right in the rural areas to meet the needs of the rural poor. Although not many NGOs are involved, another comparative advantage is that they are actively involved in developing innovative ways of delivering HIV and AIDS services in Malawi. In the case of the ART programme, the Lighthouse in particular has been very instrumental.

This entire success story about the non-profit sector engagement would not have been possible without the good working relationship between this sector and the government with the support of the donor community. The market structure within which NGOs operate in Malawi is considered to be moderately competitive in nature. This is a good attribute because it moderates the actions of the NGOs such that they cannot be too complacent nor under too much pressure for competition so as to be distracted from their work. The moderate competition is necessary to ensure that these NGOs do not relax completely therefore have incentives to produce results or else they risk losing funds to other NGOs who may be more competent. The donors are always interested in achieving certain results
with their resources and would simply work with anyone who is able to produce results. Unlike all the negative sentiments stated in literature regarding the relationships between donors and NGOs, there seems to be a very good working relationship between donors and NGOs in Malawi. There is good communication between the two partners which helps to minimize principal agent problems.

The study has also attempted to do a cost-effective analysis to find out whether NGOs have a comparative advantage in this area. However, the results have shown that the non-profits are less cost-effective compared to the government sector. These results concur with the perceptions of the donors whose responses indicated that the NGOs were not cost-effective in their programme/project implementation. Although the cost-effectiveness analysis was based on staff salaries, training costs and drug costs only, it still provides a picture of what the situation is like in terms of the costs incurred in the provision of ART services in Malawi.

Finally, the study also endeavoured to compare programme effectiveness by looking at the type of donor that supports the particular programme by using the example of ART programme in selected health facilities. The results of this analysis has shed some light highlighting that generally clinics that receive some direct support from donors have higher chance of producing better outcomes than those that are funded through the government funding system and more especially those in the district hospitals.

In conclusion, this study has contributed to the rare knowledge on cost-effectiveness of service providers in ART service provision in Malawi and beyond. This is an area that has never been tackled by researchers in the HV and AIDS sector. Further the study has established that NGOs do possess certain comparative advantages such as reaching the poor however they are not cost-effective. In addition, these NGOs have been found critical in the provision of ART services in Malawi as noted by the 34% patient cover under their care. The market approach to the study is equally a great input as it helps to explain how intermediate factors such as market structures can influence service provision of agents. This analytical framework can be adapted in other research areas with similar focus.

It is however important to indicate that generalizability of these results in terms of the role of NGOs is limited to Malawi because the study was done in Malawi only and therefore these conclusions can comfortably apply to the Malawi NGOs. In addition, this study concentrated in the HIV and AIDS sector, therefore these findings may also not be generalized to all NGOs in all sectors in Malawi because the market arrangement in the other sectors might be different from the one in the HIV and AIDS sector. However, for those countries that are
involved in similar HIV and AIDS activities and also have a similar market structure may apply these results because the sample was representative as it was done through a systematic random sampling of all eligible NGOs and donors. The ART database also included all the patients that were eligible for the analysis. As such, there is no bias in the results. As for those countries that do not have similar background like Malawi, it may be necessary to conduct more research in other countries to get a cross-sectional picture that could have a wider application. In addition, there is need to conduct this study in other sectors as well in order to be able to generalize the results to all NGOs. Initially, this study intended to analyse the education sector as well but due to time and resource limitations this was not possible.

In general, it is quite difficult to come up with a very concrete conclusion when dealing with the study of NGOs as already indicated. Salamon et al. (2000) after conducting a cross-national assessment of NGOs’ impacts in 40 countries could not still provide a definite conclusion citing variations in weights attached to the different impacts and that these impacts can also differ according to type of organisation and countries. Therefore it is only possible to get a general picture rather than concrete answers due to these diversities.

12.2 Recommendations for immediate application

First the study outlines recommendations that policy makers can work on immediately as a result of the findings that have been revealed through this study.

First and foremost, this study has found out that one of the factors that affect performance of health facilities in providing quality services to their clients is lack of human capacity. Although this is not a new revelation and some steps have been undertaken to reduce this challenge, the problem is not yet solved as 60% of the facilities interviewed still reported about this setback. They complained that they have too many patients in relation to staff which means that they are overstretched and are unable to provide quality services to their clients. Therefore there is need for government together with its implementing partners to keep on finding ways to increase the human capacity in the health sector in general so that the ART programme can also benefit from the same.

Related to the first recommendation, is the proposition for government to aim at identifying strategies or policies that ensure more involvement of the for-profit sector in this area. There is need for some incentives for the for-profit sector to be actively involved in ART provision because they are profit oriented and government has to consider this fact. The cost-effectiveness ratios have shown that the for-profit sector has the worst figures in comparison
to the government and the non-profit sector mostly due to the small numbers of patients they have under their care. This can be considered as a waste of resources. The use of one fits all policy in implementation of health services has rendered the for-profit sector in ART provision very cost-inefficient. For example designing a more comprehensive and well thought through health insurance system for all who are in formal employment or own businesses with a certain amount of monthly revenues. These should contribute to this insurance fund and those that cannot afford, need to be subsidised by the government. In such a way everyone will be free to go to any hospital including the ones owned by the for-profits.

The study has also shown that NGOs in Malawi are making a great contribution in the HIV and AIDS sector as discussed in the study findings and the introduction. However the extravagance image they portray to the general public sometimes makes them vulnerable to unnecessary criticisms. Therefore the NGO sector needs to make an effort to improve its public image because some of the negative sentiments against this sector are based on the negative signals/images that the NGOs display. This may have negative implications on their funding prospects. For example, one NGO confessed that they started losing funding from donors because the donors felt that the organisation already had a lot of money by looking at the fleet of vehicles that could be seen around the city. The NGO did not have so many vehicles but due to the organisation’s logos that could be seen from far meant that even if the people have seen three cars of the same logos, it felt as if they have seen so many vehicles as this sticks into people’s minds than looking at so many cars that do not have any conspicuous identity. The NGO decided to remove the logos from their vehicles so that they could not be easily noticed on the roads anymore. This was an effort to improve their public image. Not that they are hiding anything. Sometimes they simply need to put their identity in small fonts that cannot be noticed from a far. Similarly, other strategies could be identified that could improve the entire image of this sector because they are capable of doing a great job and this negative image should not be a hindrance for them to do more.

It has been learnt from the for-profit sector that the close contact between a patient and the doctor is likely to increase the patients’ survival chances because the doctors have a good history of each patient and know how best to handle the patient and prescribe the right treatment to their patients at any given time. This is possible because for-profits have consistent doctors in their clinics and the patients have the possibility to choose which doctor they want to attend to them. This is usually not the case with the government and the non-
profit sector due to work shifts and also frequent transfers to other hospitals. It would be necessary whenever possible for the government and the non-profit sectors to consider being more flexible in this regard. If a patient comes and would like to meet a specific doctor who first diagnosed the patient with the disease and has been following the trend of the patient, the patient should be given the chance to see this particular doctor. In clinics where there is only one doctor this is already happening, but in clinics where they have more doctors, this may not be the case. In this case, a doctor may mean a clinical officer, medical assistant or nurse that is in charge of seeing patients in that particular clinic. This gives patients more confidence and hope and they are freer to express themselves to someone they already know and is familiar with their illness history.

The revelation that use of CD4 count as criteria for initiating patients on ART would ensure that most patients start ART on time and therefore increase their chances of survival as noted from the study findings. Those patients that started ART at WHO stage 1 and 2 have more than 50% lower risk of dying compared to those who start much later. Cost-effectiveness analyses from various countries have proved that starting ART earlier is more cost-effective than late start. Unfortunately, without CD4 counts, it is difficult to determine the right time to start ART using clinical signs. At the moment very few health facilities have CD4 count machines, therefore ART initiation in most cases is based on WHO clinical staging. The ART database showed that only about 13% of the patients on ART were initiated at WHO clinical stage 1 and 2 while the rest (about 87%) started in WHO stage 3 and 4. This has a negative impact on the survival of patients. It is therefore my recommendation that government should invest more in buying CD4 count machines so that all patients who test HIV positive should promptly undergo a CD4 count test to ensure that everyone starts treatment at the right time. If need be, a cost-effectiveness analysis could also be carried out to find out whether this approach is cost-effective in the long term or not.

The ministry of health needs to come up with a system that provides unique identities to patients in order to trace patients who have transferred from one health facility to another. This will ensure that the survival times of these patients are also calculated even if they change clinics several times.

Since socio-economic status is an important variable for health outcomes, I recommend that the HIV and AIDS should add this particular variable in the ART database to enrich the database in terms of co-variables that influence patient outcomes on ART.
12.3 Recommendations requiring further research

Considering the increasing need for ART provision in Malawi, it is essential that the Malawi government is able to establish cost-effective ways of providing its ART services. To do this, there is need to carry out several cost-effectiveness analyses that look at various ways of providing ART and how cost-effective these approaches are. This should guide them in the implementation of the ART programme in the most cost-effective manner. This study has attempted to do a cost-effectiveness analysis by comparing the three types of health providers. However this CEA is not perfect. There is need to get more data on costs so that a full CEA is done and then compare the results. This will be able to reveal where the government sector can save resources and the same for the for-profit and the non-profit sector. As it is now, none of these providers had ever thought of the actual costs of ART provision. They simply integrate it in their normal programmes and work as if there is no cost for ART because the costs of drugs and training are taken care of by government through the Global Fund. The health facility only indicates how much of the drugs they require and they get all the drugs they need. With the dwindling sources, Malawi has to get more prepared and find cost-effective means of delivering the services when donors are no longer able to support this programme. A few countries in sub-Saharan Africa have done some cost-effectiveness analysis studies on their ART programmes, but Malawi has not. It is my strong recommendation that Malawi conducts a full cost-effectiveness analysis on the provision of ART services because this is one component within the HIV and AIDS service delivery package that requires a lot of resources due to its life time treatment nature. It means that the people who have started taking the treatment now will have to do so for the rest of their lives and this will forever require a lot of resources because the number of those requiring the treatment is increasing every day. At the same time, donor commitment is declining. As a country, Malawi needs to find cost-effective and sustainable ways of providing this treatment.

One problem that the study faced was how to make conclusion on why the for-profit sector had consistently better patient outcomes compared to the government and the non-profit sector. One of the probable reasons is that there might be some self-selection of patients with regards to their decision for choosing a specific health facility. It may mean that patients of a certain socio-economic class go to particular health facilities which may mean that the outcomes from these patients may be different based on this social differentiation. It is my recommendation that a study be conducted to find out the criteria that patients use to enrol in the ART programme with a specific clinic i.e. what factors influence patients in making this choice?
Also related to the second recommendation for further research is the need to study the reasons why patients transfer from one facility to another. The ART database records all the patients that transferred out as an outcome for those patients. The assumption is that these people are in treatment somewhere only that due to lack of identity they cannot be traced in the new clinics because they are given another identity. Research has been conducted on patients that have been lost to follow up and have found out reasons for their non-show up to the facilities and also estimations of mortality among these patients have been done. However, no studies have been done on patients who transfer out. It is assumed that these patients are somewhere in a certain clinic receiving treatment. This assumption may be correct because there is some correlation between number of patients that were transferred and those that were recorded as transfer-ins. The major interest in this case is to establish where these patients actually go after transferring from one clinic. Do they go to the same type of provider or they switch providers and if so why? For example, would it be that the MK500 fee is still too much for some patients so that they are compelled to go to public clinics instead of private clinics? The reason is to further understand why the for-profits have a much higher percentage of transfer-outs compared to the government and the non-profit sector. This study would provide some insight into better understanding on the perceptions of patients on the different providers and how this affects their survival prospects.

One of the major challenges of this study is that due to time limitation it was not possible to collect any information from the patients to get their views on how they judge quality of services from the various providers. The conclusions on quality are based on data from the ART database and the interviews with the health providers. I recommend that the next study should be designed to consider interviewing patients to get their views on quality of services they get from their respective providers using standardised quality indicators.

The unavailability of administrative costs for the calculation of cost-effectiveness analysis was a big disadvantage in this study because it would have helped to give a better comparison of cost-effectiveness in ART service delivery in the three sectors. I therefore recommend that the monitoring and evaluation tools developed by the HIV and AIDS Unit should include information on administrative costs so that the real costs of ART are well documented and known. The real costs of this programme need to be known to those in decision making so that they can efficiently allocate resources to different health
programmes including the provision of ART. The current system of giving a blind eye to such costs as if these costs are negligible compromises on the quality of services rendered to the patients. For example, health workers reported that sometime they run short of basic equipment such as latex gloves for handling patients because the ART clinic does not have any specific budget for such important items. This also jeopardises the lives of the health workers who at times are forced to work without proper handling materials and risk of getting infected with the virus. Most of the health facilities interviewed felt that this study was an eye opener for them as they could now see the need to have these costs to be spelt out to avoid unnecessary shortages of materials for handling ART work.
References


Arnesen, T.M., and Norheim, O.F. (2011). Disability Adjusted Life Years, Possibilities and Problems. PPT. National Institute of Public Health, Oslo and Department of Public Health and Primary Care, University of Bergen, Norway


Makuwira, J. (2004). Non-Governmental Organisations (NGOs) and Participatory Development in Basic Education in Malawi. Current Issues in Comparative Education. 6(2).


National Statistical Office (NSO), and ICF Macro (2011). Malawi Demographic and Health Survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.


Internet sources


http://jnm.snmjournals.org/content/50/3/338.full.pdf+html 21.01.13


http://repository.upenn.edu/dissertations/AAI9413850 Accessed online 14-08-2012

http://sti.bmj.com/content/86/Suppl_2/i67 18.10.12


Appendices

Appendix 1: Data collection tools

a) Questionnaire for NGOs

Purpose

This questionnaire is a tool to obtain information from a sample of NGOs working in the area of Health/HIV and AIDS. This information will be used solely for a PhD thesis for Martina Lembani who is studying at the University of Bochum in Germany. The topic of the PhD research is “The Role of Non-Governmental Organisations in Social Service Delivery in health/HIV and AIDS sector in Malawi”. The aim of the research is to contribute to the understanding of the important role that NGOs play in enhancing development in various ways. Their presence and engagements have been widely acknowledged at international level and hence the need to understand and appreciate them accordingly.

The information collected will be treated confidentially and no names of individuals will be presented in the PhD thesis. However names of organisations with prior approval from the organisations’ authorities may be used where necessary. I would also like to assure you that there are no any risks associated with your participation in this research. You will only be asked to give facts, your thoughts and experiences on the questions that will be asked. Therefore honesty in answering the questions will be highly appreciated so that the data collected can be of value and benefit for future development plans to the Malawi nation and beyond.

This interview will take approximately 45-60 minutes of your time. As a participant in this study, you will be requested to answer a number of questions through an interview to be conducted by the researcher. The specific information to be asked during the interview include the following; the type of activities you are involved in, your project budgets for the last five years, coordination and cooperation with donors and other implementing partners, funding in terms of proposals you write to donors and other issues related to this topic, challenges in dealing with donors and other implementing partners, organisational growth, project impacts and other related questions.

Your participation in this project is highly appreciated.

Questions

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<tr>
<td>1. What specific activities in the health/HIV/AIDS sector are you involved in? Please tick all applicable.</td>
<td>4. Home based Care □</td>
<td>5. Nutritional support □</td>
<td>6. Other, specify ______________________</td>
</tr>
<tr>
<td>2. a) Apart from the health and HIV/AIDS, is there another sector you are working in? If no go to question 3.</td>
<td>1. Yes □</td>
<td>2. No □</td>
<td></td>
</tr>
<tr>
<td>b) If yes, which other sector(s) do you work in? Please tick all applicable.</td>
<td>Education □</td>
<td>Agriculture □</td>
<td>Microfinance □</td>
</tr>
<tr>
<td>c) If you work in any other sector other than health/HIV and AIDS, would you say that there is less or more competitiveness with organisations compared to this sector?</td>
<td>Water □</td>
<td>Child care □</td>
<td>Youth □</td>
</tr>
<tr>
<td>d) Why did you choose to work in this specific sector? Please tick all applicable.</td>
<td>Gender □</td>
<td>Enterprise Dev □</td>
<td>Environment □</td>
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<td>e.) How would you rate the impact of your projects on a scale of 1 to 6 where 1 represents high impact and 6 represents little or no impact? Please indicate your rating for each project.</td>
<td>Infrastructure Dev. □</td>
<td>Other, specify ______________________</td>
<td></td>
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<tr>
<td>f) How do you justify your rating in e) above?</td>
<td>1. Yes □</td>
<td>2. No □</td>
<td></td>
</tr>
<tr>
<td>1. Availability of funding (call for proposals) □</td>
<td>2. Due to the need we discovered □</td>
<td></td>
<td></td>
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<tr>
<td>3. Our area of expertise □</td>
<td>4. Other reasons specify ______________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. HIV/AIDS prevention □</td>
<td>2. HIV/AIDS counselling and testing □</td>
<td>3. HIV/AIDS treatment □</td>
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212
3. HIV/AIDS treatment  □  □  □  □  □  □
4. Home based Care □  □  □  □  □  □
5. Nutritional support □  □  □  □  □  □
6. Other, specify____________________ □  □  □  □  □  □

Reports on:
- Improved health conditions
- Increase in number of people going for voluntary counselling and testing
- Less people engaged in HIV risk behaviours
Other specify____________________

Part B: Collaboration with partners
3. a) Do you work in collaboration with government, for-profits and other NGOs?
   b) If no, please go to question 4.
   c) If yes, which government ministries or departments, for-profits and NGOs do you collaborate with? Please list all of them.
   d) How do you collaborate with each one of the listed partners? Please tick all applicable.

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<thead>
<tr>
<th>Name of partner</th>
<th>Means of collaboration</th>
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<tbody>
<tr>
<td>Government:</td>
<td>Yes □ No □</td>
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<tr>
<td>For-profits:</td>
<td>Yes □ No □</td>
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<tr>
<td>NGOs</td>
<td>Yes □ No □</td>
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1. Resources □
2. Employees □
3. Innovative strategies □
4. Results/impact □
5. Clients/customers □
6. Other specify____________________

4. a) Do you experience any competition in your work with the following implementing partners?
b) If no, please go to question 6.
c) If yes, what type of competition? Please tick all applicable.

5. a) Do you have a clear picture of who your main competitor is among the three partners if your answer to 4 a) is yes to all of the them?
b) If no, please go to question 6.
c) If yes, who is your main competitor?
d) If your answer to question c) includes NGOs, please indicate which type of NGOs.

1. Yes □
2. No □

1. Fellow NGOs □
2. Government □
3. For-profits □
4. All of them are equally our competitors □

1. All of them □
2. Mostly International □
3. Mostly national □
4. Mostly Local □
5. Same sector □
6. Same donor funded □

Part C: Funding
6. Which donors support your activities?

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<thead>
<tr>
<th>Name of donor</th>
<th>Type of donor:</th>
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<tr>
<td></td>
<td>1.) Multilateral</td>
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<td></td>
<td>2.) Bilateral</td>
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<td></td>
<td>3.) National</td>
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<tr>
<td></td>
<td>4.) Private – external</td>
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<td>5.) Private- internal</td>
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<td></td>
<td>6.) Government</td>
</tr>
<tr>
<td></td>
<td>7.) International NGO</td>
</tr>
</tbody>
</table>

7. How often do you communicate with your donor(s) and through which means? Please tick the frequency of communication for each one of the following methods of communication in the table provided where applicable. Please indicate which donor for each case in the cells.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Monthly</th>
<th>Quarterly</th>
<th>Bi-annually</th>
<th>Annually</th>
<th>Mid-term</th>
<th>End of project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through reports</td>
<td></td>
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<tr>
<td>meetings</td>
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<tr>
<td>Field visits</td>
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<td>Phone calls</td>
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<tr>
<td>Other specify</td>
<td></td>
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</tr>
</tbody>
</table>

Donor 1: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 2: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 3: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 4: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 5: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 6: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □

9. a) Do the donors that support your activities ever visited your offices?
   b) If your answer to 9 a) is yes all of them, please go to question 10.
   c) If your answer to 9 a) is yes some of them or none of them, please list the donors that have never visited your offices?

   1. Yes all of them □
   2. Yes some of them □
   3. No, none of them □

10. a) Do you have any special cooperation with certain donors in terms of long term/sustained funding from them?
    b) If no please go to question 11.
    c) If yes, why do you have this special relationship?

   1. Yes □
   2. No □
   1. Same country of origin □
   2. Similar ideology e.g. Faith based □
   3. Other specify ______________________________

11. Do you maintain one donor or you keep shifting from one donor to another?

   1. Yes maintain one donor □
   2. No keep shifting □

12.a) What strategies do you use in order to attract funding from donors?

   Innovation in project design □
   2. Less expensive e.g. use volunteers □
   3. Other specify ______________________________

   b) Have you ever noted any traces of favouritism towards certain NGOs by some donors?
   c) If yes, how common are these incidences? Please indicate in general on a scale of 1 to 6 where “1 means very common and 6 represents very rare.

   Yes □
   No □
d) Have you ever heard of incidences where donors get involved in corrupt deals with some implementing agency in awarding of contracts?

Yes□ Yes□ No□

13. a) What is your budget for your current health/HIV and AIDS project?

b). What proportion is this budget from your total budget for all the activities you are implementing currently?

c) On average, how much are your operational costs for your projects?

d) Does your funding from donors include operational costs?

If yes, that percentage of the budget is designated for operational costs?

If no, how do you cover for operational costs?

e) What has been the trend in terms of your project budgets over the last 5 years?

14. Approximately how much of your time do you spend on fund raising activities including proposal writing?

1. Less than 10%□
2. 10% - < 20% □
3. 20% - < 30% □
4. 30% - < 40% □
5. 40% - < 50% □
6. 50% - < 60% □
7. > 60% □

15. Approximately how much of your resources do you spend on fund raising activities including proposal writing?

1. Less than 10%□
2. 10% - < 20% □
3. 20% - < 30% □
4. 30% - < 40% □
5. 40% - < 50% □
6. 50% - < 60% □
7. > 60% □

D: Project Management Issues

16. a) Where does your organisation implement its activities (Project area)?

b) How far is this place from your nearest operating offices?

c) What is the total number of beneficiaries that you are targeting in your Health/HIV and AIDS programme/project?

d) Who are your main target beneficiaries?
1. Very poor □
2. Poor □
3. Middle class □
4. The Rich □
5. Whole population □
6. Other specify_____________________

17. a) How frequently does your staff visit your project site(s)?
1. Weekly □
2. Fortnightly □
3. Monthly □
4. Quarterly □
5. Biannually □
6. Annually □
7. Other specify_____________________

b) How do you verify that your staff indeed visited the project site and conducted the activity they were supposed to conduct?
1. Through activity reports □
2. Trust □
3. Follow up crosscheck by supervisor □
4. Other specify_____________________

c) What are the unit costs for delivering your services to per beneficiary for the following activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>unit cost /month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HIV/AIDS prevention</td>
<td></td>
</tr>
<tr>
<td>2. HIV/AIDS counselling and testing</td>
<td></td>
</tr>
<tr>
<td>3. HIV/AIDS treatment</td>
<td></td>
</tr>
<tr>
<td>4. Home based Care</td>
<td></td>
</tr>
<tr>
<td>5. Other, specify</td>
<td></td>
</tr>
</tbody>
</table>

18. How do you usually communicate with your beneficiaries?
1. By Phone □
2. By Post □
3. In person □
4. Courier services □
5. Other specify_____________________

19. Do your beneficiaries know your offices?
1. Yes □
2. No □

20. How do your beneficiaries reach you if they need any help?
1. By Phone □
2. By Post □
3. In person □
4. Other specify_____________________

21. How flexible are you in changing your project design to suit beneficiary needs? Please indicate on scale of 1 to 6 where "1 means very flexible and 6 represents not flexible at all.
1 □ 2 □ 3 □ 4 □ 5 □ 6 □

22. Have you ever changed your project design in the course of project implementation to suit beneficiary needs?
1. Yes □
2. No □

23. How innovative are you in your project design? Please indicate on a scale of 1 to 6 where "1 means very innovative and 6 represents not innovative at all.
1 □ 2 □ 3 □ 4 □ 5 □ 6 □

24. a) Would you consider your health/HIV and AIDS project design to have some innovative features either imported/learnt from other NGOs outside Malawi or locally initiated?
b) If no, please go to question 25.
c) If yes, please indicate the type of innovation?
1. Discovery and development of new kinds of resources □
2. Modification of existing resources □
3. Development of new technologies □
4. Modification of existing products □
5. Development of new products □
6. Development of new methodologies □
7. Modification of existing methodologies □

25. a) Do you have any staff that work as volunteers in your project(s)?
b) If no please go to question 26.
c) If yes, at what level are they? Please tick all
1. Yes □
2. No □
1. Senior management □
applicable.

26. a) Have you ever experienced any of the following incidences in your organisation or heard of such incidences about other partners? Please tick yes or no for each category provided.

<table>
<thead>
<tr>
<th>Incident</th>
<th>Your organisation</th>
<th>Other NGOs</th>
<th>Government</th>
<th>For-profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misallocation of funds</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>Fraud</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>Poor work quality</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td>Dishonesty in reporting</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
</tr>
<tr>
<td></td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
<td>Yes □ No □</td>
</tr>
</tbody>
</table>

b) If your answer to 26 a) is no to all the categories provided, please go to question 27.
c) If your answer to 26 a) is yes to some or all of the categories, how common are these incidences? Please indicate on a scale of 1 to 6 where 1 means very common and 6 represents very rare for each implementing partner.

NGOs: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Government agencies: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
For-Profits: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □

27. a) Is there any special role that you think NGOs play that cannot be fulfilled by government or for-profits?
b) If no, please go to question 29.
c) If yes what role do you think they play?

1. Yes □
2. No □

1. Reaching the poorest □
2. Advocacy □
3. Research □
4. Development of new Methodologies □
5. Other, specify ____________________________

28. a) Do you have any challenges when dealing with donors?
b) If no please go to question 29.
c) If yes what challenges do you face?

1. Yes □
2. No □

1. Tough conditionalities □
2. High expectations □
3. Donor driven activities □
4. Budget cuts/unfulfilled pledges □
5. Other, specify ____________________________

29. a) Do you have any challenges when dealing with government?
b) If no please go to question 30.
c) If yes what challenges do you face?

1. Yes □
2. No □

1. Tough conditionalities □
2. High expectations □
3. Political interferences □
4. Other, specify ____________________________

30. How regularly do you report to the NGO board on your activities?

Yearly
Every two years
Never

31. a) Are you a member of the Council for Non-Governmental Organisations in Malawi (CONGOMA)?
b) If no, what are the reasons

1. Yes □
2. No □

1. Cannot afford yearly contribution fees
2. No incentive to join

Cannot afford yearly contribution fees
No incentive to join
E. Lessons Learnt and Organisational Growth

32. a) Do your implementing partners compile lessons learnt during their project implementation?  
   b) If yes, are the lessons learnt implemented?  
   c) Would you say that your performance has improved over the past 5 years as you implement the lessons learnt?

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<table>
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<tbody>
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<td>Yes □</td>
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<td>Yes □</td>
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<td>No □</td>
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<tr>
<td></td>
<td>Yes □</td>
</tr>
<tr>
<td></td>
<td>No □</td>
</tr>
</tbody>
</table>

33 a) Did your programmes expand in the past 5 years in the following areas;

<table>
<thead>
<tr>
<th></th>
<th>Geographical coverage</th>
<th></th>
<th>Number of Beneficiaries</th>
<th></th>
<th>Sectors of operation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes □</td>
<td>No □</td>
<td>Yes □</td>
<td>No □</td>
<td>Yes □</td>
<td>No □</td>
</tr>
</tbody>
</table>

34. a) Did the number of permanent staff rise in your organization in the past 5 years?  
   b) Did the amount of wages in real terms rise for your staff in the past 5 years?  
   c) What are the salary scales for your staff for the following levels?

<table>
<thead>
<tr>
<th>National Director/Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five years ago</td>
</tr>
<tr>
<td>(Amount in MK)</td>
</tr>
<tr>
<td>&lt; 200,000 □</td>
</tr>
<tr>
<td>200,000 - &lt;250,000 □</td>
</tr>
<tr>
<td>250,000 - &lt;300,000 □</td>
</tr>
<tr>
<td>300,000 - &lt;350,000 □</td>
</tr>
<tr>
<td>350,000 - &lt;400,000 □</td>
</tr>
<tr>
<td>&gt; 400,000 □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Top management (e.g. Programme/project manager)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 100,000 □</td>
</tr>
<tr>
<td>100,000 - &lt;150,000 □</td>
</tr>
<tr>
<td>150,000 - &lt;200,000 □</td>
</tr>
<tr>
<td>200,000 - &lt;250,000 □</td>
</tr>
<tr>
<td>250,000 - &lt;300,000 □</td>
</tr>
<tr>
<td>&gt; 300,000 □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Middle management (e.g. Project officers, Admin. Officers etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 50,000 □</td>
</tr>
<tr>
<td>50,000 - &lt;100,000 □</td>
</tr>
<tr>
<td>100,000 - &lt;150,000 □</td>
</tr>
<tr>
<td>150,000 - &lt;200,000 □</td>
</tr>
<tr>
<td>200,000 - &lt;250,000 □</td>
</tr>
<tr>
<td>&gt; 250,000 □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Upper level Support staff (e.g. accounts assistants, field advisors, secretary, receptionist etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 25,000 □</td>
</tr>
<tr>
<td>25,000 - &lt; 50,000 □</td>
</tr>
<tr>
<td>50,000 - &lt; 75,000 □</td>
</tr>
<tr>
<td>75,000 - &lt; 100,000 □</td>
</tr>
<tr>
<td>100,000 - &lt; 125,000 □</td>
</tr>
<tr>
<td>&gt; 125,000 □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lower level support staff (e.g. messenger, cleaner etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10,000 □</td>
</tr>
<tr>
<td>10,000 - &lt; 15,000 □</td>
</tr>
</tbody>
</table>
b) Questionnaire for Government institutions

Purpose
This questionnaire is a tool to obtain information from a sample of government ministries/departments working in the area of Health/HIV and AIDS. This information will be used solely for a PhD thesis for Martina Lembani who is studying at the University of Bochum in Germany. The topic of the PhD research is “The Role of Non-Governmental Organisations in Social Service Delivery in health/HIV and AIDS sector in Malawi”. The aim of the research is to contribute to the understanding of the important role that NGOs play in enhancing development in various ways. Their presence and engagements have been widely acknowledged at international level and hence the need to understand and appreciate them accordingly.

The information collected will be treated confidentially and no names of individuals will be presented in the PhD thesis. However names of organisations with their approval may be used where necessary. I would also like to assure you that there are no any risks associated with your participation in this research. You will only be asked to give facts, your thoughts and experiences on the questions that will be asked. Therefore honesty in answering the questions will be highly appreciated so that the data collected can be of value and benefit for future development plans to the Malawi nation and beyond.

This interview will take approximately 30-45 minutes of your time. As a participant in this study, you will be requested to answer a number of questions through an interview to be conducted by the researcher. The specific information to be asked during the interview include the following; the type of activities you are involved in, your project budgets for the last five years, coordination and cooperation with donors and other implementing partners, funding in terms of proposals you write to donors and other issues related to this topic, challenges in dealing with donors and other implementing partners, organisational growth, project impacts and other related questions.

Your participation in this project is highly appreciated.

<table>
<thead>
<tr>
<th>Part A: Project activities and Collaboration with partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What specific activities in the health/HIV/AIDS sector are you involved in? Please tick all applicable.</td>
</tr>
<tr>
<td>1. HIV/AIDS prevention □</td>
</tr>
<tr>
<td>2. HIV/AIDS counselling and testing □</td>
</tr>
<tr>
<td>3. HIV/AIDS treatment □</td>
</tr>
</tbody>
</table>
2. a) How would you rate the impact of your projects on a scale of 1 to 6 where 1 represents high impact and 6 represents little or no impact?

   b) How do you justify your rating in a) above?

3. a) Do you work in collaboration with NGOs, for-profits and other government ministries/departments?
   b) If no, please go to question 4.
   c) If yes, which NGOs, for-profits, and government ministries/departments do you collaborate with? Please list all of them.
   d) How do you collaborate with each one of the listed partners? Please tick all applicable.

4. a) Do you experience any competition in your work with the following implementing partners?
   b) If no, please go question 6
   c) If yes, what type of competition do you face? Please indicate for each partner the type of competition.

5. a) Do you have a clear picture of who your main competitor is among these partners if your answer to 4 a) is yes to two all of the them?
   b) If no, please go to question 6.
   c) If yes, who is your main competitor?
d) If your answer to question c) includes NGOs, please indicate which type of NGOs.

1. Fellow NGOs
2. Government
3. For-profits
4. All of them are equally our competitors

1. All of them
2. Mostly International
3. Mostly national
4. Mostly Local
5. Same donor funded

Part B: Funding

6. Which donors support your activities?

<table>
<thead>
<tr>
<th>Name of donor</th>
<th>Type of donor:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.) Multilateral</td>
</tr>
<tr>
<td></td>
<td>2.) Bilateral</td>
</tr>
<tr>
<td></td>
<td>3.) National</td>
</tr>
<tr>
<td></td>
<td>4.) Private – external</td>
</tr>
<tr>
<td></td>
<td>5.) Private - internal</td>
</tr>
<tr>
<td></td>
<td>6.) Government</td>
</tr>
<tr>
<td></td>
<td>7.) International NGO</td>
</tr>
</tbody>
</table>

7. How often do you communicate with your donor(s) and through which means? Please tick the frequency of communication for each one of the following methods of communication in the table provided where applicable. Please indicate which donor for each case in the cells.

<table>
<thead>
<tr>
<th>Frequency of Communication method</th>
<th>Monthly</th>
<th>Quarterly</th>
<th>Bi-annual</th>
<th>Annual</th>
<th>Mid-term</th>
<th>End of project</th>
</tr>
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<tbody>
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<td>Through reports</td>
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<tr>
<td>Meetings</td>
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<tr>
<td>Field visits</td>
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</tr>
<tr>
<td>Phone calls</td>
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</tr>
<tr>
<td>Other specify</td>
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</tr>
</tbody>
</table>

Donor 1: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 2: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 3: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 4: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 5: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □
Donor 6: 1 □ 2 □ 3 □ 4 □ 5 □ 6 □

8. How would you rate the level of your communication with the donor(s) that support your organisation? On a scale of 1 to 6 please indicate your level of communication where 1 represents very high communication and 6 implies very low communication.

9. a) Do the donors that support your activities ever visited your offices?
   b) If your answer to 9 a) is yes all of them, please go to question 10.
   c) If your answer to 9 a) is yes some of them or none of them, please list the donors that have never visited your offices?

10. a) Do you have any special cooperation with certain donors in terms of long term/sustained funding from them?
    b) If no please go to question 11.
    c) If yes, why do you have this special relationship?

11. Do you maintain one donor or you keep shifting from one donor to another?
12. a) What strategies do you use in order to attract funding from donors?

- Innovation in project design □
- Less expensive e.g. use volunteers □
- Other specify ___________________________

b) Have you ever noted any traces of favouritism towards certain implementing agencies by some donors? If no go question 13.

c) If yes, how common are these incidences? Please indicate in general on a scale of 1 to 6 where “1” means very common and 6 represents very rare.

d) Which agencies are most favoured in your opinion? Tick accordingly.

e) What do you think are the reasons for this behaviour?

- 1. Yes □
- 2. No □

1  □  2  □  3  □  4  □  5  □  6  □

1. High reputation of the implementing partner □
2. Capacity to implement projects successfully □
3. Due to some corrupt deals between the donor and the implementing agency □
4. Other specify ___________________________

12. Have you ever heard of incidences where donors get involved in corrupt deals with some implementing agency in awarding of contracts?

- Yes □
- No □

13. a) What is the budget for your current HIV and AIDS project(s)?

- $ □
- £ □
- € □
- MK □

- 1. < 10% □
- 2. 10% - < 15% □
- 3. 15% - < 20% □
- 4. 20% - < 25% □
- 5. 25% - < 30% □
- 6. 30% - <50% □
- 7. >50% □

1. Yes □
2. No □

1. < 10% □
2. 10% - < 15% □
3. 15% - < 20% □
4. > 20% □

1. From user fees □
2. From other projects □
3. From project activity funds □
4. From government budget □
5. Other, specify ___________________________

Increasing
1. Decreasing
2. Constant
3. None of the above – (fluctuating)

14. Approximately how much of your time do you spend on fund raising activities including proposal writing?

- Less than 10% □
- 20% □
- 30% □
- 40% □
- 50% □
- Other □

15. Approximately how much of your resources do you spend on fund raising activities including proposal writing?

- Less than 10% □
- 20% □
- 30% □
- 40% □
- 50% □
- Other □

C: Project Management Issues
16. a) Where does your organisation implement its activities (Project area)?
b) How far is this place from your nearest operating offices?
c) What is the total number of beneficiaries that you are targeting in your Health/HIV and AIDS programme/project?
d) Who are your main target beneficiaries?

<table>
<thead>
<tr>
<th>Distance</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
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<tbody>
<tr>
<td>&lt; 10km</td>
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<td></td>
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<tr>
<td>10 to &lt;25Km</td>
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<tr>
<td>25 to &lt;50km</td>
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<tr>
<td>50 to &lt;100km</td>
<td></td>
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<tr>
<td>100 to &lt;150 km</td>
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<td></td>
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<tr>
<td>&gt; 150km</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

1. Very poor □
2. Poor □
3. Middle class □
4. The Rich □
5. Whole population □
6. Other, specify ____________________

17. a) How frequently does your staff visit your project site(s)?
b) How do you verify that your staff indeed visited the project site and conducted the activity they were supposed to conduct? 
c) What are the unit costs for delivering your services to per beneficiary for the following activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Unit Cost/month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HIV/AIDS prevention</td>
<td></td>
</tr>
<tr>
<td>2. HIV/AIDS counselling and testing</td>
<td></td>
</tr>
<tr>
<td>3. HIV/AIDS treatment</td>
<td></td>
</tr>
<tr>
<td>4. Home based Care</td>
<td></td>
</tr>
<tr>
<td>5. Other</td>
<td></td>
</tr>
</tbody>
</table>

1. Weekly □
2. Fortnightly □
3. Monthly □
4. Quarterly □
5. Biannually □
6. Annually □
7. Other specify ____________________

1. Through activity reports □
2. Trust □
3. Follow up crosscheck by supervisor □
4. Other specify ____________________

18. How do you usually communicate with your beneficiaries?

<table>
<thead>
<tr>
<th>Communication Method</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. By Phone</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. By Post</td>
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<tr>
<td>3. In person</td>
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<td></td>
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<tr>
<td>4. Courier services</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>5. Other specify</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

19. Do your beneficiaries know your offices?

<table>
<thead>
<tr>
<th>Knowledge Status</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Yes</td>
<td></td>
<td></td>
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<tr>
<td>2. No</td>
<td></td>
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</tbody>
</table>

20. How do your beneficiaries reach you if they need any help?

<table>
<thead>
<tr>
<th>Communication Method</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. By Phone</td>
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<tr>
<td>2. By Post</td>
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<tr>
<td>3. In person</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. Other specify</td>
<td></td>
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</tr>
</tbody>
</table>

21. How flexible are you in changing your project design to suit beneficiary needs? Please indicate on scale of 1 to 6 where “1” means very flexible and 6 represents not flexible at all.

<table>
<thead>
<tr>
<th>Scale Value</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<td>6</td>
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</tr>
</tbody>
</table>

22. Have you ever changed your project design in the course of project implementation to suit beneficiary needs?

<table>
<thead>
<tr>
<th>Decision</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Yes</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>2. No</td>
<td></td>
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</tr>
</tbody>
</table>

23. How innovative are you in your project design? Please indicate on a scale of 1 to 6 where “1” means very innovative and 6 represents not innovative at all.

<table>
<thead>
<tr>
<th>Scale Value</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
<th>□</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td>2</td>
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<td>4</td>
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<tr>
<td>5</td>
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</tr>
<tr>
<td>6</td>
<td></td>
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</tr>
</tbody>
</table>

24. a) Would you consider your health/HIV and AIDS project design to have some innovative features either imported/learnt from other partners from outside Malawi or locally initiated?
b) If no, please go to question 25.
c) If yes, please indicate the type of innovation?

1. Yes □
2. No □

- Discovery and development of new kinds of resources □
- Modification of existing resources □
- Development of new technologies □
25. a) Do you have any staff that work as volunteers in your project(s)?
   b) If no please go to question 26.
   c) If yes, at what level are they? Please tick all applicable.

26. a) Have you ever experienced any of the following incidences in your organisation or heard of such incidences about other partners? Please tick yes or no for each category provided.
   b) If your answer to 26 a) is no to all the categories provided, please go to question 27.
   c) If your answer to 26 a) is yes to some or all of the categories, how common are these incidences? Please indicate on a scale of 1 to 6 where 1 means very common and 6 represents very rare for each implementing partner.

27. a) Is there any special role that you play that you believe cannot be fulfilled by government or for-profits?
   b) If no, please go to question 29.
   c) If yes what role do you play?

28. a) Do you have any challenges when dealing with donors?
   b) If no please go to question 29.
   c) If yes what challenges do you face?

D. Lessons Learnt and Organisational Growth
29. a) Do you compile lessons learnt during your project implementation?
   b) If yes, are the lessons learnt implemented?
   c) Would you say that your performance has improved over the past 5 years as you implement the lessons learnt?
33 a) Did your programmes expand in the past 5 years in the following areas; 

<table>
<thead>
<tr>
<th>Geographical coverage</th>
<th>Yes □</th>
<th>No □</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Beneficiaries</td>
<td>Yes □</td>
<td>No □</td>
</tr>
<tr>
<td>Number of activities</td>
<td>Yes □</td>
<td>No □</td>
</tr>
</tbody>
</table>

30. a) Did the number of permanent staff rise in your organization in the past 5 years?
b) Did the amount of wages in real terms rise for your staff in the past 5 years?
c) What are the salary scales for your staff for the following levels?

1. Yes □
2. No □

National Director/coordinator

Five years ago Now
(Amount in MK)

<table>
<thead>
<tr>
<th>&lt; 200,000</th>
<th>&lt; 300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>200,000 - &lt;250,000</td>
<td>300,000 - &lt;350,000</td>
</tr>
<tr>
<td>250,000 - &lt;300,000</td>
<td>350,000 - &lt;400,000</td>
</tr>
<tr>
<td>300,000 - &lt;350,000</td>
<td>400,000 - &lt;450,000</td>
</tr>
<tr>
<td>350,000 - &lt;400,000</td>
<td>450,000 - &lt;500,000</td>
</tr>
<tr>
<td>&gt; 400,000</td>
<td>&gt; 500,000</td>
</tr>
</tbody>
</table>

Top management (e.g. Programme/project manager)

<table>
<thead>
<tr>
<th>&lt; 100,000</th>
<th>&lt; 200,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>100,000 - &lt;150,000</td>
<td>200,000 - &lt;250,000</td>
</tr>
<tr>
<td>150,000 - &lt;200,000</td>
<td>250,000 - &lt;300,000</td>
</tr>
<tr>
<td>200,000 - &lt;250,000</td>
<td>300,000 - &lt;350,000</td>
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<tr>
<td>250,000 - &lt;300,000</td>
<td>350,000 - &lt;400,000</td>
</tr>
<tr>
<td>&gt; 300,000</td>
<td>&gt; 400,000</td>
</tr>
</tbody>
</table>

Middle management (e.g. Project officers, Admin. Officers etc)

<table>
<thead>
<tr>
<th>&lt; 50,000</th>
<th>&lt; 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>50,000 - &lt;100,000</td>
<td>100,000 - &lt;150,000</td>
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<tr>
<td>100,000 - &lt;150,000</td>
<td>150,000 - &lt;200,000</td>
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<tr>
<td>150,000 - &lt;200,000</td>
<td>200,000 - &lt;250,000</td>
</tr>
<tr>
<td>200,000 - &lt;250,000</td>
<td>250,000 - &lt;300,000</td>
</tr>
<tr>
<td>&gt; 250,000</td>
<td>&gt; 300,000</td>
</tr>
</tbody>
</table>

Upper level Support staff (e.g. accounts assistants, field advisors, secretary, receptionist etc)

<table>
<thead>
<tr>
<th>&lt; 25,000</th>
<th>&lt; 50,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>25,000 - &lt;50,000</td>
<td>50,000 - &lt;75,000</td>
</tr>
<tr>
<td>50,000 - &lt;75,000</td>
<td>75,000 - &lt;100,000</td>
</tr>
<tr>
<td>75,000 - &lt;100,000</td>
<td>100,000 - &lt;125,000</td>
</tr>
<tr>
<td>100,000 - &lt;125,000</td>
<td>125,000 - &lt;150,000</td>
</tr>
<tr>
<td>&gt; 125,000</td>
<td>&gt; 150,000</td>
</tr>
</tbody>
</table>

Lower level support staff (e.g. messenger, cleaner etc)

<table>
<thead>
<tr>
<th>&lt; 10,000</th>
<th>&lt; 15,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 - &lt;15,000</td>
<td>15,000 - &lt;20,000</td>
</tr>
<tr>
<td>15,000 - &lt;20,000</td>
<td>20,000 - &lt;25,000</td>
</tr>
<tr>
<td>20,000 - &lt;25,000</td>
<td>25,000 - &lt;30,000</td>
</tr>
<tr>
<td>25,000 - &lt;30,000</td>
<td>30,000 - &lt;35,000</td>
</tr>
<tr>
<td>&gt; 30,000</td>
<td>&gt; 35,000</td>
</tr>
</tbody>
</table>

d) What benefits are associated with each category of employees? Please use the list provided.
### Pension

<table>
<thead>
<tr>
<th>Company car</th>
<th>Transport subsidy</th>
<th>Children's education</th>
<th>Home security</th>
<th>Yearly bonuses/13th cheque</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

### Daily Local Travel Allowances - lump sum including accommodation (Malawi Kwacha (MK))

<table>
<thead>
<tr>
<th>&lt;10,000</th>
<th>&lt;8,000</th>
<th>&lt;5,000</th>
<th>&lt;2,000</th>
<th>&lt;1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 -</td>
<td>8,000 -</td>
<td>5,000 -</td>
<td>2,000 -</td>
<td>1,000 -</td>
</tr>
<tr>
<td>&lt;15,000</td>
<td>&lt;10,000</td>
<td>&lt;7,000</td>
<td>&lt;2,500</td>
<td>&lt;1,500</td>
</tr>
<tr>
<td>15,000 -</td>
<td>10,000 -</td>
<td>7,000 -</td>
<td>2,500 -</td>
<td>1,500 -</td>
</tr>
<tr>
<td>&lt;20,000</td>
<td>&lt;12,000</td>
<td>&lt;9,000</td>
<td>&lt;3,000</td>
<td>&lt;2,000</td>
</tr>
<tr>
<td>20,000 -</td>
<td>12,000 -</td>
<td>9,000 -</td>
<td>3,000 -</td>
<td>2,000 -</td>
</tr>
<tr>
<td>&lt;25,000</td>
<td>&lt;14,000</td>
<td>&lt;11,000</td>
<td>&lt;4,000</td>
<td>&lt;2,500</td>
</tr>
<tr>
<td>&gt;25,000</td>
<td>&gt;14,000</td>
<td>&gt;11,000</td>
<td>&gt;4,000</td>
<td>&gt;2,500</td>
</tr>
</tbody>
</table>

### Questions

#### Part A: Support to Partners

1. Which implementing partners do you support? Please list all.

2.  
3.  
4.  
5.  
6.  
7.  
8.  
9.  
10. 
11.  

---

c) Questionnaire for Donors

**Purpose**

This questionnaire is a tool to obtain information from a sample of the donors working in the area of Health/HIV and AIDS. This information will be used solely for a PhD thesis for Martina Lembani who is studying at the University of Bochum in Germany. The topic of the PhD research is "The Role of Non-Governmental Organisations in Social Service Delivery in health/HIV and AIDS sector in Malawi". The aim of the research is to contribute to the understanding of the important role that NGOs play in enhancing development in various ways. Their presence and engagements have been widely acknowledged at international level and hence the need to understand and appreciate them accordingly.

The information collected will be treated confidentially and no names of individuals will be presented in the PhD thesis. However names of organisations with prior approval from responsible authorities may be used where necessary. I would also like to assure you that there are no any risks associated with your participation in this research. You will only be asked to give facts, your thoughts and experiences on the questions that will be asked. Therefore honesty in answering the questions will be highly appreciated so that the data collected can be of value and benefit for future development plans to the Malawi nation and beyond.

This interview will take approximately 30-45 minutes of your time. As a participant in this study, you will be requested to answer a number of questions through an interview to be conducted by the researcher. The specific information to be asked during the interview include the following; the partners you work with, budgets for the last five years, coordination and cooperation with other donors, decisions on allocation of funds to various implementing agencies, number of proposals received per year, number of proposals approved, challenges in dealing with implementing partners and other related questions.

Your participation in this project is highly appreciated.
2. What are the reasons for supporting each one of the specific partner mentioned in question 1 above?

<table>
<thead>
<tr>
<th>Reasons</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Their impacts are more visible</td>
<td></td>
</tr>
<tr>
<td>2. For political reasons</td>
<td></td>
</tr>
<tr>
<td>3. Organisation’s policy</td>
<td></td>
</tr>
<tr>
<td>4. Share same values</td>
<td></td>
</tr>
<tr>
<td>5. Other specify</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of partner</th>
<th>Reasons for supporting them</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

3. a) What is your main objective in supporting the various partners?

- Contribute to realisation of MDGs □
- Support other developmental goals/budgetary support □
- Other specify ____________________________

b) Do you think that these developmental goals are fulfilled by your partners that you provide funds to?

- Yes □
- No □

- High quality of services produced □
- All TORs are implemented by partners □
- High numbers of beneficiaries reached □
- Other specify ____________________________

c) If yes, how do you evaluate this?

d) If no, how is this determined?

- 1. Low quality of services produced □
- 2. Not all TORs are implemented by partners □
- 3. Low numbers of beneficiaries reached □
- 4. Other specify ____________________________

e) How flexible are you in allocating funds to various implementing partners? ie. are the funds already predetermined in terms of which purposes they will be used and who will receive the funds?

- Very flexible □
- Flexible □
- Somehow flexible □
- Not flexible at all □

4. a) Are there any specific attributes that you look for before providing funds to your partners?

- Yes □
- No □

- 1. Reputation of the partner □
- 2. Work experience □
- 3. Previous achievements □
- 4. Sound proposal presented by the partner □
- 5. Other specify ____________________________

c) Which attribute would you consider as the most important.

b) If yes what attributes do you look for? Please tick all applicable.

- 1. Reputation of the partner □
- 2. Work experience □
- 3. Previous achievements □
- 4. Sound proposal presented by the partner □
- 5. Other specify ____________________________

c) Which attribute would you consider as the most important.

5. a) Do you have guidelines that you follow when providing funds to your partners?

- Yes □
- No □

b) If yes, do all the partners have access to these guidelines?

- Yes □
- No □
c) If possible, could you provide a copy of the guidelines to the researcher?

1. Yes copy provided □
2. No, not possible □

6. How many proposals do you receive annually?

1. <100 □
2. 100< 500 □
3. 500<1000 □
4. >1000 □

7. How many of these are approved, approximately?

1. Nearly all of them □
2. ≈ 75% □
3. ≈ 50% □
4. ≈ 25% □
5. < 25% □
6. Other, specify________________

8. a) What are the major reasons for rejection of a proposal?

1. Not in line with our guide lines□
2. Poor project design □
3. Lack of innovation □
4. Poor implementation record □
5. Bad experience with the partner □
6. Not falling in our thematic area □
7. Other specify____________________

b) Are there any systematic differences in the quality of proposals submitted by NGOs, Government ministries/departments and for-profits?

c) If no please go to question 9.
d) If yes, would you please indicate the differences for each group of partners?

1. Yes □
2. No □

NGOs:

Government:

For-profits:

9. What percentages of proposals come from the following implementing partners?

<table>
<thead>
<tr>
<th>Type of Implementing Partner</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGOs/Non-profit</td>
<td>%</td>
</tr>
<tr>
<td>Government</td>
<td>%</td>
</tr>
<tr>
<td>For-profits</td>
<td>%</td>
</tr>
</tbody>
</table>

10. a) Approximately what percentages of the total funds that you disburse go to the following implementing partners?

b) If there are any differences what are the reasons.

c) Are there differences in the terms of conditions in the contracts that you give to your partners such as government, NGOs and for-profits?

d) If no, please go to question 11.

e) If yes what are the major differences

f) Are there differences systematically in favour of some specific implement agent/ agencies?

g) If yes which agent/agencies is/are favoured?

1. Tenure of contracts □
2. Cover overhead costs or not □
3. Mode of funds disbursement - upfront vs tranches □
4. Activity report plus audited accounts vs activity report only □
5. Frequency of reporting i.e. monthly, quarterly, biannual etc □
6. Working style i.e. in partnership or single handed □
7. All the above □
8. Other specify________________________________
1. Yes □  
2. No □  

NGOs □  
Government □  
For-profits □

11. How would you rate the impact of projects implemented by each one of your partners on a scale of 1 to 6 where 1 represent high impact and 6 means little or no impact?

<table>
<thead>
<tr>
<th>Partner</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
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<td>4</td>
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<td>5</td>
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<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. How often do you communicate with your partners and through which means? Please tick the frequency for each one of the methods of communication.

<table>
<thead>
<tr>
<th>Communication method</th>
<th>Monthly</th>
<th>Quarterly</th>
<th>Biannual</th>
<th>Annual</th>
<th>Mid-term</th>
<th>End of project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through reports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field visits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phone calls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other specify</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. a) Would you consider NGOs to have certain advantages compared to government and for-profit partners? Please use the following list to evaluate.

b) What would you consider as a reasonable cost per person per month for the following HIV/AIDS related activities?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Unit cost /month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HIV/AIDS prevention</td>
<td></td>
</tr>
<tr>
<td>2. HIV/AIDS counselling and testing</td>
<td></td>
</tr>
<tr>
<td>3. HIV/AIDS treatment</td>
<td></td>
</tr>
<tr>
<td>4. Home based Care</td>
<td></td>
</tr>
<tr>
<td>5. Other, specify</td>
<td></td>
</tr>
</tbody>
</table>

14. a) Have you ever experienced any problems such as misallocation of funds, fraud, dishonesty in reporting and poor work quality with any one of your partners?

b) If no, please go to question 15.

c) If yes, please indicate which of the following incidences apply.

d) How common are these incidences

e) In total how many cases of each of the above have you been confronted with from the above categories of partners that you provided funds in the last 2 years?
### Part B: Budgets

15. What were your annual funding budgets for the past 5 years?

<table>
<thead>
<tr>
<th>Year</th>
<th>Euros</th>
<th>US$</th>
<th>GB£</th>
<th>MK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
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<tr>
<td>2008</td>
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<tr>
<td>2009</td>
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<td></td>
</tr>
<tr>
<td>2010</td>
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<td></td>
</tr>
</tbody>
</table>

16. How much of this budget went to health/HIV and AIDS sector in each of these years? Please indicate your answer either as a percentage or actual amount.

<table>
<thead>
<tr>
<th>Year</th>
<th>%</th>
<th>Euros</th>
<th>US$</th>
<th>GB£</th>
<th>MK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2007</td>
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<td>2008</td>
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<tr>
<td>2009</td>
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<td></td>
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<tr>
<td>2010</td>
<td></td>
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</tr>
</tbody>
</table>

17. a) How much of the health/HIV and AIDS went to the following partners? Please indicate your answer either as a percentage or actual amount.

**NGOs:**

<table>
<thead>
<tr>
<th>Year</th>
<th>%</th>
<th>Euros</th>
<th>US$</th>
<th>GB£</th>
<th>MK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2007</td>
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<tr>
<td>2008</td>
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<tr>
<td>2009</td>
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<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Government:**

<table>
<thead>
<tr>
<th>Year</th>
<th>%</th>
<th>Euros</th>
<th>US$</th>
<th>GB£</th>
<th>MK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>2007</td>
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<td>2008</td>
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<tr>
<td>2009</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**For-profits**

<table>
<thead>
<tr>
<th>Year</th>
<th>%</th>
<th>Euros</th>
<th>US$</th>
<th>GB£</th>
<th>MK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
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<tr>
<td>2008</td>
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<tr>
<td>2009</td>
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<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are your partners able to spend all the budget as planned?

**If your answer to c) above is no or some are not able or not always, what happens to the funds?**

- Yes
- No
- Some are not able
- Not always

The funds are returned

Contract can be revised

Other specify ________________________________

### Part C: Cooperation and Coordination

Apart from the health/HIV and AIDS sector, which other sector(s) does your organisation operate in? Please tick all applicable.

1. Education
2. Agriculture
3. Environment
4. Infrastructure Dev.
19.a) Are there some donors that you closely work together with?
   b) If no please go to question 24.
   c) If yes, please list all the donors you collaborate with.

20. How do you work with each one of the above listed donors?

<table>
<thead>
<tr>
<th>Name of Donor</th>
<th>Means of collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. How would you rate the level of your working relationship on a scale of 1 to 6 “where 1 represents strong relationship and 6 represents very weak relationship” with the donors listed in question 18b above?

<table>
<thead>
<tr>
<th>Donor 1: 1□</th>
<th>2□</th>
<th>3□</th>
<th>4□</th>
<th>5□</th>
<th>6□</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donor 2: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 3: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 4: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 5: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 6: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 7: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 8: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 9: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
<tr>
<td>Donor 10: 1□</td>
<td>2□</td>
<td>3□</td>
<td>4□</td>
<td>5□</td>
<td>6□</td>
</tr>
</tbody>
</table>

22. What are the reasons for cooperating with these donors?

1. To avoid double funding □
2. For synergy purposes □
3. For greater impact □
4. Strategic interests □
5. Instructions from our back donors □
6. Other specify_________________________

23. If you don’t cooperate with some donors, what are the reasons?

1. Difference in values □
2. Bad experiences □
3. No need □
4. Different capacity levels □
5. Fear for competition □
6. Other specify_________________________

24. a) Do you experience any kind of competition with some specific donors within your field of operation?
   b) If yes, what type of competition?
   c) Which donors do you compete with? Please list all applicable.

1. Yes □
2. No □

1. Resources □
2. Employees □
3. Innovative strategies □
4. Results/impact □
5. Clients/customers □
6. Other specify_________________________

1. 2. 3. 4. 5.
25. What challenges do you face when disbursing funds?

1. Limited choice of competent partners to implement project
2. Capacity of implementing partners to account for funds
3. Other specify

Lessons Learnt

26. a) Do your implementing partners compile lessons learnt during their project implementation?
   b) If yes, are the lessons learnt implemented?
   c) Would you say that your partners’ performance has improved over the past few years as they implement the lessons learnt?

26. a) Yes □
26. b) Yes □
26. c) Yes □

26. d) Questionnaire administered to health facilities

This questionnaire is a tool to obtain information from a sample of public, for profit and non-profit making health service providers in the area or ARV. This will help to understand the cost of delivering ART services by different service providers in Malawi and the challenges they encounter in administering ART services.

Part A. ART provision

When did your health facility start providing ART?
…………………………………………… (Month & year)

What specific ART services do you provide in this health facility? (Please tick all that apply)

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration (this includes overhead costs e.g. office rent, transport costs, utilities, vehicle or any other equipment maintenance, stationary, security and cleaning services) used by the programme and personnel in support of the day to day running of the ART programme</td>
<td></td>
</tr>
<tr>
<td>Personnel (includes salary and allowances of people directly involved in ART)</td>
<td></td>
</tr>
</tbody>
</table>

How much funds are spent on the following ART services per month? Do not mix with other costs please, this should be ART costs only)
<table>
<thead>
<tr>
<th>Training (includes special training to develop health workers’ skills to provide ART)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement of ARVs</td>
</tr>
<tr>
<td>Social mobilisation (includes transport costs to go to various places to motivate and educate the public and market ART)</td>
</tr>
<tr>
<td>Home based care (includes costs of personnel involved in the caring of the patients and any other related costs)</td>
</tr>
<tr>
<td>Procurement of opportunistic infection drugs (Are these special for HIV patients or can also be for other people? Be careful, how you ask this one also)</td>
</tr>
<tr>
<td>Nutritional support (This includes actual amount spent on procurement the food supplements and the cost of transporting and distributing the food)</td>
</tr>
<tr>
<td>Monitoring and supervision (costs for follow up visits of clients, transport costs and allowances for monitoring meetings for the facility)</td>
</tr>
</tbody>
</table>

What is the composition of staff involved at the ART healthy facility?

<table>
<thead>
<tr>
<th>Staff</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td></td>
</tr>
<tr>
<td>State registered nurses</td>
<td></td>
</tr>
<tr>
<td>Clinical officers</td>
<td></td>
</tr>
<tr>
<td>Enrolled nurses</td>
<td></td>
</tr>
<tr>
<td>Medical assistant</td>
<td></td>
</tr>
<tr>
<td>Auxiliary nurses</td>
<td></td>
</tr>
</tbody>
</table>

Do you have any staff who are volunteers?
Yes □ No □
If yes how many?

<table>
<thead>
<tr>
<th>Volunteer</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td></td>
</tr>
<tr>
<td>Registered Nurses</td>
<td></td>
</tr>
<tr>
<td>Clinical officers</td>
<td></td>
</tr>
<tr>
<td>Medical Assistants</td>
<td></td>
</tr>
<tr>
<td>Auxiliary nurses</td>
<td></td>
</tr>
</tbody>
</table>

How many staff have been trained in ART service delivery (attended a pre-service ART training module and passed the final diploma or undergraduate examination, or attended an ART training course recognised by the Ministry of Health, Medical Council of Malawi and Nursing Council of Malawi and passed an examination based on this training course).

Please indicate the number and level of qualification in the table below.

<table>
<thead>
<tr>
<th>Staff</th>
<th>Number trained in ART service delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td></td>
</tr>
<tr>
<td>State registered nurses</td>
<td></td>
</tr>
<tr>
<td>Clinical officers</td>
<td></td>
</tr>
<tr>
<td>Enrolled nurses</td>
<td></td>
</tr>
<tr>
<td>Medical assistant</td>
<td></td>
</tr>
<tr>
<td>Auxiliary nurses</td>
<td></td>
</tr>
</tbody>
</table>

10. Does your health facility have a CD4 count machine?
Yes □ No □

11. Does your facility have an RNA test machine?
Yes □ No □

Funding

12. What is the source of funding for your ART programme? Please tick all applicable
Government □ User Fees □ External or Internal Donors □
Other, please specify: __________________________________ (If the facility gets funds from all these sources please indicate what percentage of each)

13a. If user fees, is it purely from ART fees or other services as well?
Purely ART □ Other services □
b. If ART, how much do the clients pay?
____________________MK

c. What is the mode of payment and frequency?
Cash MASM Other
Monthly, quarterly etc

14. If you indicated donors as one of the sources of funding for supporting your ART programme, please indicate which donors support your ART activities
a._________________________________________
b._________________________________________
c._________________________________________

15.a. What is your total budget for running the whole ART programme? Please indicate time frame. (Specifically ART programme please).
Amount: ___________________________$ □ £□ €□ MK□

b. If you are non-profit who fund ART activities from ART user fees, do you have any surpluses?
Yes □                  No □
c. If yes, what is it used for?
……………………………………………………………………………………………………………………………………
……………………………………………………………………………………………………………………………………

Monitoring and supervision

16. What is the basis for ordering drugs (do you base on the number of clients or estimations?)
Based on exact number of clients Yes □ No □
Based on estimations of expected number of clients Yes □ No □

17. Do you experience any surpluses or deficiencies of drugs when administering to clients?
Surpluses Yes □ No □
If yes how often? ...........................................

Deficiencies
Yes □ No □
If yes how often? ...........................................

18. If there are surpluses, what happens to these surpluses?

19. a) Do you make any follow up visits to your clients?
Yes □ No □
b) If yes, how often do you visit each client in a month or quarter or year?
Month □…………. Quarter □ …………. Year □
Other specify:__________________________________

20. How is data on ART managed?
Manual records Yes □ No □
Computerised system Yes □ No □

21 a) Are there any challenges that you encounter in administering your ART services that are likely to increase your delivery costs?
Yes □ No □
b) If yes, please list the challenges
Appendix 2: Main codes used for the ART data cleaning, preparation and analysis

*delete records missing or implausible for sex, age, artstart_year, outcome

codebook age
drop if age==.
count

codebook sex
drop if sex==.
count

codebook artstart_year
drop if artstart_year==.
count

drop if outcome==.
count

drop if (outcome!=1 & outcome_date==.)|stopdate==.
count

*create agegroups: 0-1.9, 2-5.9, 6-14.9, 15-24.9 etc
egen age_gr=cut(age), at(0,2,6,15(10)45,103) label
tabu age_gr
drop age_gp

*create adults-children
egen childadu=cut(age), at(0,15,103)
tab childadu
recode childadu 0=1 15=0, gen(childadu_1)
label var childadu_1 "Age at ART start"
label def childadu_1lab 1 "child" 0 "adult"
label val childadu_1 childadu_1lab

*create ART start year 2004-2007
drop if artstart_year < 2004
count
drop if artstart_year >= 2008
count
drop artstart_year

*create new WHO groups for children and adults since 3 stage system was replaced in 2005 by 4 stage system for children*
codebook rsnstart
recode rsnstart 1=1 3/4=2, gen(crsnstart)
label var crsnstart "Reason for ART start"
label def crsnstartlab 1 "WHO 1/2" 2 "WHO 3/4"
label val crsnstart crsnstartlab
tab crsnstart

drop cens_quart

*** drop transfer in
count
drop if ti==1
count

** more transfer in than transfer out
tab age_gr outcome, row
tab age_gr outcome, col

*br outcome capture_date artstart_date outcome_date cens_date stopdate
```
* br outcome capture_date artstart_date outcome_date cens_date stopdate if stopdate < artstart_date

** drop inconsistent dates: stop before ART start
count if stopdate < artstart_date
drop if stopdate < artstart_date
count if stopdate== artstart_date
drop if stopdate == artstart_date
count

drop if stopdate>capture_date

*drop if clinic==49

***Recode variables to define reference groups***

*WHO stage at start: choose 3 to be reference, as it is the most common stage
replace rsnstart=0 if rsnstart==3
*label def rsnstart 0 "WHO3" 1 "WHO1/2" 4 "WHO4"

replace crsnstart=0 if crsnstart==2
replace crsnstart=1 if crsnstart==-
*label def crsnstart 0 "WHO3/4" 1 "WHO1/2"

*Hfac level: choose district hospitals to be reference; combine other hospitals and others
replace hfac_level=0 if hfac_level==2
*replace hfac_level=8 if hfac_level==4
*label def hfac_level 0 "DH" 1 "CH" 3 "RH" 5 "HC" 8 "Other"

*Region: choose southern to be reference
replace region=0 if region==3
*label def region 0 "south" 1 "north" 2 "central", replace

*Sex: choose female to be reference
replace sex=2 if sex==0
*label def sex 1 "f" 2 "m"

*Rural/urban: choose urban to be reference
replace rururb=0 if rururb==2
*label def rururb 0 "urban" 1 "rural" 3 "semiurb"

*ART start year: choose 2007 to be reference
replace artstart_yr=0 if artstart_yr==2007

*Age group: choose adults betw 25 and 34 to be reference group
forvalues i=6(1)0 { replace age_gr=`i'+1 if age_gr==`i' }
replace age_gr=0 if age_gr==5
*label def age_gr 0 "25-" 1 "0-" 2 "2-" 3 "6-" 4 "15-" 6 "35-" 7 "45-"

gen newstop=stopdate
gen newoutcome=outcome
replace newstop=artstart_date+365 if stopdate-artstart_date>365
replace newoutcome=1 if stopdate-artstart_date>365

Generation of new sector
generate newsector=1 if sector==0
replace newsector=3 if sector==1

Descriptives analysis
*Summarize
*Tabulate
*Inspect
*Regress

tab newsector
```
tab crsnstart
tab crsnstart if newsector==1
tab crsnstart if newsector==2
tab crsnstart if newsector==3
tab sex if newsector==1
tab sex if newsector==2
tab sex if newsector==3
tab reg_year by reg_quart
tab reg_year & reg_quart
sum reg_year
tab reg_year
tab reg_quart
tab hfac_level if newsector==1
tab hfac_level if newsector==2
tab hfac_level if newsector==3

*Survival analysis
*KM graphs
stset newstop, origin(artstart_date) fail(newoutcome==3) scale(365.25) id(id)
sts graph, fail by(newsector)
sts graph, survive by(newsector)

*Generating person years
*calculate proportions (2x2) table
stptime, per(100) dd(2) by(newsector)

stset newstop, origin(artstart_date) fail(newoutcome==2) scale(365.25) id(id)
stptime, per(100) dd(2) by(newsector)
stset newstop, origin(artstart_date) fail(newoutcome==5) scale(365.25) id(id)
stptime, per(100) dd(2) by(newsector)
stset newstop, origin(artstart_date) scale(365.25) id(id)
stptime, per(100) dd(2) by(newsector)

*Cox Regressions Analysis
stset newstop, origin(artstart_date) fail(newoutcome==3) scale(365.25) id(id)
xi: stcox i.newsector i.age_gr sex crsnstart i.hfac_level i.region i.rururb i.artstart_yr

xi: stcox i.newsector sex crsnstart i.hfac_level i.region i.rururb i.artstart_yr
xi: stcox i.newsector i.age_gr sex i.hfac_level i.region i.rururb i.artstart_yr
xi: stcox i.newsector i.age_gr crsnstart i.hfac_level i.region i.rururb i.artstart_yr
xi: stcox i.newsector i.age_gr sex i.hfac_level i.region i.rururb i.artstart_yr
xi: stcox i.newsector i.age_gr sex crsnstart i.region i.rururb i.artstart_yr
xi: stcox i.newsector i.age_gr sex crsnstart i.hfac_level i.rururb i.artstart_yr
xi: stcox i.newsector i.age_gr sex crsnstart i.hfac_level i.region i.artstart_yr

xi: stcox i.newsector
xi: stcox i.newsector crsnstart

To get one P value for each of the covariates
xi: stcox newsector age_gr rururb hfac_level crsnstart sex region
estimates store base_case
estimates store base_case

xi: stcox newsector age_gr rururb hfac_level crsnstart region
estimates store base_case

xi: stcox newsector age_gr rururb hfac_level crsnstart sex
estimates store base_case

*To check interaction between age and newsector and the rest of the variable follow the same process

xi: stcox i.newsector i.age_gr sex crsnstart i.hfac_level i.region i.rururb i.artstart_yr
then the analysis with the interaction variable (sector and age group) is

xi: stcox i.newsector i.age_gr i.newsector*i.age_gr crsnstart i.hfac_level i.region i.rururb i.artstart_yr
To do the interaction test, you need therefore to run:

estimates store A

lrtest A //(compare the estimates from the two analyses, do a likelihood ratio test and give a p-value)

To calculate mortality rates for selected clinics

for-profit clinics – interviewed for CEA study
. summarize if clinic==191|clinic==91|clinic==116|clinic==46|clinic==96|clinic==
> 117|clinic==2|clinic==38|clinic==4

Non-profit clinics – interviewed for CEA study
. stptime if clinic==105|clinic==176|clinic==11|clinic==52|clinic==86|clinic==8
> 8|clinic==23|clinic==17|clinic==104|clinic==15|clinic==139|clinic==58|clinic==
> 1|clinic==194

Government clinics – interviewed for CEA study
. stptime if clinic==5|clinic==80|clinic==66|clinic==6|clinic==7|clinic==67|clinic==
> 16|clinic==93|clinic==35|clinic==158|clinic==183|clinic==10|clinic==151
> |clinic==134|clinic==47|clinic==89|clinic==179|clinic==210

Non-profit clinics – interviewed for CEA study less Baylor, Bwaira and Lighthouse
. stptime if clinic==105|clinic==176|clinic==52|clinic==88|clinic==17|clinic==104|clinic==15
> |clinic==139|clinic==58|clinic==1|clinic==194

*Mortality rates for selected health facilities
*Area 18 Health Centre (HC) stptime if clinic==5
*Area 25 HC stptime if clinic==6
*Area 30 HC stptime if clinic==7
*Kawale HC stptime if clinic==80
*Likuni hospital stptime if clinic==88
*Bangwe HC stptime if clinic==10
*chilomoni HC stptime if clinic==35
*Ndirande HC stptime if clinic==158
Appendix 3: Some examples of Cox regression results

Cox regression of the covariates in the government sector.

```
xi: stcox i.age_gr sex crsnstart i.hfac_level i.region i.rururb i.artstart_yr
> if newsector==1
i.age_gr          _Iage_gr_0-7        (naturally coded; _Iage_gr_0 omitted)
i.hfac_level      _Ihfac_leve_0-8     (naturally coded; _Ihfac_leve_0 omitted)
i.region          _Iregion_0-2        (naturally coded; _Iregion_0 omitted)
i.rururb          _Irururb_0-3        (naturally coded; _Irururb_0 omitted)
i.artstart_yr     _Iartstart__0-2006 (naturally coded; _Iartstart__0 omitted)

failure _d:  newoutcome == 3
analysis time _t:  (newstop-origin)/365.25
origin:  time artstart_date
id:  id
```

Note: _Ihfac_leve_4 dropped because of collinearity
Note: _Ihfac_leve_6 dropped because of collinearity
Iteration 0:   log likelihood =  -110439.07
Iteration 1:   log likelihood =  -109532.44
Iteration 2:   log likelihood =  -109505.99
Iteration 3:   log likelihood =  -109505.73
Iteration 4:   log likelihood =  -109505.73
Refining estimates:
Iteration 0:   log likelihood =  -109505.73

Cox regression -- Breslow method for ties

```
No. of subjects =      78166                     Number of obs   =      78166
No. of failures =       9936
Time at risk    =  56145.87269
LR chi2(19)     =    1866.68
Log likelihood  =  -109505.73                     Prob > chi2     =     0.0000

------------------------------------------------------------------------------
     t | Haz. Ratio   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+------------------------------------------------------------------
     _Iage_gr_1 |   1.389367   .1370044     3.33   0.001     1.145198    1.685595
     _Iage_gr_2 |   .7701545   .0546157   -3.68   0.000     .6670215     .8849955
     _Iage_gr_3 |   .6116784   .0399936   -7.52   0.000     .5381071    .6953087
     _Iage_gr_4 |   1.165817   .0450084     3.97   0.000     1.080857    1.257455
     _Iage_gr_6 |   .9306511   .0232455   -2.88   0.004     .8861879    .9773452
     _Iage_gr_7 |   .9563159   .0271991   -1.57   0.116     .9044653    1.011139
     sex |   1.404495    .029014   16.44   0.000     1.340765    1.470228
     crsnstart |   .4382797   .0191814  -22.85   0.000     .4073487    .4724096
     _Ihfac_leve_1 |   .6816636   .0218895   -11.93   0.000     .6400833    .7259451
     _Ihfac_leve_3 |   .6817297   .0397472  -26.64   0.000     .6184764    .7450873
     _Ihfac_leve_5 |   .7263704   .0469868   -8.45   0.000     .6744466    .7822916
     _Ihfac_leve_8 |   .5199121   .0291014   -14.64   0.000     .4501326    1.542528
     _region_1 |   1.318189   .0365527    9.96   0.000     1.2248459    1.319184
     _region_2 |   1.256861   .0322798   22.27   0.000     1.195163    1.321748
     _region_3 |   1.291197   .0469074   15.03   0.000     1.202457    1.386486
     _region_4 |   .9592415   .0244319   -1.63   0.102     .9125181    1.008357
     _region_5 |   1.585938   .0713016   16.26   0.000     1.452169    1.732028
     _region_6 |   1.643067   .0452171   21.94   0.000     1.556797    1.731424
     _region_7 |   1.384659   .0336472   44.39   0.000     1.320258    1.452202
     _Iartstart__2006 |   1.585938   .0713016   16.26   0.000     1.452169    1.732028
     _Iartstart__2005 |   1.643067   .0452171   21.94   0.000     1.556797    1.731424
     _Iartstart__2004 |   1.384659   .0336472   44.39   0.000     1.320258    1.452202
------------------------------------------------------------------------------
```

estimates store A

```
xi: stcox sex crsnstart i.hfac_level i.region i.rururb i.artstart_yr if newsector==1
Testing for age_gr
i.hfac_level      _Ihfac_leve_0-8        (naturally coded; _Ihfac_leve_0 omitted)
i.region          _Iregion_0-2         (naturally coded; _Iregion_0 omitted)
```
i.rururb  _Irururb_0-3  (naturally coded; _Irururb_0 omitted)
i.artstart_yr  _Iartstart__0-2006  (naturally coded; _Iartstart__0 omitted)

failure_d: newoutcome == 3
analysis time_t: (newstop-origin)/365.25
origin: time artstart_date
id: id

note: _Ihfac_leve_4 dropped because of collinearity
note: _Ihfac_leve_6 dropped because of collinearity

Iteration 0:   log likelihood =  -110439.07
Iteration 1:   log likelihood =  -109591.8
Iteration 2:   log likelihood =  -109566.13
Iteration 3:   log likelihood =  -109565.87
Iteration 4:   log likelihood =  -109565.87
Refining estimates:
Iteration 0:   log likelihood =  -109565.87

Cox regression -- Breslow method for ties

|            | Haz. Ratio | Std.Err. | z    | P>|z|   | [95% Conf. Interval] |
|------------|-----------|----------|------|------|----------------------|
| _Ihfac_leve_1 | .6743326  | .0216095 | 12.30| 0.000| .6332814 .7180448    |
| _Ihfac_leve_3 | .6849783  | .0401544 | 6.45 | 0.000| .61063 .768379       |
| _Ihfac_leve_5 | .7272554  | .0475508 | 7.04 | 0.000| .6752127 .7833093    |
| _Ihfac_leve_8 | .5195798  | .0381946 | 8.91 | 0.000| .4498626 .6001013    |
| _Iregion_1   | 1.304234  | .0360493 | 9.61 | 0.000| 1.235458 1.376838    |
| _Iregion_2   | 1.259953  | .0323281 | 9.17 | 0.000| 1.198158 1.324936    |
| _Irururb_1   | 1.291853  | .0469614 | 7.04 | 0.000| 1.203013 1.387254    |
| _Irururb_3   | .9598325  | .0244262 | 6.45 | 0.000| .9131323 1.008921    |
| _Iartstart_2004 | 1.593633 | .071472  | 10.39| 0.000| 1.459531 1.740057    |
| _Iartstart_2005 | 1.65633  | .0454324 | 18.40| 0.000| 1.569633 1.747817    |
| _Iartstart_2006 | 1.392055 | .033748  | 13.57| 0.000| 1.325659 1.457998    |

. lrtest A

Likelihood-ratio test  LR chi2(13) =  1746.41
(Assumption: . nested in A)  Prob > chi2 =  0.0000