An evaluation of stakeholder coordination in donor-funded programs in Zimbabwe’s health sector: A case of HIV/AIDS Pima CD4 technology

Taipa Gibon Huchu (R984435F)

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GRADUATE SCHOOL OF MANAGEMENT
UNIVERSITY OF ZIMBABWE
P. O. Box MP 167
Harare
Zimbabwe

SUPERVISOR: MR MAKONI
DECLARATION

I, …………….., do hereby declare that this dissertation is the result of my own investigation and research, except to the extent indicated in the Acknowledgements, References and by comments included in the body of the report, and that it has not been submitted in part or in full for any other degree to any other university.

Student signature _______                               Date_________

Supervisor’s Signature ___________                   Date:_________
DEDICATION

This dissertation is dedicated to my late grandmother Mrs Keresia Durai Choga Nee Mabureni-Zimuto aka Siman'aliso (1890- 2001). I thank God for making her part of my childhood life.
ACKNOWLEDGEMENTS

First and far most I would like to thank the all might Lord God Jehovah, for taking me thus far. I would like to thank my wife Martha Munzara- Huchu for the unwavering support she gave me through the pursuit of this MBA degree program. I would also like to thank my mother Tamburirai Choga, and my brother Matthew Huchu for their support. My gratitude also goes to my late father Herbet Huchu, and my two sons Mufaro and Mukundi Huchu. Special thanks go my supervisor Mr Makoni, the dissertation coordinator Dr Madzikanda and the GSM team, my MBA class mates including my respective group members. In fact, many people have helped directly and indirectly, if I am to mention them by name I would take pages. Thank you all, may our good Lord God bless you all.
ABSTRACT

Many multi-donor funded programs in Zimbabwe do not achieve optimal resource utilization and program sustainability due to poor field-level stakeholder coordination, consequentially resulting in low beneficiary and donor accountability by the program implementing partners. The dissertation was based on the evaluation of stakeholder coordination in donor-funded programs in the Zimbabwe’s health sector; a case of HIV/AIDS Pima CD4 Technology. The main research question was whether field-level stakeholder coordination will foster optimum use of scarce resources. The research findings have demonstrated that well-informed cross-functional resource sharing networks bring efficacy in programming through shared skills, financial, material and information resources.

The research objectives were achieved and empirical evidence has shown that field-level stakeholder coordination also can foster compliance to international programming standards. The research findings have also demonstrated that a centralised coordinated approach by implementing partners fosters program sustainability, institutional memory retention and increase the attainment of the program goals. The complex adaptive systems (CAS) coordinating board evolve internally, with member organisations forming the sub-systems, and adapt to non-linear external operating environment.

The research methodology which was used was triangulation of methodologies which justifies the researcher’s philosophy of realism. For the qualitative and quantitative data required, the research used mixed methods approach (data abstraction, surveys, observations, focus group discussions and interviews methods). Nevertheless, due to the time, scope and resource constraints, the researcher used primary data for the qualitative data and secondary quantitative data. The researcher conducted in-depth interviews with management and program specialist. The interviews were tape recorded and transcribed, hand coded and categorized and analyzed using content analysis method. The qualitative data from the secondary source was analyzed using SPSS, and chi-square test was used to measure variable dependency.
## TABLE OF CONTENTS

DECLARATION ............................................................................................................. i
DEDICATION .................................................................................................................. ii
ACKNOWLEDGEMENTS ................................................................................................. iii
EXECUTIVE SUMMARY ............................................................................................... iv
TABLE OF CONTENTS ................................................................................................. v
LIST OF TABLES ........................................................................................................... x
LIST OF FIGURES .......................................................................................................... xii
ACRONYMS ................................................................................................................... xiii
INTRODUCTION AND BACKGROUND ........................................................................ 1
  1.1 Chapter Introduction ............................................................................................... 1
  1.2 Background of the Study ....................................................................................... 1
    1.2.1 Background of donor-funded programming in Zimbabwe............................. 3
    1.2.2 Background of the Pima CD4 technology ....................................................... 5
    1.2.3 Program Stakeholders .................................................................................... 6
    1.2.4 Coordination Challenges ............................................................................... 7
    1.2.5 International coordination ............................................................................. 8
  1.3 Problem Statement ............................................................................................... 8
  1.4 Research Purpose ................................................................................................. 8
  1.5 Research Objectives ............................................................................................ 9
  1.6 Research Questions ............................................................................................. 9
  1.8 Rationale of the Research .................................................................................... 10
  1.9 Scope of the research .......................................................................................... 11
  1.10 Research Limitation .......................................................................................... 12
  1.11 Dissertation Outline ......................................................................................... 12
  1.12 Chapter conclusion .......................................................................................... 13
2.9 Project Life cycle management (PCM)................................................................................. 28
2.9.1 Project design.................................................................................................................. 28
2.9.2 Stakeholder analysis stage of the project life cycle (PLC)............................................. 28
2.9.3 Discussion on program design stage in the PLC.......................................................... 29
2.10 Analysis of the Logical Framework .................................................................................. 30
2.10.1 Nesting the Framework............................................................................................... 31
2.11 CAS model and program sustainability .......................................................................... 31
2.11.1 The building blocks of Complexity Theory ................................................................. 32
2.11.2 The CCB as a Nonlinear Dynamic System .................................................................. 33
2.11.3 The CCB as a Chaotic System .................................................................................... 33
2.11.4 Self-Organization ....................................................................................................... 34
2.11.7 Discussion on CAS strategic planning ....................................................................... 34
2.12 Discussion of variables in relation to the literature reviewed......................................... 35
2.13 Discussion of the hypothesis in relation to the literature reviewed. Error! Bookmark not defined.
2.14 Current and significant gaps in the relevant literature.................................................... 38
2.15 Conceptual Framework: Coordinating Central Board of donor funded programs ........ 40
2.16 Crystallization of the Major research question............................................................... Error! Bookmark not defined.
2.17 Chapter conclusion ......................................................................................................... 41
RESEARCH METHODOLOGY ................................................................................................. 43
3.1 Introduction ....................................................................................................................... 43
3.2 Research Design ............................................................................................................... 43
3.2.1 Resign design justification .......................................................................................... 43
3.2.3 Advantages of the research design adopted .................................................................. 44
3.3 Research Philosophy ....................................................................................................... 45
3.3.1 Research Methodology ............................................................................................... 47
3.4 Research Strategy ............................................................................................................ 48
3.5 Population and Sampling techniques ................................................................. 49
3.5.1 Population .................................................................................................. 49
3.6 Data collection methods ............................................................................... 51
3.6.2 Unit of Analysis ....................................................................................... 52
3.6.3 Research Instruments ............................................................................... 52
3.7 Research Procedure ..................................................................................... 52
3.7.1 Pilots Study ............................................................................................... 52
3.7.3 Data Analysis ........................................................................................... 53
3.7.1 Parametric and non-parametric tests......................................................... 54
3.7.2 Test for Normality .................................................................................... 54
3.7.3 Hypothesis-testing .................................................................................... 54
3.7.4 Generalizations and interpretation ............................................................ 54
3.8 Research Limitations ................................................................................... Error! Bookmark not defined.
3.8.6 Reliability ................................................................................................ 54
3.8.7 Validity ..................................................................................................... 55
3.9 Ethics and Values ......................................................................................... 55
FINDINGS AND DISCUSSION OF RESULTS ......................................................... 56
4.1 Introduction .................................................................................................. 56
4.2 Response rate ............................................................................................... 56
4.4 Objective 1: To evaluate whether field-level stakeholder coordination will foster optimum use of scarce resources by implementing partners. ................................. 60
4.4.1 Stakeholder coordination vs. Resource utilization ....................................... 60
4.4.2 Stakeholder coordination vs. Resource sharing ........................................... 63
4.5 Objective 2: To determine whether stakeholder coordination improves information sharing and dissemination ................................................................. 65
4.5.1 Stakeholder coordination vs. information sharing ....................................... 65
4.5.2 Stakeholder coordination vs. Information dissemination ............................. 67
4.6 Objective 3: To determine whether field-level stakeholder coordination foster programming efficacy.

4.7 Objective 4: To evaluate whether stakeholder coordination foster compliance to international programming standards by program implementing partners, for example, sphere standards, accounting standards among others.

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
5.2 Dissertation Conclusion
5.3 Research Hypothesis Validation
5.4 Recommendations
5.5 Areas for further research

REFERENCES

APPENDICES

Appendix A  Consent form
Introduction to the Informant
APPENDIX B
Interview Guide Questions for NANGO
APPENDIX C
APPENDIX D
Interview Guide Questions for MoHCW and Ministry of Social Welfare

APPENDIX E

Interview Guide Questions for UNICEF, PSI, JSI and ZAPP

APPENDIX F

POC Study Client Exit Interview - 2012

IDENTIFICATION

RESPONDENT SELECTION STATUS
LIST OF TABLES

Table 1: Logical Framework.................................................................31
Table 2: Comparison of Established Perspectives and CAS.....................35
Table 3: Current and significant gaps in the relevant literature................. 40-41
Table 4: Sample and population summary...........................................52
Table 5: Response rate ......................................................................60
Table 6: Key informants information (Secondary Data)...........................61
Table 7: Key informant information (Primary Data). ..............................61
Table 8: Respondent’s Age for client exit surveys..................................62
Table 9: Test for Normality................................................................62
Table 10: Trained user responses........................................................66
Table 11: Client exit questions on information dissemination ...............70
Table 13: Descriptive statistics on information dissemination responses ....70
Table 14: Client exit survey responds on knowledge on Pima CD4 technology...71
Table 15: Pearson Chi-Square Tests....................................................72
Table 16: Location and knowledge of what a CD4 Cell count test is Cross-tabulation...73
Table 17: Pearson Chi-Square Tests....................................................73
Table 18: Key Health centre Informants (In-depth interviews)..............74
Table 19: Improvement of assessment and access to ART.....................75
Table 20: Machine Breakdown ............................................................77
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Hypotheses</td>
<td>10</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Coordination Processes</td>
<td>16</td>
</tr>
<tr>
<td>Figure 3</td>
<td>NAC institutional framework</td>
<td>20</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Cluster coordination</td>
<td>23</td>
</tr>
<tr>
<td>Figure 5</td>
<td>NGO Cooperation, coordination and collaboration framework</td>
<td>25</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Project Life Cycle</td>
<td>29</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Complex Adaptive Systems Model</td>
<td>32</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Conceptual Framework</td>
<td>42</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Methodology Framework</td>
<td>47</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Knowledge on Pima CD4 technology</td>
<td>72</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Conceptual framework modified</td>
<td>87</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full text</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired immuno-deficiency syndrome</td>
<td></td>
</tr>
<tr>
<td>ANC</td>
<td>Ante natal clinic</td>
<td></td>
</tr>
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<td>ARV</td>
<td>Anti-retro viral</td>
<td></td>
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<tr>
<td>CD4</td>
<td>Cluster designation 4</td>
<td></td>
</tr>
<tr>
<td>CHAI</td>
<td>Clinton Health Access Initiative</td>
<td></td>
</tr>
<tr>
<td>EGPAF</td>
<td>Elizabeth Glazer Peadiatric AIDS Foundation</td>
<td></td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussions</td>
<td></td>
</tr>
<tr>
<td>HIV</td>
<td>Human immuno-deficiency virus</td>
<td></td>
</tr>
<tr>
<td>JSI</td>
<td>John Snow Inc</td>
<td></td>
</tr>
<tr>
<td>MNCH</td>
<td>Maternal Newborn and Child Health</td>
<td></td>
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<td>MoHCW</td>
<td>Ministry of Health and Child Welfare</td>
<td></td>
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<td>NAC</td>
<td>National AIDS Council</td>
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<td>National Pharmaceutical</td>
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<td>PMTCT</td>
<td>Prevention of mother to child transmission</td>
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<td>Point-of-care</td>
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<td>Population Services International</td>
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<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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<td>USAID</td>
<td>United States of America International Development fund</td>
<td></td>
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<td>WHO</td>
<td>World Health Organisational</td>
<td></td>
</tr>
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<td>ZINQAP</td>
<td>Zimbabwe National Quality Assurance Program</td>
<td></td>
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<td>ZNFPC</td>
<td>Zimbabwe National Family Planning Council</td>
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</tr>
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<td>CAS</td>
<td>Complex Adapitve System</td>
<td></td>
</tr>
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<td>CBOs</td>
<td>Community Based Organisations</td>
<td></td>
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<td>Non- Governmental Organisations</td>
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<td>National Association of Non Governmental Organisation</td>
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<td>CCB</td>
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<td>Early Infant Diagnosis</td>
<td></td>
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<td>PVO</td>
<td>Private Voluntary Organization</td>
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<td>NAP</td>
<td>National Action Plan</td>
<td></td>
</tr>
<tr>
<td>ZAPP</td>
<td>Zimbabwe Aids Prevention Project / UZ</td>
<td></td>
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<td>PLC</td>
<td>Project Life Cycle</td>
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<td>Monitoring and Evaluation</td>
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<td>DTTU</td>
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<td>IRS</td>
<td>Indoor Residual Spraying</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
<td></td>
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<tr>
<td>PHF</td>
<td>Pakistan Humanitarian Forum</td>
<td></td>
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<tr>
<td>CWS</td>
<td>Church World Service</td>
<td></td>
</tr>
<tr>
<td>NCCI</td>
<td>NGO Coordination Committee in Iraq</td>
<td></td>
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<tr>
<td>CRS</td>
<td>Catholic Relief Services</td>
<td></td>
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<td>PCM</td>
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<td>IFRC</td>
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<td>DNO</td>
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<td>EQA</td>
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CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 Chapter Introduction
This chapter presents a summary introduction of the research topic entitled; An evaluation of stakeholder coordination in donor-funded programs in Zimbabwe’s health sector: A case of HIV/AIDS Pima CD4 technology (2009-2013). The chapter comprises of the background, problem statement, research purpose, research objectives, research questions, research hypothesis, rationale of the research, scope of the research and the dissertation outline.

1.2 Background of the Study
The international community has recently been concerned about the performance and efficacy of the humanitarian and development aid programming, emanating from Haiti earthquake disaster aid program outcome (Cunningham, 2012). The performance and efficacy of humanitarian and development work programs, is defined as the program execution that is consistent with laid down humanitarian principles, coupled with the mobilization and deployment of sufficient financial, human and material resources in ways that are timely, well-managed, sustainable, relevant, impartial, accountable and of good quality assurance (Ramalingam, Mitchell, Borton & Smart, 2008).

With over US$12 billion of relief and recovery aid, and an overwhelming support from the international community evidenced by the presence of over 10,000 NGOs, Haiti is still in a critical condition. Sphere standards which provides for the minimum basic requirements of health and human dignity were not met by even a single segment (Mitchell 1999) as cited in (Cunningham, 2012). Due to the increased complexity of the humanitarian environment, usually characterized by a large number of aid actors, there is an increased need for information flow and synchronization of an integrated effort, through coordination of aid agencies (with other players in the private and public sector)
so as effectively and efficiently operate in the political, social, cultural and environmental context of the response action (Sphere, 2011).

Back home, Zimbabwe has been characterized by chronic droughts and political turmoil for the past one and half decade, and the devastating HIV/AIDS pandemic for over two decades, consequentially this has resulted in a sharp increase of humanitarian and development work organizations. However, Zimbabwe still has the 4th highest HIV/AIDS prevalence rate in the world, with an estimated 1.1 million people (adults and children) infected with HIV/AIDS out of an estimated population of 12 million (Mutapuri-Zinyowera, 2012).

As if that was not enough, in 2008, at the hype of the cholera outbreak with an estimated 60,000 cases from 57 of the 62 districts in eight provinces, there was a concurrent Malaria outbreak (Siamachira, 2011), which is the second leading cause of death in the country (John Snow White Inc, 2012). There was no contingency plan in place to cater for this black swan, of a double disease outbreak despite the presence multiple stakeholders in the country’s health sector (Siamachira, 2011). Weak coordination networks and a mixed quality of the efforts has resulted in ‘unnecessary deaths’ which could been prevented by a coordinated and collaborated effort by stakeholders (Sphere, 2011).

The Government of Zimbabwe rightly partnered with the Global Fund, UN agencies, the United States Agency for International Development (USAID), the Department for International Development (DfID), and many other private sector, local and international non-governmental organizations so as to improve the health care necessities of the disaster affected population (Madzorera, 2012), (Sphere, 2011). However, donor funded programs in the health sector have also been characterized by logistical and coordination challenges (JSI, 2012).

This study evaluated donor-funded programming in Zimbabwe’s health sector with emphasis on the coordination and cohesion of the implementing stakeholders in planning, implementation, evaluation and reporting, so as to optimise resource
utilization and enhance program sustainability. It evaluated the integration of operational research techniques in programming and information sharing among organizations; case of HIV/AIDS CD4 technology programme implementation in Zimbabwe’s health sector.

1.2.1 Background of donor-funded programming in Zimbabwe

Just like in the Haitian case, there has been conflicting interests and norms within humanitarian and development aid regime in Zimbabwe, which is characterized by lack of harmonization and coordination between donors, implementing partners and peer agencies. This is usually led by lack of distinction between political and aid decision between donors, implementing partners and peer agencies (Atlanta, 2013) competing for scarce resources with minimal accountability and responsibility to beneficiaries and donors (Cunningham, 2012).

For example in 2005, during the Zimbabwean Operation Murambatsvina the humanitarian aid workers from international NGOs were restricted from having direct access to beneficiaries due to the interlinking interest of political and aid processes. The relief aid program had to be implemented through inexperienced churches and other local community based organizations (CBOs). The process was characterised by poor coordination of implementing partners which resulted in food diversion and poor targeting of intended beneficiaries in the complex and dynamic urban environment, where intra and inter movement of residents between suburbs is rampant.

Lack of preparedness was also witnessed in January 2009, when a team from the U.S. Agency for International Development (USAID) visited Zimbabwe to assess the response to the cholera outbreak and independently realized that a malaria epidemic outbreak might occur. To prevent another public health crisis from occurring on top of the cholera outbreak, the USAID delivery project, funded by the USAID and implemented by John Snow, Inc., was tasked with accelerating Indoor Residual Spraying (IRS) activities in Zimbabwe. However, managing the cholera outbreaks took priority and dominated all health system resources; it also monopolized health staff, vehicles, and the available fuel. Each of the 20 districts picked up their equipment and
material in the capital city of Harare. However, most districts had only one functioning vehicle available and it was often being used to support cholera activities (John Snow White Inc, 2012).

A shortage of human resources and breakdowns in the communication systems contributed to the challenges in data collection and reporting. Districts had a difficult time adhering to the weekly reporting schedule, consistence in completing the reports, and maintaining a uniform reporting format (John Snow White Inc, 2012). Coordination of JSI with other line ministries like the Ministry of Health and Child Welfare (MoHCW) and other community based organizations (CBOs) on the ground would have helped in overcoming some of the operational challenges encountered. For most projects, coordination and communications are key components for success; but during a disaster or emergency situation, they are essential (Willyard, 2007).

This study explored ways to foster field level stakeholder coordination by implementing partners and evaluate the necessity of a Central Coordination Board (CCB) so as to facilitate centralized planning, implementation and reporting in donor-funded programs. This board will accomplish this by having a centralized database for information sharing among member organization, and a centralized Monitoring and Evaluation (M&E) department and an Operations Research (OR) department. Since most donor-funded programs die a natural death with changes in the external environment, for example, a withdrawal of a major donor, change of country’s economic environment among others, for program sustainability the study proposes that the CCB would act as a Complex Adaptive System (CAS) by evolving internally so as to suit the ever changing external needs and environment.
1.2.2 Background of the Pima CD4 technology

Zimbabwe is among the 189 Member States that adopted the Millennium Declaration in 2000, at the Millennium Summit. The declaration contains 8 inter-linked goals and related targets which will enhance people lives by 2015 (Mutapuri-Zinyowera, 2012). The health sector is one of the priority sectors of the Millennium Development Goals (MDGs) and must receive considerable attention (Dreher, Mölders, Nunnenkamp, 2007). The maternal mortality ratio in 2005 was at 555 deaths per 100,000 live births and the under five mortality rate was at 82 deaths per 1,000 live births. The local MDGs aspirations included the reduction the maternal mortality ratio by three quarters and under five mortality rate by two thirds the time interval from 1990 to 2015 (Mutapuri-Zinyowera, 2012).

As mentioned earlier, HIV/AIDS have been a major cause of death in Zimbabwe for more than two decades now. The access to costly AIDS drugs in Zimbabwe has expanded dramatically, thus benefiting the previously under marginalized vulnerable women and children (Willyard, 2007). Between 30-40% of HIV infected pregnant women have a CD4 cell count of less than or equal to 350 and are eligible for Anti-Retrial Therapy (ART) (WHO, 2012). It is evident that some ART eligible HIV positive pregnant women missed the opportunity to go on ART during pregnancy as they did not have a CD4 cell test done and yet this subgroup are potentially ‘high transmitters’ of HIV to their exposed babies, contributing almost 75% of all new HIV infections through PMTCT Mutapuri-Zinyowera, 2012)

In response to the call of meeting the MDGs, stakeholders in the health sector worked together to introduce a new technology (Mutseyekwa, 2012). After careful evaluations they decided to introduce the Pima CD4 technology. Pima (Swahili, to count) is a revolutionary new HIV testing system that is affordable, effective and convenient. The Pima CD4 machine (Alere Technologies; Jena, Germany) is a portable device weighing roughly 2.5 kg that comes with a canvas carrying case for mobile operation. The test system consists of a disposable test cartridge containing dried reagents (which can be stored at room temperature). A low sample volume of approximately 25 µL capillary or
venous whole blood is collected in the test cartridge, which is then capped and inserted into the analyser.

During the course of processing the test, data are recorded,analysed, and interpreted using software embedded within the machine. On completion of the test, the cartridge is removed and a test result is displayed. It takes approximately 20 minutes to test a single sample (EGPAF, 2012). This service enables HIV positive pregnant women to access CD4 cell testing in their local area at the Point Of Care (POC) and expedites the initiation of ART thereafter; to maximize the limited period to prevent the peri-natal HIV transmission (Mutapuri-Zinyowera, 2012).

Traditionally, women testing HIV-positive are referred to the opportunistic infections / ART clinic, where they are scheduled for CD4 testing (UNICEF, 2012). It can take two to three weeks or more to be tested, and it takes more time for results to be returned from the laboratory. As a result, many treatment-eligible women are never initiated on ART or are initiated late because they either did not return for CD4 testing or never received their test results (O’Gomman & Zijenah, 2008), (Mutapuri-Zinyowera, 2012). These challenges are even more pronounced in rural areas where women must travel long distances to a health facility (EGPAF, 2012).

1.2.3 Program Stakeholders
The implementation of the Pima CD4 technology in Zimbabwe was multi-stakeholder effort (Mutseyekwa, 2012). The implementing partners and players included JSI, Zvitambo, JF Kapnek, Medsure, Alere, PSI, Nat Pharm, ZINQAP, DTTU, Pharmacy DeptNAC, EGPAF, CHAI, OPHID, MoHICW, Donors and UNICEF. The performance and efficacy of players and partners in the humanitarian and development work is the effective collective performance of a complex system of international and national organizations, which works together to save lives, alleviating suffering and maintain human dignity both during and after the occurrence of man-made crises and natural disasters, as well as working to prevent and strengthen preparedness for the occurrence of such situations (Cunningham, 2012). The concept of good governance
should be entrenched in the system to introduce important elements of partnerships and shared accountability (Machingura, Tsodzo, Mweembe & Masiwa, 2012).

The research tackled inter-partnership stakeholder’s coordination, both the horizontal and vertical partnerships. A horizontal partnership is where two different and independent implementing partners of similar programs coordinate, and vertical partnership is were two or more partners coordinate at different level of the supply chain in different areas of program implementation (Ross, 2012). For example UNICEF partnered with JF kapnek in Pima CD4 technology implementation in hospitals. JSI partnered with National Pharmaceutical (NatPharm) in logistics and the distribution of the PIMA consumables.

The evaluation of horizontal relationship will be of UNICEF, EGPAF, NAC, CHAI and PSI who are the main program implementers and have been running concurrent and parallel Pima CD4 programs sponsored by different donors. The study evaluated how these organizations have shared financial, material, human, information and skills resources at all stages of program implementation from planning to evaluation.

1.2.4 Coordination Challenges

With support from the Mercury Phoenix Trust, UNICEF UK provided new Pima CD4 machines at health centres across Zimbabwe (JSI, 2013). UNICEF Zimbabwe partnered with a local partner J.F Kapnek to implement the program. From November 2010, a decision was made by the Early Infant Diagnosis (EID) POC working group that all reagents should be placed in a common pool and be distributed using the Zimbabwe National Family Planning Council (ZNFPC)’s Drug Delivery Team Top-up (DTTU) system (Zinyowera, 2012).

JSI which is sponsored by USAID is responsible for quantification and forecasting of consumables. These commodities are stored at the central medical sites (NatPharm) from there the ministry distribute to the health facilities using the DTTU facility. Despite a large number of stakeholders involved in the distribution of the PIMA consumables, there are still operational challenges being faced. This research’s aim was at finding the
best ways of effective stakeholder coordination and guaranteeing optimum use of resources which relates closely to governance issues (Machingura et al, 2012).

1.2.5 International coordination
UNICEF once hosted peer-based information sharing workshop of international organizations, with staff from National AIDS Councils, Secretariats, referral hospitals, and ministries of health, laboratories, and other partners. This delegation included representatives from Gambia, Sierra Leon, Benin and Senegal. The program assisted in the real-time information flows of new technologies and best practices in the PIMA CD4 technologies (UNICEF, 2012). Locally based implementing partners can share information at field-level, both locally and internationally so as to enhance their programming efficacy.

1.3 Problem Statement
Many multi-donor funded programs in Zimbabwe do not achieve optimal resource utilization and program sustainability due to poor field level stakeholder coordination, consequentially resulting in low beneficiary and donor accountability by the program implementing partners.

1.4 Research Purpose
This paper aims at evaluating the factors that contribute to causes of low field level stakeholder coordination by program implementing partners in donor funded programs in Zimbabwe. The rational of the research is to determine best ways and practises of humanitarian and development work program implementation and also evaluate how implementing stakeholders can optimize financial resource utilization. The research is also determined how the implementing partners are going to synchronize their efforts and share information within the whole response team via a formation of a Centralized Coordinating Board (CCB). This centralised board will be responsible for coordinating all key stakeholder activities through the integration of the Management of Information Systems (MIS), Operation Research (OR) techniques and Monitoring and evaluation (M & E) techniques so as to optimize the distribution and usage of scarce resources.
1.5 Research Objectives

1) To evaluate whether field-level stakeholder coordination will foster optimum use of scarce resources by implementing partners.
2) To determine whether stakeholder coordination improves information sharing and dissemination.
3) To determine whether field-level stakeholder coordination foster programming efficacy.
4) To evaluate whether stakeholder coordination foster compliance to international programming standards by program implementing partners, for example, sphere standards, accounting standards among others.

1.6.1 Main research questions

Does field-level stakeholder coordination result in optimal resource utilization?

1.6.2 Other research questions

1. Does stakeholder coordination improve information sharing and dissemination?
2. Does field–level stakeholder coordination foster programming efficacy?
3. Does stakeholder coordination improve compliance to international programming standards by program implementing partners?

1.7 Hypotheses

The study argues that poor resource utilization by field-level implementing partners in humanitarian and development work programs is caused by poor coordination among the implementing-partner organizations, consequently resulting in low beneficiary accountability and lack of program sustainability. As such the following hypotheses are proposed.

H₁: Field-level stakeholder coordination is not independent to effective and efficient resource utilization by implementing partners.
H₂: Stakeholder coordination is not independent to information sharing and effective information dissemination.
H₃: Field-level stakeholder coordination is not independent to programming efficacy.
H₄: Coordinating stakeholders adheres to international implementation standards.
1.8 Rationale of the Research

This research contributed to the body of knowledge and also can be used as a guide into the creation of an effective Central Coordinating Board (CCB). This can be achieved by referring to the laid down research recommendations, and for the structure, function and strategy, the conceptual framework model presents the overall guide. The absence of an independent, accountable and coordinating board in Zimbabwe’s donor funded programs has seen programs not collectively achieve programming efficacy, optimal resource utilization, effective information sharing and dissemination, and standardized operations.

This research presents a solution, by suggesting an establishment of a CCB whose main mission and mandate would be to coordinate and strategically plan all the donor-funded programs. This will be achieved by the centralization of operations research planning, management of information systems, and monitoring and evaluation activities. This board will provide comprehensive and integrated reports to beneficiaries, government and respective donors. The board will come up with an optimal mix of stakeholders per specific programs, conduct agency capacity assessments and an operational guideline through its operations research department, but donor independence and operational space will be given to respective partners. The CCB will provide a platform for information sharing and dissemination, necessitated by a shared
central master database. The CCB will assist program stakeholders to restructure internally, like independent units of the complex adaptive systems which evolve internally to suit the ever changing chaotic operational environment, for example, changes in the political environment, economic situation or pulling out of a major donor or other such things.

In summary this project will benefit the program beneficiaries when the proposed CCB is launched, which will in turn foster optimal resource allocation and accountability. It will also benefit the program implementers who would be able achieve programing efficacy and sustainability, through adoption of the proposed CCB’s integrated approach. The government will also be a beneficiary to this study due to the increased accountability that will be brought by inception of the CCB mandated to foster an integrated and holistic reporting by the implementing agencies.

1.9 Scope of the research
The research was based on both primary and secondary data. For the primary data, qualitative data was collected through interviews from seventeen Harare based key informants, from Pima CD4 implementing-partner organizations and other key stakeholder institutes (MoHCW, UNICEF, JSI, PSI, J.F Kapnek, ZAPP, NANGO, NAC and Ministry of Social Welfare). Data was collected from management and/or program specialist so as to ensure the reliability of the data.

The secondary data which constitutes both qualitative and quantitative data was collected through mixed methods (observations, data abstraction, questionnaire surveys, interviews and focus group discussions) so as to increase construct validity of the data. This data was collected by UNICEF hired consultants from 45 health institutes located across seven districts (Gokwe North, Gokwe south, Hurungwe, Hwedza, Kwekwe, Gwanda and Mwenezi). The health facilities constituted 3 provincial hospitals, 6 district hospitals, 8 rural hospitals, 8 mission hospitals and 20 clinics. 35 health facilities had implemented the Pima CD4 technology and 10 did not have the facility. This was done to increase content validity, by comparison of the two scenarios. At the health facility level, 62 questionnaires were administered to the trained users, 184
questionnaires were administered to the clients, and seven focus group discussions were conducted with the clients, 37 in-depth interviews were conducted with the senior staff members from the health centres (Matrons, Sisters in Charge, DNOs and hospital administrators). Observations on the Pima CD4 procedure by the users and data abstraction from health facility registers were conducted by laboratory scientists from the research team.

1.10 Research Limitation
This research is limited to individual and organizational stakeholders in donor-funded programs in Zimbabwe’s health sector.

1.11 Dissertation Outline
This dissertation will follow the outline proposed below:

Chapter 1 Introduction and background
This chapter introduced the reader to the topic and how the study and the evaluation of stakeholder coordination in the Zimbabwe’s health sector; case of the Pima CD4 technology implementation program in Zimbabwe. The research objectives, questions, rationale and scope are stated at the end of the chapter.

Chapter 2 Literature Review
This chapter explored relevant literature of the topic which are; project life cycle, Decision tree, Logical framework, complex adaptive systems and stakeholder coordination models. It also looked at literature gaps and suggested the integration of complex adaptive system planning in non-profit making programming. This was illustrated in the conceptual framework at the end of the chapter.

Chapter 3 Research Methodology
This chapter presents the data collection and analysis methods adopted by the study. It also presents and explains the research methodology and respective philosophies underpinning the research.
Chapter 4 Findings and Discussion of results
This chapter shows how data was presented, analysed, interpreted and discussed. For the quantitative data, a manual coding system was used.

Chapter 5 Conclusions and Recommendations
This chapter presents the conclusions and recommendation for the study. It also contains suggestions for better programming for donor funded programs.

1.12 Chapter conclusion
This chapter presented an overview and the introduction of the study. It also provided the basis for the foregoing discussions of the research study.
CHAPTER 2
LITERATURE REVIEW

2.1 Introduction
This chapter reviewed literature on field-level stakeholder coordination by implementing partners, focusing on program planning, implementation, monitoring and evaluation, and reporting processes in the donor funded programs. The chapter also provided a critique and value addition suggestions to already existing relevant literature.

2.2 Definition of key terms
Stakeholder coordination is defined as “the orchestration of effort towards efficient, effective, coherent and appropriate delivery of the humanitarian or development services” (Bennett, Bertrand, Harkin, Samarasinghe, Wickramatillake, 2008). Collaboration is when agencies, collectively assess the situation, share information on overcoming challenges and tackle practical problems together (IFRC, 2009). Project management comprises of techniques, tools and knowledge which on application, aids in the production of better project results (Makoni, 2012). Primary stakeholders are generally the vulnerable, who benefit from or are adversely affected by the project (Dearden, 2005). Key stakeholders are those who are really important and the major contributors to what the project is trying to deliver or achieve (Begun, 2008). Secondary stakeholders include all other people and institutions with a stake or interest or intermediary role in the resources or area being considered (Dearden, 2005).

2.3 Managerial problems analyzed in the literature review
This paper tackles the managerial problem of poor stakeholder coordination in donor funded programs in Zimbabwe’s health sector. This is a project management problem that causes inefficient resource utilization by implementation partners at field level, consequentially resulting in low donor and beneficiary accountability by implementing partners. This problem also involves corporate governance issues, where good governance concepts should be incorporated in the humanitarian systems so as to infuse elements of partnerships and shared accountability (Machingura et al, 2012).
The other management problem which was tackled by the research is the program sustainability problem. Most donor-funded programs in Zimbabwe are not self-sustaining and terminate prematurely due to environmental changes, for example, withdrawal of a major donor, or changes to the economic and political environment. Program sustainability problem is a strategic management problem.

Most donor-funded programs in Zimbabwe use the logical framework as their planning tool. The logical framework is the modern pillar on project planning in the contemporary humanitarian and development work programming (Blackman, 2009). However, it has its own weaknesses (Hargreaves, 2010) in that it is not time sensitive and do not adapt to the ever changing chaotic external environment (Sterman & John, 2008), for example, change of a program phase from a humanitarian to a development phase. In the study, the researcher proposed the adoption of the complex adaptive systems planning at a higher level of the country program by the proposed Central Coordinating Board (CCB). Literature was reviewed on the complex adaptive systems model and how it can be integrated in donor funded programs.

2.4 Stakeholder Coordination in donor-funded programs

Project management can be hard to implement, especially when the program has a wide range of agencies and partners of diverse value systems (Dearden, 2005). Linkages, coordination, rationalization and standardization of Zimbabwe’s health care delivery systems have not reached high levels of satisfaction for both external and internal stakeholders (Begun, 2008). Coordination is implemented in communication, transportation and security elements of programming (Kamarck, 2008).
2.4.1 Stakeholder coordination and scarce resource utilization

Due to the increased number of emergencies, paired with increasing expectations and relatively low response capacities, makes even a large organization incapable of launching an effective solo response (Ramalingam, Mitchell, Borton, & Smart, 2008). Humanitarian programming system has a high level of inter-dependence (Holland, 2003). It is an interactive system of interdependent elements which are connected through a web of relationships (Hargreaves, 2010). In a disaster situation, NGOs and other stakeholders dependent heavily on one another due to limiting resources of individual NGOs (InterAction, 2012). Stakeholder coordination in development and humanitarian work is extremely important and fosters programming efficacy and optimal resource utilization (DOD, 2010). For coordination to lead to better humanitarian responses there must be effective leadership and partnerships, and accountability towards the affected populations (Hau, 2009).
2.4.2 Motivation for coordination

Internationally, many donors engage in high-level agreements which target the reformation of current funding, leadership and coordination mechanisms (Nathaniel, 2009).

The described goals of these agreements is to promote effective, predictable, needs-based, well-coordinated, timely and transparent humanitarian responses with the main aim of increasing the quality of assistance and accountability by implementing partners, both to donors and to beneficiaries (Mowjee, Donini & Otto, 2008). Despite potential operational, cultural and philosophical differences, a coordinated effort will foster an environment of cooperation which ultimately results in unity of effort (Hargreaves, 2010). Stakeholder coordination achieves desired goals via corporation in fields of common interest and preventing unintended negative outcomes when operating in the same space with other stakeholders (Gortney, 2011). The main driving forces of coordinating stakeholders are:

a) Facilitation of unity of effort; This is the cooperation and coordination by different stakeholders toward attainment of similar objectives (MLI, 2012). Unity of effort is achieved by unified action, which is the coordination, integration and synchronization of nongovernmental and governmental operations (Gortney, 2011).

b) Achievement of common objectives. Organizations possess different indispensable competencies and should be operationally, tactically and strategically integrated and coordinated so as to achieve common objectives (Gortney, 2011). Efforts should be aligned and harmonized so as to attain these common objectives (MLI, 2012).

c) Capitalization on Organizational Diversity. Each organizational stakeholder partner brings its own goals, expertise, skills, philosophy, culture, and practices to the coordination task (Atlanta, 2013). This diversity can be transformed into an asset via a process and collective forum that takes into consideration the
multiple options, capabilities and views available of the inter-implementing partners. (Gortney, 2011)

2.4.3 Operations research support services and program implementation efficacy

The World Health Organization (WHO) health system strengthening framework comprises of six standards on the health service delivery which are health information management, human resources, health financing, drugs and medical supplies, coordination and leadership (Sphere, 2011). These health sector service delivery standards are dependent on how the coalitions of stakeholders are organized and their political will (Putney, 2000).

2.4.4 Regulatory boards and coordination boards in Zimbabwe

The MoHCW plays a regulatory role on matters relating to both public health and primary health care. The National AIDS and TB Control Programme in the MoHCW effectively coordinate the National HIV/AIDS response within the public and private, and NGO/ FBO health sectors. The National AIDS Council (NAC) has functions to promote and coordinate the application of HIV/AIDS policies and resources from various sectors and partners to respond to the HIV/AIDS epidemic. Members of the Council are drawn from a wide cross-section of stakeholders and are appointed by the President, presumably on the advice and recommendation from the minister. Section 20, the Minister may give the NAC direction on policy for the implementation. The NAC receives its funding from the fiscus, donations and so forth in terms of section 25 of the Act (Machingura, 2012).

The National Association of NGOs (NANGO) is a non-partisan voluntary organization registered under the Private Voluntary Organization Act (Chapter 17:05) 1996, with the Ministry of Labour and Social Welfare. NANGO which works under the PVO Act number 221/68 is a membership driven organization with a membership base of over 1000. Within its framework NANGO has a diverse approach which sees it serving for the welfare of its members in its 9 sectors namely the Disability, Youth, Children, Women, Economic and Health and HIV and Aids, among others. NANGO simultaneously works
with the first, second and third generations of NGOs namely Relief and Welfare, Development and Advocacy respectively with multi-dimensional approach within its mandates. Its mission is to create space and identify opportunities for NGOs to pursue their visions and mission and facilitate the building of members’ capacities, resource bases and synergies. Its objective is to promote an enabling environment for NGOs to operate effectively and to represent the interest of its members nationally and internationally (NANGO, 2013).

2.4.5 Stakeholder coordination and financing of the health sector
Support for the health sector can be project based, program based, sector budget support or multi-donor support. The multi-donor support involves a formalized government-led process for donor-coordination at sector-level (Sphere, 2011). The sector budget support involves pooled financing, parallel financing, health sector budget support or a combination. Program based support involves high donor coordination levels and effective use of government systems. Project-based support involves activities which are narrow, well defined, stand-alone and short-lived and have management which is not dependent on the government (MLI, 2012).

2.4.6 Stakeholder coordination in Zimbabwe’s health sector
The Ministry of Health and Child Welfare (MoHCW) plays a regulatory role on matters relating to both public health and primary health care. It is the lead technical agency responsible for the provision of HIV prevention, treatment and care services in the country. The health sector has effectively mainstreamed HIV into its core business. The National AIDS and TB Control Programme in the MoHCW effectively coordinate the national HIV response within the public, private, and NGO/FBO health sectors. The National AIDS Council also has functions to promote and coordinate the application of HIV/AIDS policies and resources from various sectors and partners to respond to the HIV and AIDS epidemic (Machingura, 2012).
2.4.7 Discussion on stakeholder coordination and benefits

Resource sharing by stakeholders

Generally, authors concur that coordination of stakeholders in humanitarian work brings efficacy in programming through shared resources which are; skills, financial, material and information resources. Literature reviewed from Ramalingam et al, (2008), Holland (2003), Hargreaves(2010), InterAction (2012 and DOD (2010) demonstrated that stakeholder coordination foster efficacy in resource utilization.

Optimal stakeholder mix and alignment of values

Other authorslike Kamarck(2008) and Begun (2008) highlighted the importance of stakeholder coordination in communication, transportation and security which brings linkages, rationalization and standardization in programs. However, Dearden(2005) has highlighted that coordination is difficult to implement, especially with a wide range of agencies and partners of diverse value systems. Altanta (2013) highlighted the importance of partnering organizations with the same political, cultural and religious inclination on the same program to avoid conflict of interest. Dearden(2005) highlighted the need for continuous management of risk of conflicts of interest between stakeholders, throughout the project life cycle. Gortney (2011) also suggested that the different stakeholder values can be aligned so that the coordinating partners can achieve the shared program goals.
Stakeholder coordination and compliance with standards
If stakeholders coordinate, their combined effort in attainment of common objectives and goals will facilitate the synchronized synergies as explicitly mentioned by Gortney (2011), and will achieve better results than if they had pursued them separately. They are boards which are already in place for example Machingura (2012) mentioned that the MoHCW does the regulatory role, and sphere (2011) mentioned that WHO has the six set standards of health which are; health information management, human resources, health financing, drugs and medical supplies, coordination and leadership. However, Putney (2000) noted that these boards are not sufficient in achieving the laid down standards and an optimal mix of stakeholders. The researcher suggested the establishment of the central coordination board with a structure shown in the conceptual framework below, so as to support the attainment of six set WHO standards. Partnering stakeholders should set aside their differences, and with the aid of the central coordinating board they can align their values and employ what Gortney (2011) termed unified action.

2.5 Cluster coordination
The basis of the modern humanitarian coordination was set in 1991 by the UN General Assembly resolution. In 2005, The Humanitarian Reform Agenda was introduced to enhance accountability, partnership and predictability. The Cluster Approach was a product of this reform. Clusters are UN and non-UN groups of humanitarian actors in sectors of the humanitarian response, e.g. health, logistics and water (Bartolini, 2011), and it strengthens the effectiveness of the response by building sustainable partnerships (Mowjee, 2009). The cluster approach is a system of organized humanitarian players in humanitarian response action (Refugee council, 2010). The Inter-Agency Standing Committee (IASC) designates the clusters and have clear role for coordination (Bartolini, 2011) since a single humanitarian agency cannot act effectively on its own (Humanitarian Reform, 2010).
Coordination and Benefits of information sharing

Clusters involve coordination of actions and activities by humanitarian actors (for example, information sharing on programmatic activities and participation in cluster meetings; thus forming the three Ws (What, Where and Who does) database. These cluster humanitarian actors engage in cluster functions i.e. needs assessments, response deliver, planning, monitoring implementation, resource mobilization and strategic settings of priority (Refugee council, 2010). The resident coordinator manages the humanitarian response action via the clusters. Cluster Lead Agencies are the cluster focal points that operate at the country and global level. Cluster Leads are mainly responsible for reinforcement of system-wide preparedness and coordinating technical capacities of humanitarian agencies in response to humanitarian emergencies respective sector (Bartolini, 2011).

2.5.1 Advantages of the cluster coordination approach

The main strength of a cluster approach is that it provides a clear point of contact and accountability of humanitarian assistance and partnerships between civil society, local and national authorities, and international humanitarian actors (Bartolini, 2011). The other strength of the cluster approach is that it provides a clear leadership structure with a cluster coordinator as the cluster head (Schüepp 2011). The cluster approach improves the program legitimacy via wider engagement and inclusivity, and creates a platform for sharing of values. The cluster approach improves advocacy, with the cluster speaking with one voice (Price, 2009).

2.5.2 Weakness of the cluster approach

Coordination overload is a common weakness of the cluster model. Frequently, NGOs complain about numerous meetings which are in from inter-cluster meetings, cluster meetings and general coordination meetings (Humanitarian Reform, 2010). The other weakness of the cluster system is that it does not encompass cross-cutting elements of accountability like minimum standards in transparency/ information, Codes of Conduct, feedback mechanisms and participation of local communities, and (Hedlund, 2011).
Figure 4: Cluster coordination: Adapted from Streets, (2010)
2.5.3 Information sharing among stakeholders

Authors like Bartolini (2011) and Mowjee (2009) mentioned that a cluster approach can strengthen the response’s effectiveness by building sustainable partnerships. The Refugee council (2010) and Humanitarian Reform (2010) stated that clusters can share information and troubleshoot challenges through cluster meetings. Price (2009) also added that a cluster can create a platform for sharing values, and improves advocacy through speaking with one voice.

Compliance with standards

Hedlund (2011) restated that a cluster coordinator cannot enforce any rules and regulations. The gap in literature in the cluster model is that it does not have a regulatory board that can enforce compliance issues on member organizations such as the sphere standards.

Resource utilization by coordinating partners

The other gap of literature in this model is that it has no structures and systems in place to verify the genuineness of partners, for there is a loophole of opportunistic partners joining the cluster with ulterior motives. The other missing link in this model is that it does not specifically demonstrate how partners can vertically and horizontally integrate their operations so as to achieve optimization of resource utilization in their programming activities.

2.6 Collaborative Model

Before the cluster approach, there was the collaborative approach, with agencies working hand in hand with each other under the Head Coordinator’s leadership (Humanitarian Reform, 2010). Collaboration is when organizations share a common responsibility and authority when planning and when executing an action for problem solving. The collaborating stakeholders engage in an interactive process using structures, norms and shared rules so as to react to issues relating to that domain (Saab et al, 2009). Collaboration occurs when stakeholders work with each other on a specific task, whilst cooperation occurs when organizations work independently on different tasks for the attainment of a common goal (Hveinden, 2004).
2.6.1 Strength of the collaborative Approach

Stakeholders have an advantage towards attainment of objectives through synchronisation of synergies (Bougheas at el, 2008). This is attained by resource (financial, material, skills and information) sharing by stakeholders (Mowjee, Donini &otto, 2008).

2.6.2 Weakness of the collaborative Approach

The collaborative approach can easily be hampered by poor leadership from the head collaborators (Humanitarian Reform, 2010). The other weakness of the collaborative approach is that it depends heavily on trust between the members (Saab et al, 2009). This presumed trust does not necessarily exist among members who sometimes have different levels of commitment (Humanitarian Reform, 2010).

Figure 5: NGO Cooperation, coordination and collaboration framework: Adapted from Saab et al (2009)
2.6.3 Discussion of the collaborative approach
As mentioned by Saab et al (2009), (Bougheas at el, 2008) and Mowjee et al, (2008) the collaboration approach is a better model for creating a platform for synchronisation of synergies, since stakeholders work on the same project with sharing resources.

Just like the cluster approach, there is no enforcement of compliance issues such as the sphere standards, and there are no structures and systems in place to verify the genuineness of partners. The collaboration approach heavily relies on trust between members. Alignment of different organizational value systems is hard to attain since the collaborating members’ value systems are usually determined by their respective head offices based in another country, and also different donors sponsoring these collaborating partners might have conflicting value systems. Therefore, the field-level collaborators have no recourse when their donors impose their value systems on them.

2.7 Stakeholder coordination board in Pakistan
In 2002, an informal humanitarian coordination body called Pakistan Humanitarian Forum (PHF) was founded by a group of twelve International Non Governmental Organizations (INGOs) (Parsons, 2009). Its stated objectives were to enhance coordination with UN agencies and the government and to influence practice and policy. A key driver was to monitor the humanitarian situation thus reducing agency assessments (Osgood, 2008). They had only one meeting in the first year due to the lack of programming pressure, and partly because of high staff turnover which caused inconsistency (Olson & Glenda, 2011). It was also due to lack of a formal PHF structure which resulted in a leadership crisis. The security, political and financial environment during the 2008-2010 emergencies, necessitated the need for a collective action. Membership rose to 40 members, and the PHF leadership re-focused the mission to incorporate recovery and sustainable development issues (Currion, 2012).

2.7.1 Discussion of the Pakistan Humanitarian program
Currion (2010) highlighted how difficult it was in Pakistan to partner organizations with differing value systems. Atlanta(2013) mentioned that highly political volatile environments, field-level stakeholder coordination is imminent, and security concerns
are a big motivator for coordination, and in Pakistan agencies formed an informal board. So for the Zimbabwe scenario, despite the wide range of agencies with diverse value systems, at times the political environment can become tense, it would not be a hard task to persuade humanitarian and development agencies to join the CCB.

2. 8 NGO Coordination Committee in Iraq (NCCI)

Over the past two and half decades, Iraq have been characterised by wars and sanctions (Chanaa, 2008). The 2003 US-led invasion left eight million people in need of urgent assistance (NCCI. 2008). Due to security concerns, poor information flow, coordination challenges and reduced mobility, humanitarian actors had to combine their efforts and employee a collective approach. This gave birth to the NGO Coordination Committee (NCCI) comprising of 80 international NGOs and 200 Iraqi NGOs. (Carle and Chkam, 2006). All NCCI members are required comply with the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (Oxfarm, 2008).

The NCCI coordination mechanism provides opportunities for NGOs to maintain their independence, and create a platform for the perception of non-affiliation for the safety of the aid workers (Hansen, 2008). It also facilitates the pooling of information and its dissemination to the appropriate audience. It identifies gaps in the aid response and necessitates field-based operation networkssso as to enhance the quality of response (NCCI, 2008). Despite the challenges of remote management, constricted humanitarian space and short falls in donor funding, the efficacy of NCCI has been high due to the staff dedicationand established networks (Hansen, 2008). For programming sustainability, the NCCI has institutional memory, which helps in programming continuity when other agencies pull out.

2.8.1 Discussion on the NCCI

Just like in Pakistan, due to security concerns humanitarian agencies formed a board. However, as heightened by Hansen(2008) and Oxfarm(2008), this board was formal and it enforced compliance with standards, and retained institutional memory. As heightened by the NCCI (2008), it provided a perception of non-affiliation. In Zimbabwe a creation of
such a board will be ideal, and most of the donor funded programs lack sustainability due to insufficient programming information. The CCB would help in retaining institutional memory and information dissemination to members. It will also help those NGOs who are perceived to be political, by cushioning them and will appear apolitical thus guaranteeing them support from the community and the Government.

2.9 Project Life cycle management (PCM)

In the project life cycle, the identification of the problem comes first (Chanza, 2012). The needs assessment gives an overview of the community problems whilst a capacity assessment identifies which problem is to be addressed by the project (Blackman, 2009). Project cycle management (PCM) is the term given to the process of planning and managing projects, programs or organizations (IFRC, 2011). Development projects sometimes fail because of poor planning, and lack of incorporation of views and needs of stakeholders in the decision-making process. PCM involves a set of planning tools which feed into the logical framework (commonly known as a log frame) (Blackman, 2009). A Logical framework is a dynamic planning and management tool that logically relates the main elements in the program / project design and helps ensure that an intervention is likely to achieve measurable results (Frankel & Gage, 2007).

2.9.1 Project design

Projects are not planned and implemented in a socio-economic, political or physical vacuum, but are subject to a range of influences that emanate from their environment (Chanza, 2013). These influences are taken care of in the project design stage which consist of stakeholder analysis, problem analysis, log frame, risk analysis, action planning and budgeting. Stakeholder and risk analyses should be carried out on a regular basis throughout the project cycle (Blackman, 2009).

2.9.2 Stakeholder analysis stage of the project life cycle (PLC)

Stakeholder analysis is one of the most crucial elements of any multi-agency project planning. (Mandota, 2012) Stakeholder analysis is a useful tool or process for identifying stakeholder groups and describing the nature of their interests, stake and roles (Chanza, 2012). Stakeholder analysis is an enabler of useful alliances which can be built upon...
This process also identify and reduce risks; for example identifying areas of possible conflicts of interest and expectation between stakeholders so that real conflict is avoided before it happens (Dearden, 2005).

![Project Life Cycle Diagram](image)

**Figure 6: Project Life Cycle: Adapted from, Blackman (2003)**

2.9.3 Discussion on program design stage in the PLC

The authors MDF(2005), Chanza (2012) and Mundota (2012) demonstrated on the project design stage, how the objective tree is divided into clusters (clustering) and the selected clusters (scoping) will be included in the intervention. When an individual NGO or a group of NGOs conducts a clustering process some projects will be scoped away. In the project life cycle, the stakeholder analysis process is under marginalized, and only embedded in the design stage. In most of the projects / programs implemented in Zimbabwe there is no expert stakeholder analyses done where a proper capacity assessment of the assigned stakeholders is done, and where an optimal mix of stakeholders is achieved, so as to optimize resource utilization. The inception of a Central Coordinating Board (CCB) will help in deriving an optimal mix of project stakeholders through its specialized operations research department as illustrated in the
conceptual framework below. CCB will be mandated to conduct the stakeholder analysis. This process will be continuously reviewed throughout the project life cycle.

**Optimal mix of stakeholders and benefits of information sharing**
After the problem analysis stage, a specialist in operations research from the CCB operations research department would facilitate the determination of the optimal mix of partners for specific projects or programs. The specialists will take into account the project/program goals, expertise, skills, philosophy, culture, capacity, reputation and practices of partnering organizations. Clear laid down strategies which will enhance synchronization of synergies for the attainment of a greater program impact, will be suggested to the coordinating partners. Nevertheless, the coordinating partners will retain their operational independence. The CCB would provide information from the program memory which will be helpful in the stakeholder determination and program/project implementation. The needs analysis process will be finalized by the complete set of stakeholders who will explore perceptions and verify them by cross-reference.

**2.10 Analysis of the Logical Framework**
During the project design stage, logical framework planning is conducted. The logical framework provides a comprehensive and thorough project plan and it is conducted by a full complement of the project stakeholders. It comprises of an inherent logic which runs through it (Deaden, 2005). The major weaknesses of the logical framework is that it is not time dependent, and it does not demonstrate how stakeholders are to coordinate so as to attain the well-articulated goals provided for by the logical framework.
Table 1: Logical Framework: Adapted from Chanza, 2012

<table>
<thead>
<tr>
<th>Narrative Summary</th>
<th>Objectively Verifiable Indicator</th>
<th>Means of Verifications (MOV)</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Means of goal achievement</td>
<td>Source of information</td>
<td>Assumptions affecting purpose goal linkage</td>
</tr>
<tr>
<td>Purpose</td>
<td>End of project status</td>
<td>Source of information used and methods used</td>
<td>Assumptions affecting output purpose linkage</td>
</tr>
<tr>
<td>Outputs</td>
<td>Magnitudes of output</td>
<td>Source of information used</td>
<td>Assumption affecting output input linkage</td>
</tr>
<tr>
<td>Inputs</td>
<td>Nature and level of resource necessary. Cost &amp; planned date of commencement</td>
<td>Source of information</td>
<td>Initial assumptions about the project</td>
</tr>
</tbody>
</table>

2.10.1 Nesting the Framework

One of the major advantages of the logical frameworks is that they can be linked together and nested within each other. For example, an NGO can derive its project plan from a sartorial plan. The objectives can feed down through these plans so that the purpose for the high level plan becomes the goal for the subsequent plans and this process continues as objectives become more and more specialized (Dearden, 2005). This characteristic of the logical frameworks accommodate the coordinating partners both with vertical and horizontal relationships.

2.11 CASmodel and program sustainability

Most donor funded programs in Zimbabwe terminate prematurely due to changes of the operating environment (for example, pulling out of a major donor, political interference,
changes of the economic environment, or change of programming phase from relief phase to development phase, and other circumstances). Organizations are entities which act as dynamic, open and nonlinear systems (Hargreaves, 2010), and are subjected to internal and external forces that can be sources of chaos (Thietart & Forgues, 2009). Utilization of the Complex Adaptive systems (CAS) strategic planning by the proposed (CCB), presents an opportunity to rebuild relationships and sustainable programming through networking both internal and external groups which are member organizations, primary and secondary stakeholders, government, donors and beneficiaries (Prewitt et al, 2008). The CCB creates a platform for rapid learning cycles by the members who will evolve the programs along shifting environments. (Knezovich, 2012)

Figure 7: Complex Adaptive Systems Model: Adapted from Angeler, Grakare & Johnson (2011)

2.11.1 The building blocks of Complexity Theory
Organizational complexity are the number of sub-systems (Holland, 2003), or activities within an organization, with the dimensions of vertical or number of levels; horizontal or
number of units, departments or divisions; and spatial, the number of geographic
locations (Schneider & Somers, 2006). The proposed CCB will exhibit complexity with
member organizations as the interdependent units as indicated in the conceptual
framework. The activities and sub-systems are the different program activities, from
different sectors at different levels of programming, for example, project level, district
level, provincial level, sector level, country level programming, among others, being
implemented through different departments in different locations around the country.

2.11.2 The CCB as a Nonlinear Dynamic System
Organizations are dynamic systems exhibiting nonlinear relationships (Thietart &
Forgues, 2009). The nonlinear dynamic systems are caused by both external factors
(e.g. political, social, economic, legal, ecology, technological) and internal factors (e.g.,
resources, leadership). The disruptive occurrences can be regulations, new legislation,
changes in leadership, pulling out of a major donor or change political
conditions (Prewitt, Weil & McClure, 2008). Multiple member organizations with diverse
goals, inside and outside the CCB, coordinate their activities or exchange information or
interact in one way or the other, in a dynamic way (Thietart & Forgues, 2009), as shown
in the conceptual framework. The criteria that will influence the methods, resources and
practices used to achieve those outcomes is the CAS strategic planning (Prewitt et al,
2008) implemented within the sphere minimum standards framework.

2.11.3 The CCB as a Chaotic System
Deterministic chaos can be found when there is the simultaneous influence of
counteracting forces (Holland, 2003). Some forces push the system toward stability
and order; these include the forces of planning, structuring and controlling. In the CCB
this occurs in project life cycle management, logical frameworks, Monitoring and
Evaluation (M&E) exercises, and so on. Some other forces push the system toward
instability and disorder: the forces of innovation, initiative and experimentation. The
coupling of these forces can lead to a highly complex situation of a chaos (Thietart &
Forgues, 2009). Chaotic systems are predictable in pattern, but are not predictable in
path or specific temporal trajectory. (Dooley & Van de Ven, 1999) cited in (Schneider &
Somers, 2006).
In donor funded programming, for example, when a major donor pulls out there is a predictable deterministic pattern that the program will scale down operations, but not predictable in path on whether they will staff retrenchments, integration of operations with other organizations or a complete pull out. Upon subjection to this external chaos, the coordinating member organizations will evolve internally by restructuring their internal coordinating mechanisms, adapt to the order.

2.11.4 Self-Organization
Complex adaptive systems have the ability to self-organization (Eidelson, 2007). Self-organization is a process whereby structure or pattern emerges in an open system without specifications from the outside environment (Fanner, 2005) cited in (Eidelson, 2007). The CCB will undergo self-induced and nonlinear transformations to suit the ever-changing environment. For example, when a country of operation moves from the relief stage to the development stage, the CCB can restructure internally to suit the changing needs of the community.

2.11.7 Discussion on CAS strategic planning
Complex Adaptive Systems (CAS) strategic planning is a method for analyzing an organization’s mission for positioning and appropriateness so that an organization can tackle possible future challenges (Prewitt at al, 2008). The methodology involves analyzing whether the mission and vision are clear and well-understood, and whether honesty, trust, and accountability are undergirding the culture of the organization (Schneider & Somers, 2006). Strategic thinking and skills must be evident in all the activities of the organization (Hargreaves, 2010). Great insights are obtained from cross-functional networks which are well-informed whilst these networks share the decisions and processes throughout the organization (Schneider & Somers, 2006). At all times, facilitation of a platform of effective information sharing and flow throughout the organization must be provided.

Table 2: Comparison of Established Perspectives and CAS
Adapted from (Schneider & Somers, 2006)
<table>
<thead>
<tr>
<th>Established Perspectives</th>
<th>CAS Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temporal framing</strong></td>
<td></td>
</tr>
<tr>
<td>View of the future</td>
<td>Relatively knowable</td>
</tr>
<tr>
<td>Relevance of history</td>
<td>Low, History is deterministic.</td>
</tr>
<tr>
<td><strong>Spatial framing</strong></td>
<td></td>
</tr>
<tr>
<td>Domain of study</td>
<td>Refined organization in the environment</td>
</tr>
<tr>
<td>View of the environment</td>
<td>Outside the organization; evolves separately from the organization</td>
</tr>
<tr>
<td>Levels of analysis</td>
<td>Single to few, relatively independent</td>
</tr>
<tr>
<td><strong>Construct framing</strong></td>
<td></td>
</tr>
<tr>
<td>Strategy</td>
<td>Relatively designed</td>
</tr>
<tr>
<td>Structure</td>
<td>Equilibrium; relatively centralized</td>
</tr>
<tr>
<td>Purpose of organizational relationships</td>
<td>Efficiency, fit, institutional conformity</td>
</tr>
<tr>
<td>Key information for the organization</td>
<td>External environmental intelligence</td>
</tr>
<tr>
<td>Information processor</td>
<td>Reified organization</td>
</tr>
</tbody>
</table>

### 2.12 Discussion of variables in relation to the literature reviewed

**Stakeholder coordination:** From the literature reviewed, all authors agreed that stakeholder coordination is critical in donor funded programming and no single humanitarian agency can act effectively on its own (Humanitarian Reform, 2010). In the cluster model, literature reviewed that there was a standing committee specifically designated a clear coordination role (Bartolini, 2011). This demonstrates how important coordination is at field level. In the collaboration model, stakeholders even go further and work together on a specific task in attainment of a common goal (Hveinden, 2004).
Operational independence is a major concern to stakeholders (Currion, 2010), due to differing value systems and lack of distinction between political and humanitarian issues in programming (Atlanta, 2013). However, values and efforts can be aligned and harmonized so as to attain the shared objectives (MLI, 2012). Because of the critical nature of stakeholder coordination, stakeholder analyses should be carried out on a regular basis throughout the project cycle (Blackman, 2009), and stakeholder network should be restructured according to adapt to the chaotic operational environment (Thietart & Forgues, 2009).

**Resource utilization:** Stakeholder coordination is extremely important and can lead to optimal resource utilization (DOD, 2010). It mobilizes and guarantees an optimum use of resources which closely relates to good governance (Machingura, 2012). Both authors agree that efficacy in resource utilization can be attained through coordination. This can be achieved through synchronization of synergies i.e. expertise, skills, philosophy, culture, resources and practices (Gortney, 2011).

**Resource sharing:** A capacity assessment determines whether the project implementers have the capacity to address the project problem(s) (Blackman, 2009). This is done at the project design stage of the project life cycle. Project clusters are scoped away if they are beyond the scope of the implementers (MDF, 2005). A collaborative approach will increase the capacity of the implementers through resource sharing and more projects can be taken up. However, the collaborative approach is heavily depend on trust between the members (Saab et al, 2009), and this presumed trust does not necessarily exist among members who sometimes have different commitment levels (Humanitarian Reform, 2010). This will result in premature termination of projects. However, as mentioned, stakeholder analysis is continuous, and coordinating stakeholders will rearrange internally like a complex adaptive system to enhance program sustainability (Thietart & Forgues, 2009).

**Information sharing and dissemination:** Due to security constraints on poor information flow, humanitarian actors in Iraq had to combine their efforts and created the NGO
Coordination Committee (NCCI) (Carle and Chkam, 2006). The NCCI coordination mechanism facilitates the pooling of information and its dissemination to the appropriate audiences (NCCI, 2008). Great insights are obtained from cross-functional networks which are well-informed and these networks share the decisions and processes throughout the organization (Schneider & Somers, 2006). Literature reviewed has shown that a centralized coordination board can provide a platform of information sharing and dissemination.

**Programming efficacy:** The forces of innovation, initiative and experimentation can lead to a highly complex situation of a chaos (Thietart & Forgues, 2009). Chaotic systems are predictable in pattern, but are not predictable in path or specific temporal trajectory (Schneider & Somers, 2006). CAS strategic planning is a method for analyzing an organization’s mission for positioning and appropriateness so that an organization can tackle possible future challenges (Schneider & Somers, 2006). From the literature reviewed, it is advisable that the country program should implement CAS strategic planning, and the objectives can feed down through the plans, so that the purpose for the high level plan becomes the goal for the subsequent plans and this process continues as objectives become more and more specialized (Dearden, 2005). Therefore CAS strategic planning enhances programming efficacy.

**Compliance to international programming standards:** The cluster system does not encompass cross-cutting elements of accountability like minimum standards in transparency/ information, Codes of Conduct, feedback mechanisms and participation of local communities (Hedlund, 2011). In Pakistan, the PHF did not exhibit a formal structure which resulted in leadership crisis and could not monitor compliance of standards by member organizations (Currion, 2012). In Iraq, the NCCI members are required to comply with the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (Oxfam, 2008). From literature, it is evident that the establishment of a formal regulatory and coordination body will facilitate enforcement of standards compliance issues.

**Beneficiary and donor accountability:**
For coordination to lead to better humanitarian responses there must be effective leadership and partnerships, and accountability towards the affected populations (Hau, 2009). The main strength of a cluster approach is that it provides a clear point of contact and accountability of humanitarian assistance and partnerships between civil society, local and national authorities, and international humanitarian actors (Bartolini, 2011). From the literature, partnerships enhance accountability, and provide a focal point.

**Program sustainability:**
In Pakistan, the PHF leadership re-focused their mission to incorporate recovery and sustainable development issues (Currion, 2012). In Iraq, the NCCI enhanced program sustainability through staff dedication, retention of institutional memory, and establishing networks (Hansen, 2008). Organizations are subjected to continuous internal and external forces of chaos (Thietart & Forgues, 2009). From the literature, CCB should explore how best to build rapid learning cycles that evolve programs along with shifting environments (Knezovich, 2012). CAS strategic planning can create a platform for the learning cycles that enhances sustainability.

### 2.14 Current and significant gaps in the relevant literature

**Table 3**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Subject matter</th>
<th>Gaps in Literature</th>
<th>Discussions</th>
</tr>
</thead>
</table>

38
<table>
<thead>
<tr>
<th>Coordination Model</th>
<th>Cluster Approach Model</th>
<th>The cluster model does not have a regulatory board that can enforce compliance issues on member organizations such as the sphere standards.</th>
<th>There is no guarantee that the program would fulfil the acceptable minimum standards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>The cluster model has no structures and systems in place to verify the genuineness of partners.</td>
<td>There is a loophole of opportunist partners joining the cluster with ulterior motives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The cluster model does not specifically demonstrate how partners can vertically and horizontally integrate their operations.</td>
<td>Partners cannot achieve optimization of resource utilization in their programming activities. However, a platform is evident in the collaboration model.</td>
</tr>
<tr>
<td>Stakeholder coordination</td>
<td>Collaborative Approach</td>
<td>No mechanism to align different organizational value systems</td>
<td>Collaborating members’ value systems are usually determined by their respective head offices based in another country, and also different donors sponsoring these collaborating partners might have conflicting value systems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The cluster model does not have a regulatory board that can enforce compliance.</td>
<td>There is no guarantee that the program would fulfil the acceptable minimum standards.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The cluster model has no structures and systems in place to verify the genuineness of partners.</td>
<td>There is a loophole of opportunist partners joining the cluster with ulterior motives</td>
</tr>
<tr>
<td>Project Life Cycle</td>
<td>Logical Framework</td>
<td>Not time Dependent</td>
<td>Adopt an overall complex adaptive system planning for the specific country program where a customized logical framework is derived</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Does not evolve with the changing chaotic external environment i.e. pulling out of a major. It only does an environment scan (snapshot).</td>
</tr>
</tbody>
</table>

| Decision Tree      | Clustering and scoping | When the clusters are scoped, there is no stakeholder analysis done so that some prioritised clusters are taken up by potential implementers, rather than just scoping them citing the capacity limitation... | Stakeholder analysis to be conducted continually by the central coordinating board and recommendations to potential implementers should be done. |

| Project Life Cycle | Project Design | During project design stage there is no stage where the project planners conduct information sharing. | A centralised data base would provide program memory |

| Stakeholder Coordination | Cluster partnerships | No optimal stakeholder allocation on programs since there is no evaluation of all potential stakeholders at country level | Stakeholder analysis to be conducted continually by the central coordinating board |

| Stakeholder Coordination | Collaborative | No optimal stakeholder evaluations | Stakeholder analysis to be conducted continually |

### 2.15 Conceptual Framework: Coordinating Central Board of donor funded programs

![Diagram: Central Coordinating Board (CCB) Complex Adaptive Systems (CAS) planning]

**Central Coordinating Board (CCB)**
Complex Adaptive Systems (CAS) planning

Strategic partnerships in Corporate Social Responsibility

- **Beneficiaries**
- **Needs**
- **Accountability**
2.17 Chapter conclusion

This chapter reviewed literature on stakeholder coordination and its respective benefits which fed into the conceptual framework. Discussions of variables and hypotheses in...
relation to the literature were conducted, thus creating a base for the forgoing discussions in the preceding chapters.
RESEARCH METHODOLOGY

3.1 Introduction
This chapter presents the path that was taken in conducting the research, and it highlights the constraints faced towards the achievement of the research objectives. The chapter contains the research design, research philosophy, research strategy, population and sampling techniques, data collection methods, research procedure and the research limitations. Reference was made to literature as a guide in shaping the methodology that was finally adopted for this study.

3.2 Research Design
A research design logically links data to be collected and the conclusions to be deduced to the research questions of the study (Rowley, 2003). It provides the glue that holds the research project together, and it highlights the major parts of the research project; the samples or groups, programs, and the methods of assignment and demonstrates how they work together to try to address the central research questions (Mouton, 2007). The researcher reviewed literature from text books, articles, journals, pamphlets, business magazines, newspapers and the internet, so as to gain insight of the research topic and objectives. The literature provided relevant background information, theories, and models, and it provided the researcher with a focused approach towards solving the research questions.

3.2.1 Resign design justification
The research design shaped the methodology that was finally adopted for the study. The reviewed literature has shown that the research questions of study’s topic (an evaluation of stakeholder coordination in donor-funded programs in Zimbabwe’s health) require predominantly qualitative data since the nature, extent and attributes of stakeholder coordination which defines the research variables, are not easily quantifiable, and are subjective. The attributes included, conflict of interest among stakeholders (Australian Civil-Military Centre, 2005), program legitimacy (Price, 2009), perception of an organization’s value system (Dearden, 2005), political inclination (Cunningham, 2012) among others. However other attributes of the study variables are
quantifiable, for example, resource utilization (Interaction, 2012), resource sharing (Mowjee, et al, 2008), among others.

3.2.2 Research design process
The research methodology used was triangulation which justifies the researcher’s philosophy of realism. Triangulation of methodology uses both qualitative and quantitative data. The research required the mixed methods approach, nevertheless, due to the time, scope and resource constraints, the researcher used secondary data collected by UNICEF consultants, collected for the evaluation of the use of the Pima CD4 technology by HIV/AIDS positive women and their families in Maternal, Newborn and Child Health (MNCH) settings. The data was collected from mixed methods which are data abstraction, surveys, observations, focus group discussions and interviews methods, which provided both qualitative and quantitative data.

3.2.3 Advantages of the research design adopted
The research design adopted ensured validity of the study. Validity refers to the authenticity, trustworthiness and credibility of the data (Apthorpe, 2009). Content validity ensures that the measures encompass the relevant aspects of the research questions (Sargeant, 2010). Content validity was evident in the research when primary data was collected mainly to cover those aspects of the research questions which were not covered by the secondary data. The analyzed data encompassed all the relevant aspects of the questions.

Concurrent validity refers to how well results obtained from one data gathering instrument are supported by other surveys or questionnaires and is often established by correlating the results of the different data gathering instruments (Apthorpe, 2009). Concurrent validity was achieved through the mixed methods approach where observations of the users conducting the tests reinforced the trained user survey data. The client focus group discussions data reinforced the client exit survey data.

Construct validity determines if the measures operate in a consistent manner. An important strategy is triangulation which draws from multiple sources or applies multiple
data collection and analysis methods thus strengthening the credibility of the research findings. This study used the triangulation of methodology to tackle the aspect of construct validity; the qualitative data reinforced the quantitative data (Richards, 2008).

Construct validity was guaranteed by the triangulation of methodologies. Construct validity was also evidenced in the data analysis when the Pearson chi-squared test tested for the independence of age and knowledge on the Pima CD4 technology. The focus group discussions substantiated the findings where the age demographics of the participants were noted and the answers on the questions of the knowledge of the Pima CD4 were also noted. An analysis was done qualitatively to determine whether age and knowledge were independent. These two different analyses validated the research findings on the independence of the two variables.

3.3 Research Philosophy
A study is guided by beliefs of the nature of reality and humanity (ontology), the theory of knowledge that informs the research (epistemology), and how that knowledge accumulated (methodology) (Tuli, 2010). Ontology is a science or theory of being and it tackles the question of how the world is built. The first question asks whether a real world exists which is independent of people’s knowledge, and it theories that life is built on foundations, where the name foundationalism is derived (Mouton, 2007). The second question asks whether a real world is non-existent, instead it is discursively and socially constructed thus it is dependent on a particular culture and time (Richards, 2008). Epistemology is to the theory of knowledge. The first epistemological situation is that, it is possible to acquire knowledge about the world unmediated and with no interferences. This implies that objectivity is possible, because everyone observes things in the same way. The second epistemological situation is that observations are never objective but always are affected by the social constructions of reality (Richards, 2008). Taking a position that is in-between is possible which realism is. This is the position taken by the researcher of this study.
The researcher’s philosophy lies between the positivism adopted from a foundationalist ontology and interpretivism which suggest that there is no such thing as a real world but it is only socially and discursively constructed (Richards, 2008). The realist position is based on the assumption that reality is what the senses show us and that objects exist outside the human mind (Saunders et al. 2009) cited (Royle, 2011). Critical realism states that our senses only give us images of the world and that reality could be quite different, for example the senses can be deceived by an optical illusion (Richards, 2008).
3.3.1 Research Methodology
From the realism perspective it can therefore be understood that gaining access to reality from one method can be problematic and that a number of approaches should be used when designing a research and this technique is called triangulation of the methodologies (Royle, 2011). Methodology refers to a path which is taken to get to a destination (Mouton, 2008). This study is based on critical realism where the researcher appreciate that social conditions are physically observed but are not totally reliable since physical observations can easily be cheated from reality, and there is need for social and human constructions backing (Babbie, 2007).

This study is based on the realism philosophy and applied triangulation of methodologies, which is a blend of both qualitative and quantitative methodologies (Fox, 2007). Triangulation is defined as mixing data or methods so that diverse viewpoints or stand points cast light upon a topic (Olsen, 2004). The study was based on a case of HIV/AIDS Pima CD4 technology implementation in Zimbabwe. Qualitative research is research that attempts to increase our understanding of why things are the way they are in our social world and why people act the way they do (Marshall & Rossman, 1999) as cited in (Charoenruk, 2007).

The success of a study hinges largely on the research methodology selected that is incompatible with the nature of the study (Sargeant, 2010). The researcher had to collect qualitative data on stakeholder coordination, since some of the attributes of the variables measured (that answers the major research question, which questions the relationship between coordination and the efficient and effective use of program resources) cannot be adequately measured quantitatively but can be determined and/or reinforced by qualitative data. This is information which can only be explained from data collected from the strategic and tactical levels of management. They are few stakeholder organizations in the Pima CD4 technology implementation with key personnel who could provide some of the direct relevant data which answered the research questions. Therefore, they were not going to be enough respondents to give the data reliability level required to substantiate the quantitative research findings.
The other reason as mentioned earlier on in the study is that the nature of the attributes which measures the variables are not easily quantifiable and are subjective in nature, for example, conflict of interest among stakeholders, perception of an organization’s value system, political inclination, among others. Qualitative data was collected from key informants from different stakeholder organizations who are directly or indirectly involved in the implementation of the Pima CD4 program. This primary data was collected by the researcher.

From the secondary data, both quantitative and qualitative data was collected. This was data collected by UNICEF consultants in 2012, for the evaluation of the Use of Point of Care Pima CD4 Cell Count Machines for HIV Positive Women and their Families in Maternal Newborn and Child Health (MNCH) Settings in Seven Districts in Zimbabwe.

### 3.4 Research Strategy

Case studies are most suitable for use in relatively new research areas or research areas for which existing theory seems inadequate (Rowley, 2003). In project management, on the area of humanitarian and development project management, existing theory is inadequate, and articles and journals published are not many. The area of stakeholder coordination of humanitarian organization is relatively new, and the academic literature, theories and models are inadequate. Nevertheless, this was a driving force for the researcher to pursue the research, so that he could contribute to the body of knowledge. For the reasons stated the research strategy chosen a case study approach which explored this relatively lowly researched area.

A case study is mostly used on an empirical inquiry of a real life contemporary phenomenon, mostly when the distinction between the phenomenon and context is not clearly explained (Yin 1994) cited in (Rowley, 2003). The case study was on the stakeholder coordination on the HIV/AIDS Pima CD4 technology implementation in Zimbabwe. The distinction is on how, when, what and why the contemporary phenomenon of stakeholder coordination is explained in the humanitarian and development programming context. This phenomenon has no clearly stated and laid down procedures, standards and guidelines. Due to the gap, which this research sought
to contribute towards the filling, most donor-funded programs in Zimbabwe do not achieve to fulfill their intended program impact. One of the reasons will be poor field-level stakeholder coordination which will be low or even non-existent in some projects.

3.5 Population and Sampling techniques

3.5.1 Population
A population is a representation of all the items under consideration in any field of inquiry (Auditor, 2010). The study population includes all health and medical service delivery institutes in Zimbabwe, which are clinics, surgeries, hospitals, pharmacies, care centers and rehabilitation centers, among others. It also included all the Zimbabwean based direct and indirect Pima CD4 cell technology stakeholder organizations, individuals, departments and institutions, among others, which can be governmental, non-governmental, sole traders, cooperatives, societies, private, public and parastatals.

3.5.2 Sampling techniques
Purposive sampling does not give each member of the population an equal probability of being selected as a member of the sample (Auditor, 2010). There are two main types of purposive sampling, they are the reliance on available subjects sampling, and judgmental sampling (Engel & Carlson, 2002). The reliance on available subjects is where inclusion in the sample is dependent on the accessibility and availability of the sample element (Auditor, 2010). Judgmental sampling is dependent on the researcher’s knowledge of the target group and the nature of the research (Engel & Carlson, 2002). The researcher used both methods in collecting data. Judgmental sampling was used to select respondents from stakeholder organizations. The researcher used his previous knowledge on the Pima CD4 technology to decide which organizations would give relevant information to the study. On arrival on the organization, the researcher would apply the reliance on available subjects’ technique or use the snowball sampling, where he would be referred to the most appropriate person who would give the required information.
For the secondary data, 35 health facilities with PIMA CD4 machines, located in seven districts (Gokwe North, Kwekwe, Mwenezi, Gokwe South, Hurungwe, Hwedza and Gwanda) provided information for the study. These are all the districts which UNICEF implemented Pima CD4 program and evaluation which required the data was UNICEF funded. Within the district stratum, random sampling on available clinics was done and three were chosen, but all the available hospitals in the district were included. For the trained user survey, client exit survey, structured observations, focus groups, the convenience sampling method was used to choose the respondents. Those who were available were the ones who were chosen to respond and participate. For the data abstraction a systematic method was used to chose clients information from the health facility registers, were a number between one and five is chosen randomly, then using an interval five, clients were chosen systematically starting from the chosen number. For the in-depth interviews judgemental sampling was used were senior staff members were interviewed, one or two per centre.

The study population, data collection methods, participants / respondents and sample sizes information is summarized in the table below.
Table 4: Sample and population summary

<table>
<thead>
<tr>
<th>Study Population</th>
<th>Methods/Techniques (post of respondent)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secondary Data</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project staff from UNICEF, Medsure, JF Kapnek, MoHCW, NAC, SRH, EGPAP, CHAI, ZINQAP, NATPHARM, PSI, Zvitambo project and JSI.</td>
<td>Key informant interviews (program officers, coordinators, managers, directors and specialists)</td>
<td>22</td>
</tr>
<tr>
<td>Trained Users</td>
<td>Structured questionnaire (Nurses)</td>
<td>62</td>
</tr>
<tr>
<td>Health Facility Staff</td>
<td>In-depth interviews( Matrons, sisters in charge, hospital administrators, District Nursing Officers (DNO), Provincial Nursing Officers (PNO))</td>
<td>37</td>
</tr>
<tr>
<td>Clients</td>
<td>Structured questionnaire (Clients for CD4 cell count)</td>
<td>184</td>
</tr>
<tr>
<td>Clients</td>
<td>Focus Group Discussions (Clients for CD4 cell count)</td>
<td>7</td>
</tr>
<tr>
<td>Trained users (Nurses)</td>
<td>Structured observation(Nurses)</td>
<td>22</td>
</tr>
<tr>
<td>Clients</td>
<td>Data abstraction from hospital registers (Clients for CD4 cell count)</td>
<td>207</td>
</tr>
<tr>
<td><strong>Primary Data</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MoHCW, NAC, Min. Of Social Welfare, NANGO, PSI, UNICEF, J.F. Kapnek</td>
<td>Key informant interviews (program officers, coordinators, managers, directors and specialists)</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total participants</strong></td>
<td>558</td>
<td></td>
</tr>
</tbody>
</table>

### 3.6 Data collection methods

Realists share positions from both sides, and form sort of a golden mean which is achieved by using the mixed method approach (Richards, 2003). The research employed both objectivity and relativist mixed research methods (Rowley, 2003). For
the secondary data, the quantitative and qualitative data was collected from mixed methods which are observations, client exit surveys, user questionnaire surveys, focus group discussions, data abstraction and key informants interviews from stakeholder organizations. For the primary data, the qualitative data was collected from key informants from stakeholder organizations.

3.6.2 Unit of Analysis
The unit of analysis is the basis for the case. It may be an individual person, an event, an organization, a team or a department within the organization (Rowley, 2003). The unit of analysis in this study is the direct and indirect, primary, secondary and key stakeholder of the Pima CD4 T stakeholder (individuals, team, departments, institutions and organizations).

3.6.3 Research Instruments
For the primary and secondary data, an interview guide was used to collect the qualitative data from the Pima CD4 technology stakeholder organizations representatives. The research instrument which was used to conduct semi-structured in-depth interviews was the interview guide. Interviews are used to provide in-depth understanding of attitudes, beliefs, motives and behaviors. (Refer to appendix B – E) They tend to be more participatory and reflective in practice. (IFRC, 2011). For the secondary quantitative data the questionnaire instrument was used for the client exit survey and the trained user survey. (Refer to appendix F)

3.7 Research Procedure

3.7.1 Pilots Study
A pilot study was conducted to test the interview guide. It was conducted with a key informant from an NGO called ZAPP which is an indirect PIMA CD4 stakeholder organization. Content validity refers to how well the study reflects its objectives. (Auditor, 2010) The pilot study was used to verify the content validity of the interview guide and also how the interviewer can probe into important aspects of the study. The interview guide questions were adjusted after the pilot test, so that all relevant elements which tackle the research questions were covered. The pilot study
3.7.2 Field application of the research instrument

An in-depth interview approach to research generates non-quantitative results in forms that are not subjected to rigorous quantitative analysis (Meir, Newell & Dazier, 20). This study used in-depth interviews, with the aid of an interview guide and the questions where open ended and semi-structured. The interviews were conducted one on one in the informant’s office. A tape recorder was used during discussions with the permission of the informant. The information was transferred to paper in verbatim from the tape recorder and translation into English was done when the informant used shona. The nature of the interview environment and the moods of the respondents were noted by the researcher since these have an effect of the informant’s responses, and were incorporated in the final analysis of the data.

3.7.3 Data Analysis

Qualitative data collected through in-depth interviews was fully transcribed from recorders on the same day of the discussions ensuring that all relevant issues discussed were captured on time. Content analysis was used to analyse the data. The transcribed data was subjected to classification, coding them into various categories, and bringing out the different themes. Data was coded and analysed by hand. Emergent categorisation is a process of finding themes and issues that recur in the data and make them categories. This process allows the category to emerge from the data thus the term emergent categorisation is derived (Powell & Marcus 2003). Emergent categorisation was used in data coding. A narrative description with participants’ quotations was used to capture participants’ real views.

SPSS was used to analyse quantitative data from secondary sources (questionnaires). Graphical presentation and descriptive statistics was used in the initial analysis of data. Measurements of central tendencies (mean, mode and median), spread of data (ranges, inter-quartiles range, standard deviations and variance), distributions (parametric and non-parametric), and confident intervals were also conducted accordingly. Statistical inferences to the population were done following the relevant statistical tests.
3.7.4 Parametric and non-parametric tests

Parametric tests are tests that come from normally distributed data and non parametric test are those tests that come from data that is not normally distributed (Wolverton, 2009). A normality test was conducted using SPSS, and when the data was normally distributed then a parametric test was conducted. The Pearson chi square test is a non parametric test that was used to test relationships of attributes in this research. Crosstabulation technique was used to demonstrate the relations of the variable attributes.

3.7.5 Test for Normality

The normality test done in SPSS, determines whether data should be subjected to parametric or non-parametric test. This research used the Shapiro Wilks, W test statistic. The Shapiro-Wilk’s W test is recommended for small and medium samples up to n = 2000 (SPSS manual, 2009).

3.7.6 Hypothesis-testing

After data analysis, the researcher tested the hypotheses. Do the facts support the hypotheses or they happen to be contrary? This question was answered by the testing hypotheses using the Chi square test which the dependent relationships between variables. Since the study was based on the triangulation of methodologies, the qualitative data was used to confirm of reinforce the quantitative research findings which also answers the why relationships are how they are.

3.7.4 Generalizations and interpretation

After the hypotheses testing which is part of the interpretation stage, the discussion of the implications of the results followed (Lastrucci, 2008), and answered the research questions.

3.8 Reliability

Reliability is defined as the “portion of measurement that is due to permanent effects that persist from sample to sample” (Netemeyer & Sharma, 2003) cited in (Sargeant, 2010). Reliability asks whether the same result would be reached if the research was
repeated with other participant samples. However, reliability measures used in the traditional survey approach (which requires respondents to answer a series of closed test items) are not sufficient (Trochim, 1993) cited in (Sargeant, 2010). For the secondary quantitative data a reality test was conducted using SPSS and the cronbach’s alpha value greater than 0.7 was accepted as reliable and that which is less than 0.7 was rejected and concluded as not reliable (Field, 2006).

3.9 Validity
This study employed triangulation of methodologies. The technique of triangulation can be used to overcome problems of bias and validity (Royle, 2011). The qualitative research view of validity is different to that of quantitative research (Creswell, 2009) cited in (Sargeant, 2010). In qualitative research, validity refers to the authenticity, trustworthiness and credibility of the research findings. On the other hand, in quantitative research validity checks the correspondence between what is actually being measured and what is purported to be measured. Validity is generally divided into three types: content, construct and criterion (Sargeant, 2010). 

3.9 Ethics and Values
Research ethics relates to ‘the appropriateness of the researcher’s behavior in relation to the rights of those who become the subject of a research project, or who are affected by it’ (Saunders et al., 2009,) cited (Royle, 2011). However, data was collected for research purposes only and data will not be processed to support measures or decisions with respect to individuals. Data will not be presented in a way that may cause damage or distress to any individual. To protect the informant no results will be published in a form which identifies individuals (Royle, 2011). For ethical reasons, before tap recording the interviews, consent was sort from the informant (Mamia, 2009)(For the consent form refer to appendix A).

3.9 Chapter Conclusion
The chapter discussed about the research methodology and how the data collected and analysed.
CHAPTER 4

FINDINGS AND DISCUSSION OF RESULTS

4.1 Introduction
This chapter presents findings from the data that was collected and processed using methodologies discussed in chapter three above, including the response rate from approaches used for data gathering. The chapter contains presentations, analyses, interpretations and discussion of data and results.

4.2 Response rate
For the secondary data, the user survey, focus group discussions, observations and key informants interviews registered a 100% response rate, while only the client exit survey had 99% response rate, with only one respondent refusing to be interviewed. For the primary data there was a 100% response rate with all key informants agreeing to be interviewed. Before accessing the respondents, permission was sort for the respective department or institute’s highest office through a written request by the researcher, aided by the DSM director’s request letter. For the primary data, this might have been a major factor towards the high response rate.

This unusual high response rate for secondary data was attributed to the fact that the respondents were cooperative since the data collection was sponsored by UNICEF, who clients perceive as one the major donors in HIV/AIDS programs including the PIMA CD4 cell count. The participants might have presumed that participation would guarantee them continued support, even though it will be clearly articulated to the participant that they was no direct benefit that will be brought by participation.

With a total of 593 research participants, and an approximately average of almost 100% response rate, the validity of the results is high.
Table 5: Response rate

<table>
<thead>
<tr>
<th>Study Population</th>
<th>Methods/Techniques (post of respondent)</th>
<th>Sample size</th>
<th>No. of Resp.</th>
<th>Resp. Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secondary Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project staff from UNICEF, Medsure, JF Kapnek, MoHCW, NAC, SRH, EGPAF, CHAI, ZINQAP, NATPHARM, PSI, Zvitambo project and JSI.</td>
<td>Key informant interviews (program officers, coordinators, managers, directors and specialists)</td>
<td>22</td>
<td>22</td>
<td>100%</td>
</tr>
<tr>
<td>Trained Users</td>
<td>Structured questionnaire (Nurses)</td>
<td>62</td>
<td>62</td>
<td>100%</td>
</tr>
<tr>
<td>Health Facility Staff</td>
<td>In-depth interviews (Matrons, sisters in charge, hospital administrators, District Nursing Officers (DNO), Provincial Nursing Officers (PNO))</td>
<td>37</td>
<td>37</td>
<td>100%</td>
</tr>
<tr>
<td>Clients</td>
<td>Structured questionnaire (Clients for CD4 cell count)</td>
<td>184</td>
<td>183</td>
<td>99%</td>
</tr>
<tr>
<td>Clients</td>
<td>7 Focus Group Discussions (Clients for CD4 cell count)</td>
<td>7 x 6 =42</td>
<td>42</td>
<td>100%</td>
</tr>
<tr>
<td>Trained users (Nurses)</td>
<td>Structured observation (Nurses)</td>
<td>22</td>
<td>22</td>
<td>100%</td>
</tr>
<tr>
<td>Clients</td>
<td>Data abstraction from hospital registers (Clients for CD4 cell count)</td>
<td>207</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Primary Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MoHCW, NAC, Min. Of Social Welfare, NANGO, PSI, UNICEF, J.F. Kapnek</td>
<td>Key informant interviews (program officers, coordinators, managers, directors and specialists)</td>
<td>17</td>
<td>17</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total participants</strong></td>
<td></td>
<td></td>
<td></td>
<td>593</td>
</tr>
</tbody>
</table>
3.3 Demographic aspects

Both from the primary and secondary key informant interviews, the majority of staff interviewed work directly on the program and are either in management or are program specialists. This shows that information was solicited from people who are positioned to have knowledge or access to relevant information which was required for the study. Have a good understanding of the programs.

Table 6: Key informants information (Secondary Data)

<table>
<thead>
<tr>
<th>Position in organization</th>
<th>MoH</th>
<th>UNICEF</th>
<th>JSI</th>
<th>PSI</th>
<th>JF.</th>
<th>Med.</th>
<th>NatPh</th>
<th>NA</th>
<th>CHAI</th>
<th>Orphid</th>
<th>Tot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Officer</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Coordinator</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Managers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Directors</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Specialists</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8</strong></td>
<td><strong>3</strong></td>
<td><strong>2</strong></td>
<td><strong>2</strong></td>
<td><strong>2</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>22</strong></td>
<td></td>
</tr>
</tbody>
</table>

For the primary data, judgmental sampling was initially used to select the institute or organization, and then snowball sampling was used within the organization to locate the most appropriate respondent. This ensured that the person in the right post and department or section was chosen. Data was solicited from people who were presumed by the institute of department head to have a good understanding of the program.

Table 7: Key informant information (Primary Data)

<table>
<thead>
<tr>
<th>Position in organization</th>
<th>MoHC W</th>
<th>UNICEF</th>
<th>JSI</th>
<th>PSI</th>
<th>ZAPP.</th>
<th>NANGO</th>
<th>NAC</th>
<th>Min. Soc Welfare.</th>
<th>Tot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Officer</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Coordinator</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Managers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Directors</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Specialists</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4</strong></td>
<td><strong>3</strong></td>
<td><strong>2</strong></td>
<td><strong>2</strong></td>
<td><strong>1</strong></td>
<td><strong>1</strong></td>
<td><strong>2</strong></td>
<td><strong>2</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>
Table 8: Respondent’s Age for client exit surveys

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-19</td>
<td>8</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
<tr>
<td>20-29</td>
<td>75</td>
<td>40.8</td>
<td>40.8</td>
<td>45.1</td>
</tr>
<tr>
<td>30-39</td>
<td>64</td>
<td>34.8</td>
<td>34.8</td>
<td>79.9</td>
</tr>
<tr>
<td>40-49</td>
<td>28</td>
<td>15.2</td>
<td>15.2</td>
<td>95.1</td>
</tr>
<tr>
<td>50-59</td>
<td>8</td>
<td>4.3</td>
<td>4.3</td>
<td>99.5</td>
</tr>
<tr>
<td>60-69</td>
<td>1</td>
<td>.5</td>
<td>.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>184</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Mean = 32  Modal age 20-29  Median Age 30-39  Std Dev = 9, IQR = 12

Table 9: Test for Normality

<table>
<thead>
<tr>
<th>Kolmogorov Smirnov</th>
<th>Statistic</th>
<th>Df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.239</td>
<td>1840</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The clients who responded had an average age of 32 years. Kolmogorov – Smirnov level of significance is 0.000 which is below 0.05. Unlike most statistical tests a value below 0.05 indicates that it is significant and we conclude that it is normally distributed (SPSS manual, 2009). The modal age group is 20-29 years. The age standard deviation is 9 and the inter-quartile rage is 12. Most of the respondents are in the productive and reproductive age group.
3.4 Objective 1: To evaluate whether field-level stakeholder coordination will foster optimum use of scarce resources by implementing partners.

H1: Field-level stakeholder coordination is not independent to effective and efficient resource utilization by implementing partners.

Dependent Variable: Field-level stakeholder coordination by implementing partners
Independent Variables: 1) Resource utilization, 2) Resource sharing

4.4.1 Stakeholder coordination vs. Resource utilization

Pima CD4 technology implementation
Different health facilities under the MoHCW partnered with NGOs and UNICEF to implement the Pima CD4 technology at health centres in the seven districts under the study. From the literature reviewed, all authors agreed that stakeholder coordination is critical in donor funded programming and no single humanitarian agency can act effectively on its own (Humanitarian Reform, 2010). UNICEF received funding from Mercury Phoenix Trust in 2009, and is the implementing agency for the Zimbabwean program. UNICEF did not hire additional personnel to implement the technology at different health centres, but instead, it partnered with MoHCW and used the existing structures. This lowered the implementation costs, and helped in increasing the targeted base. This is an example of field-level stakeholder coordination by implementing partners, in donor-funded programs in Zimbabwe’s health sector.

Coordination maximizes the utilization of the limited funding and lowers parallel programming (InterAction, 2012). A key informant reviewed that, due to limited resources, when the funding was availed the program was intended for pregnant mothers only so as to enable them to go on PMTCT. However, due to field-level stakeholder coordination, the program was later open up for anyone who required the service. One key informant lamented, “It was difficult when a pregnant mother came for
a CD4 cell count test, accompanied by the family, and you would only assist one person when in fact the husband needed help too. Now there are more accompanied mothers”.

In this Pima CD4 technology implementation example, the research failed to reject the null hypothesis and concluded that field level stakeholder coordination is not independent of effective and efficient resource utilization by implementing partners. This is a classic example demonstrating that stakeholder coordination is extremely important and can lead to optimal resource utilization (DOD, 2010) and (Machingura, 2012). This was achieved through synchronization of human resources synergies (Gortney, 2011).

**Distribution of Pima CD4 consumables**

Pima CD4 technology utilizes disposable cartridges which contains the reagents required for the CD4 cell count estimation (Thakar et al, 2012). The distribution of the consumables has been a multi-stakeholder process. UNICEF Zimbabwe partnered with a local partner J.F Kapnek to implement the program. From November 2010, a decision was made by the Early Infant Diagnosis (EID) POC working group that all reagents should be placed in a common pool and be distributed using the Zimbabwe National Family Planning Council (ZNFPC)’s Drug Delivery Team Top-up (DTTU) system (Zinyowera, 2012). One key informant said, “Cartridges are brought by J.F. Kapnek when conducting their machine follow-ups, and some are brought by DTTU.” Orders are placed by health centres via the MoHCW district office to Kapnek or DTTU. MoHCW is the technical agency responsible for coordination of health services in the country (Machungura, 2012).

These consumables are stored at the MoHCW central medical site sat the National Pharmaceutical Service of Zimbabwe (Nat Pharm). Natpharm is responsibility of the provision of logistic information such as stock on hand, used consumables, loses and adjustments. John Snow White Inc. (JSI) is responsible for quantification and forecasting of consumables. A key informant elaborated, “In logistics, quantification harmonizes Pima CD4 consumables with national quantification for other products, then we come up with the supply plan, stakeholders and partners indicate how much they want.”
From the 62 respondents of the user survey, almost all users (91%) reported that they always have consumables in stock, 7% said sometimes and 2% said rarely. Despite a large network of stakeholders involved, DTTU has been facing challenges in the distribution of the consumables. A key informant said “DTTU would deliver reagents every 3 months without even being concerned about the amount of reagents still on site.” Another informant complained, “DTTU distributes nearly expired cartridges, sometimes with no control beads. Since DTTU use a pick and drop system they are not sensitive of individual site needs”. Optimal resource utilization was not achieved despite an array of stakeholders in the distribution of consumables, with some expiring before use due to oversupply and short-dated cartridge supply to health centres.

From the literature review, in the cluster model there was a standing committee specifically designated a clear coordination role (Bartolini, 2011). As illustrated in this study’s conceptual framework, there is need for the establishment of a central coordinating board where sub-committee would be formed specifically for specific program coordination. In the collaboration model, stakeholders even go further and work together on a specific task in attainment of a common goal (Hveinden, 2004). DTTU and J.F. Kapnek are both UNICEF distribution partners in the Pima CD4 consumables. A key informant commented, “Networking on the ground is often difficult when the organizations are doing the same program, instead of complementing they compete.

Stakeholder coordination identifies and reduces risks; for example identifying areas of possible conflicts of interest and expectation between stakeholders so that real conflict is avoided before it happens (Dearden, 2005). Operational independence is a major concern to stakeholders (Currion, 2010), due to differing value systems and lack of distinction between political and humanitarian issues in programming (Atlanta, 2013). However, values and efforts can be aligned and harmonized so as to attain the shared objectives (MLI, 2012). This scenario of an array of specialized stakeholders failing to synchronize their synergies of skills and resources (Gortney, 2011), has supported the null hypothesis and has demonstrated how filed-level stakeholder coordination is critical in the effective and efficient use of the available scarce
resources. Linkages, coordination and rationalization of Zimbabwe's health care delivery systems have not reached high levels of satisfaction for both external and internal stakeholders.

### 4.4.2 Stakeholder coordination vs. Resource sharing

#### Pima CD4 technology training

The training of users of the Pima CD4 technology was held in December 2010 where 110 health workers were trained. The training process was a multi-stakeholder process where JF Kapnek and UNICEF co-facilitated the training workshop with Medsure who are the local Pima CD4 technology support agents, and Alere who are the manufacturer representatives based in South Africa. Coordination can be implemented in communication, transportation, and the training elements of programs (Kamarck, 2008). J.F. Kapnek and UNICEF did not have the human resource skills capacity to train the users, but resorted to coordinate at field level with other agencies. A capacity assessment determines whether the project implementers have the capacity to address the project problem(s) (Blackman, 2009). A collaborative approach will increase the capacity of the implementers through resource sharing (Saab et al, 2009). However, the collaborative approach is heavily dependent on trust between the members and this presumed trust does not necessarily exist among members who sometimes have different commitment levels (Humanitarian Reform, 2010).

Using the trained user questionnaire, the Pima CD4 machine users were asked to rate the people who trained them on the machine usage. The following were the ratings:

<table>
<thead>
<tr>
<th>Rating</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>40</td>
<td>67.8</td>
</tr>
<tr>
<td>Agree</td>
<td>18</td>
<td>30.5</td>
</tr>
<tr>
<td>Not sure</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>59</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The majority of the trained users (67.8%) strongly agreed and 30.5% agreed that the trainers were experts on the Pima CD4 technology with only one user saying he was not sure and no one disagreed. Alere personnel’s specialized skills in Pima CD4 technology empowered the MoHCW, JF Kapnek, UNICEF and Medsure personnel during the
training sessions. The key informants from these organizations agreed that the workshop was of value addition to them. Stakeholder organizations with diverse goals can interact and exchange information dynamically (Thietart & Forgues, 2009). Organizations are entities which act as dynamic, open and nonlinear systems (Hargreaves, 2010), and are subjected to internal and external forces that can be sources of chaos (Thietart & Forgues, 2009). Some forces push the system toward stability and order; these include the forces of planning, structuring and controlling. Other forces push the system towards instability and disorder: these are the forces of innovation, initiative and experimentation. UNICEF implemented an initiative to optimise skill resource sharing among stakeholders, and this initiative force can be a source of chaos which pushes the system towards instability and disorder. This initiative was planned and well executed, and prevented friction that could have existed between stakeholder like Alere and Medsure who are competitors though the later is international. The well executed plan pushed the system to stability and order. A key responded highlighted, “UNICEF’s operations research department were the ones who planned and coordinated the training”.

As illustrated in this study’s conceptual framework, the application of Complex Adaptive systems (CAS) strategic planning by the proposed (CCB), presents an opportunity to rebuild relationships and sustainable programming through networking both internal and external groups (Prewitt at al, 2008). Just like what UNICEF did, the CCB will create a platform for rapid learning cycles by the members who will evolve the programs along shifting environments. (Knezovich, 2012). The MIS, Operations Research and M&E departments of the proposed conceptual framework’s CCB would be guided by CAS strategic planning.

This scenario failed to reject null hypothesis, and the study concluded that field-level stakeholder coordination can be a platform for effective skills resource sharing, thus the two variables are not independent. This is in agreement with authors who concurred that stakeholder coordination in humanitarian work brings effective and efficient resources utilization through shared resources (Ramalingam et al, 2008), (Holland, 2003), (Hargreaves, 2010), (InterAction, 2012), (Machingura, 2012) and (DOD, 2010).
4.5 Objective 2: To determine whether stakeholder coordination improves information sharing and dissemination.

H2: Stakeholder coordination is not independent to information sharing and effective information dissemination.

4.5.1 Stakeholder coordination vs. information sharing

Stakeholder coordination identifies and reduces risks; for example identifying areas of possible conflicts of interest and expectation between stakeholders (Dearden, 2005). This conflict of interest is resolved through information sharing (Australian Civil-Military Centre, 2005). The Pima CD4 technology country program is being implemented by multiple stakeholder organizations which are UNICEF, EGPAF, NAC, PSI and CHAI. These implementing partners are running similar, concurrent and parallel programs, sponsored by different donors.

In January 2009, Clinton Health Access Initiative (CHAI) partnered with MoHCW in the evaluation of the Pima CD4 technology in order to assess its ability in producing accurate results comparable to the conventional machines and its suitability in being utilized by non-laboratory personnel. Evaluations create opportunities of sharing insights and knowledge hence evaluations should be seen as a learning tool that empowers all stakeholders by expanding their knowledge base and enhancing their skills (EGPAF, 2008). The results of the findings were shared through the internet, and key informants informed the research that UNICEF Zimbabwe used them in their proposal as a justification for sourcing funds.

Each organizational stakeholder partner has its unique goals, philosophy, and culture and practices (Atlanta, 2013). Information sharing does not only depend on stakeholder coordination but also depend on organizational policies. CHAI and MoHCW shared their
findings through the internet, but other organizations are hindered by organizational policy constraints.

Collaboration is when agencies, collectively assess the situation, share information on overcoming challenges and tackle practical problems together (IFRC, 200). EGPAF has implemented the Pima CD4 technology in another 35 districts. EGPAF conducted its own surveys, whilst UNICEF conducted separate and independent surveys, outsourcing expert consultancy. Clusters involve coordination of actions and activities by humanitarian actors for example, information sharing on programmatic areas (Refugee council, 2010). A key informant has revealed that these evaluation processes were costly. Money could have been saved if the two organizations coordinated with each other and combined resources and efforts by co-financing the external consultants. The saved money would be channelled to activities that directly benefit the beneficiaries, for example procurement of more PIMA machines or funding the training of medical and health staff to initiate patients onto ART.

However due to the information sharing by CHAI and MoHCW, more districts have benefited from UNICEF who used the shared information to justify the Pima CD4 technology implementation in 7 districts. Nevertheless, the implementation of the Pima CD4 technology has brought conveniences to clients, and credit goes to the coordinating stakeholders CHAI and MoHCW who shared information. Some of the benefits brought by the Pima technology include the reduced frequency of travel to health facilities by clients and it has brought an essential service closer to the people, consequently reducing the travelling costs in accessing CD4 cell count. One key informant had this to say, “During the laboratory days, clients had to come back on a given date to collect CD4 cell count results, but now it is a one day service, it only takes 20 minutes.” Another health facility key informant said “There was a very big impact, because of quick results to the patient who now gets the results there and then. And there is now timeously initiation to ART for pregnant mothers and anybody who is tested. Even the patient turnaround is now very small.”
Due to security constraint on information flow, humanitarian actors in Iraq had to combine their efforts and created the NGO Coordination Committee (NCCI) (Carle and Chkam, 2006). The NCCI coordination mechanism facilitates the pooling of information and its dissemination to the appropriate audiences (NCCI, 2008). Great insights are obtained from cross-functional networks which are well-informed and these networks share the decisions and processes throughout the organization (Schneider & Somers, 2006). The conceptual framework has the MIS at the centre of the CCB, and it is a key element in facilitating coordination and collaboration between stakeholders.

4.5.2 Stakeholder coordination vs. Information dissemination

From the client exit survey, there are 4 four questions which sought to test whether the beneficiaries of the CD4 cell count have adequate information about what and why CD4 cell count test are done.

Table 11: Client exit questions on information dissemination

<table>
<thead>
<tr>
<th>Questions for information Dissemination</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither agree or disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q301 I know all the blood tests that need to be done on me</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q302 I know why all the blood tests need to be done</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q303 I know what a CD4 Cell count test is</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q304 I understand why a CD4 cell count test needs to be done on me</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 12: Reliability Test

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.808</td>
<td>0.811</td>
<td>4</td>
</tr>
</tbody>
</table>

The cronbach’s Alpha for the four questions that tests program information dissemination is 0.808, and this value is greater than 0.7 which is the standard benchmark (Field, 2006). This shows that reliability of the data collected for information dissemination question is high. This means that the same results are achieved if the research was repeated with other participants.

Table 13: Descriptive statistics on information dissemination responses

<table>
<thead>
<tr>
<th>Questions for information Dissemination</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know all the blood tests that are needed</td>
<td>3.64</td>
<td>1.391</td>
<td>184</td>
</tr>
<tr>
<td>I know why all the blood tests are needed</td>
<td>3.92</td>
<td>1.287</td>
<td>184</td>
</tr>
<tr>
<td>I know what CD4 cell count testing is</td>
<td>3.90</td>
<td>1.320</td>
<td>184</td>
</tr>
<tr>
<td>I understand why a CD4 cell count is done</td>
<td>4.12</td>
<td>1.141</td>
<td>184</td>
</tr>
</tbody>
</table>

The mean of the respondents has ranged from 3.64 to 4.12 for the four questions with a standard deviation of approximately of 1. Using the central limit theorem the average response are 4 which represent agreeing. This shows that the majority of the respondents agree that they have sufficient information and knowledge about CD4 cell count. The HIV/AIDS program stakeholders were very successful in the disseminating information to clients.

The cronbach’s Alpha for the four questions that tests program information dissemination is 0.808, and this value is greater than 0.7 which is the standard benchmark (Field, 2006). This shows that reliability of the data collected for information dissemination question is high. This means that the same results are achieved if the research was repeated with other participants.

Testing knowledge on PIMA CD4 technology with other variables

This part will test whether information disseminated was dependent on the age of the person or the location. This will test the efficacy on information dissemination by implementing stakeholders.

Table 14: Client exit survey responds on knowledge on Pima CD4 technology

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>19</td>
<td>10.3</td>
<td>10.3</td>
<td>10.3</td>
</tr>
</tbody>
</table>
77% of the respondents either agreed or strongly agreed that they know what Pima CD4 technology and how it benefits them. 10.3% strongly disagreed and professed ignorance on knowledge on Pima CD4 cell technology, and 9.2% disagreed. The observations showed that 22 out of 22 which is 100% of the trained users discussed about the implications of the results but not necessarily the Pima CD4 technology.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>17</th>
<th>9.2</th>
<th>9.2</th>
<th>19.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neither Agree nor Disagree</td>
<td>5</td>
<td>2.7</td>
<td>2.7</td>
<td>22.3</td>
</tr>
<tr>
<td>Agree</td>
<td>66</td>
<td>35.9</td>
<td>35.9</td>
<td>58.2</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>77</td>
<td>41.8</td>
<td>41.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>184</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Since 0.298 > 0.05 we fail to reject the null hypothesis and conclude that there is no relationship between knowledge of what CD4 cell count is and a person’s age. This
shows that the stakeholders were effective in disseminating information on CD4 cell count irrespective of age.

Table 16: Location and knowledge of what a CD4 Cell count test is Cross-tabulation

<table>
<thead>
<tr>
<th>Location</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree or Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>13</td>
<td>13</td>
<td>3</td>
<td>54</td>
<td>53</td>
<td>136</td>
</tr>
<tr>
<td>Urban</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>12</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>17</td>
<td>5</td>
<td>66</td>
<td>77</td>
<td>184</td>
</tr>
</tbody>
</table>

Table 17: Pearson Chi-Square Tests

<table>
<thead>
<tr>
<th>Knowledge of what a CD4 Cell count test is</th>
<th>ID04Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square</td>
<td>4.027</td>
</tr>
<tr>
<td>d.f.</td>
<td>4</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.402</td>
</tr>
</tbody>
</table>

Since 0.402 > 0.05 we fail to reject the null hypothesis and conclude that there is no relationship between knowledge of what CD4 cell count test is and location of the respondent (whether a person lives in the rural or urban area). In support of the client exit survey, respondents from the focus group discussions generally displayed that they have information about the CD4 cell count where one respondent said “I must know my CD4 cell count because I take pills and I need to know whether my CD4 count is increasing or decreasing. I must know if the pills I am taking are the correct pills. I was given pills before I was tested for CD4, so CD4 count showed me my status. If they are many its good, if it is down it will be bad.”
Most respondents know what the CD4 cell count is and why it is conducted, and according to key informants, this can be attributed to the fact that there have been a lot of stakeholder involvements in the information dissemination on HIV / AIDS issues. However, some of clients (19.5%) have little knowledge on what and how the Pima technology is. From the focus group discussions one respondent with an observed agreement of head nodding from other respondents, said, “When I sit on the bench someone will be working inside, you wouldn’t know how the machine works, it just displays your results and the CD4 is written down. This machine gives results on the same day there and there.” Another group said “We don’t know it”, many respondents shouted at once and others shaking their heads, “we just come and get our blood tested for CD4”. Pima CD4 technology stakeholders must coordinate with each other so as to share information with clients about the Pima so that there will appreciate it. The information should also inform clients on the source of funding so as to avoid politisation of aid which might be detrimental to the program. Most respondent did not know who the donors were with 75% of the health facility informants mentioning J.F. Kapnek.

As reviewed in the literature, in Iraq the NCCI’s coordination mechanism facilitates the pooling of information and its dissemination to the appropriate audiences (NCCI, 2008). With reference to this study’s conceptual framework, the interacting coordinating stakeholders will network within the CCB and disseminate information to the beneficiaries.

4.6 Objective 3: To determine whether field-level stakeholder coordination foster programming efficacy.

H₃: Stakeholder coordination is not independent to programming efficacy.

Dependent Variable: Field-level stakeholder coordination by implementing partners

Independent Variables: Program efficacy

4.6.1 Stakeholder coordination and program efficacy

Table 18: Key Health centre Informants (In-depth interviews)
PIMA CD4 cell count Program benefits
From 37 respondents this is the number of mentions on the following codes

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Code</th>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Transport costs</td>
<td>Benefited</td>
<td>7</td>
</tr>
<tr>
<td>Benefits</td>
<td>Faster results</td>
<td>Benefited</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Accuracy of results</td>
<td>Benefited</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Convenient</td>
<td>Benefited</td>
<td>32</td>
</tr>
</tbody>
</table>

Table 19: Improvement of assessment and access to ART

<table>
<thead>
<tr>
<th>Improvement of assessment and access to Anti-Retro Treatment</th>
<th>Code</th>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvements</td>
<td>(a) Great improvement</td>
<td>Improved</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>(b) Improved</td>
<td>Improved</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>(c) helped</td>
<td>Improved</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(d) Encourage</td>
<td>Improved</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(e) Brought chance</td>
<td>Improved</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(f) Correct information</td>
<td>Improved</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(d) helped a lot</td>
<td>Improved</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(e) Benefited</td>
<td>Improved</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(f) Great Asset</td>
<td>Improved</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>(g) Happy</td>
<td>Improved</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>(f) Very big Impact</td>
<td>Improved</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>Improved</td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>

All 37 informants interviewed at health facilities concurred that the PimaCD4 technology has brought a significant improvement to the assessment and access to ART. One key informant said “It has been noted that WHO staging (visual testing on the wellness/healthiness of an individual) was not always reliable, since you can incorrectly, clinically diagnose someone as well yet their CD4 cell count will be low (below 350), so the Pima machine has made it easier by providing the actual CD4 count.

The Pima CD4 have been beneficial to the nursing staff and clients, with one key informant said “The PIMA CD4 machine is a great asset. In the prevention from Parent-To-Child Transmission (PMTCT) program we are seeing babies are getting births with negative results.” However, the PIMA CD4 technology has not been adequate for large referral hospitals due to the large volumes of clients and short inter-arrival times.
compared to the PIMA service rate. A key informant exclaimed, “It only do three tests an
hour and it’s not sufficient for a referral hospital like this one.”

**First Visit: CD4 cell count results**

Out of the 207 patients, 123(59.4%) received their CD4 cell count result on the first visit,
81(39.1%) did not receive their results while three patients had no record. Comparing
patients from POC sites with patients from non-POC sites, 69% of patients from POC
sites received their CD4 result compared to 19% from non-POC site. This result is
statistically significant (p<0.001). Of the patients who received their CD4 cell count test
result on the first visit, 121 (98%) had the CD4 test result in record. The median CD4
cell count was 234, IQR (144 – 332).

**Second visit: CD4 cell count test results**

On the second visit only 29(14%) patients received CD4 cell count test results,
113(54.6%) did not have a record while 65 (31.4%) did not receive results. Of those
who received results on the second visit 28 were from a Pima site and one was from a
non-Pima site. The median CD4 cell count result was 307.5, IQR (194 – 466).

These results demonstrates that the program have been effective since more clients
received their CD4 cell test results on their first visit(59.4%) instead of the second visit
(29%), as compared to the non Pima sites where 19% received on the first visit and 3%
on the second visit. For a client to go on ART her/his CD4 cell count should be below
350. The median was low than this threshold, with the inter-quartile range
encompassing the threshold. The median is a measure of central tendency while the
IQR measures the spread of data (O’Gomman & Zijenah, 2008), This result shows that
generally most of the clients were helped either on the first or second visit were already
in need of ART with an IQR OF (194-466) and an average of 307.5 which is below the
threshold of 350 CD4 cell count (EGPAF, 2012). and their need was overdue. This
demonstrates how this multi-stakeholder program benefited its intended beneficiaries
and reached high levels of programming efficacy.
4.6.2 Breakdowns

In the event of a breakdown, the MoHCW health personnel stationed at the respective health facilities contacts the JK Kapnek through their district structures. JF Kapnek swaps the functioning machine with a working one, to ensure continuity of service delivery. According to key informants, this can take from immediate action to one month with an average of about two weeks. J.F. Kapnek takes the malfunctioning machine for repair to Medsure which is based in Harare.

Field-level stakeholder coordination has had its strengths and weakness. One key informant complained, “we at one time did not have a machine for 2 months because the one we had, had broken down.’ Another key informant said, “We had one breakdown, the machine was not giving a print. We were attended by our focal person in Masvingo but it took one week to get the machine to work.” During these led times when there are delays in fixing the machines, clients are not served.

For the previous two years, breakdowns were reported by 87% of the health facilities. This is a very high breakdown rate. The distribution of breakdown since installation was as follows:

Table 20: Machine Breakdown

<table>
<thead>
<tr>
<th>Number of breakdowns</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>7</td>
<td>11.3</td>
</tr>
<tr>
<td>One</td>
<td>28</td>
<td>45.2</td>
</tr>
<tr>
<td>Two</td>
<td>12</td>
<td>19.4</td>
</tr>
<tr>
<td>Three</td>
<td>10</td>
<td>16.1</td>
</tr>
<tr>
<td>Four</td>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>Six</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Chaotic systems are predictable in pattern, but are not predictable in path or specific temporal trajectory (Schneider & Somers, 2006). With such frequency of breakdown, it shows how critical it is for stakeholders, who are MoHCW institutes, J.F. Kaneck and Medsure to improve their coordination with each other and counteract the chaotic
systems of machine breakdowns which interrupts service delivery, so as to improve their programming efficacy. In general the multi-stakeholder program implementation of the Pima CD4 technology has been efficient and effective, and produced a positive impact.

4.6.3 Stakeholder coordination and program sustainability

**Anti-retroviral therapy (ART) Initiation**

ART initiation is conducted when a patient has a CD4 cell count less than 350 and now requires treatment of ARVs (Thakar, Mahajan, shaikh, Bagwan & Sane, 2012). For health personnel to be able to initiate patients, they need training. However, some institutions including hospitals like Nyajena Hospital in Masvingo which is also a referral hospital and cater for a large catchment, do not initiate and still have to refer patients. Masvingo province has many operational HIV/AIDS stakeholders both CBOs and NGOs for example, JF. Kapnek, CARE international, AFRICARE, ZAPP, among others, who could have partnered with UNICEF and MoHCW so as to organize a training workshop to train health personnel to initiate patients to ART and also to induct them on Pima CD4 technology. One key informant said ‘When there are no trained personnel, no one use the machine, only trained staff use it.” This has demonstrated that low field-level stakeholder coordination leads to low program sustainability, with on key informant lamenting, “Events are unpredictable, death can occur, transfers occur, no one will be able to use the machine.)

From the literature review, in Iraq, the NCCI enhanced program sustainability through staff dedication, retention of institutional memory, and establishing networks (Hansen, 2008). Organizations aresubjected to continuous internal and external forces of chaos (Thietart & Forgues, 2009). The multiple stakeholders in Masvingo province should explore how best to build rapid learning cycles that evolve programs along with shifting environments so as to enhance program’s sustainability (Knezovich, 2012). CAS strategic planning can create a platform for the learning cycles that enhances sustainability as demonstrated in the conceptual framework. We fail to reject the null hypothesis and conclude that Stakeholder coordination is not independent to programming efficacy.
4.7 Objective 4: To evaluate whether stakeholder coordination fosters compliance to international programming standards by program implementing partners, for example, sphere standards, accounting standards among others.

H$_4$: Coordinating stakeholders adheres to international implementation standards

**Dependent Variable:** Stakeholder coordination

**Independent Variables:** 1) compliance with international programming standards.

The Ministry of Social welfare’s registrar office is responsible for licensing the Private Voluntary Organizations (PVOs). A key informant reviewed that international PVOs are registered at the head office in Harare, while locally based PVOs are registered at the district offices. Often the Ministry of Social Welfare do not intervene in the partnering of organizations in program/project implementation, but the stakeholders chose their own partners. The key informant said, “We do not intervene in partnering organizations but we just monitor on whether they are not departing from what they are mandated to do.” However, another key informant added, “we only intervene if the program is of national concern.” The Ministry however, monitors program implementation through the National Action Plan (NAP) for the Orphans and Vulnerable Children (OVC). On program implementation monitoring a key informant said,” We have a special department, the NAP for the OVC, all the NGOs we coordinate, and the orphanages. In fact we work with them. The NAP secretariat also works with and coordinates the line ministries like the MoHCW, Education, etc.)

The MoHCW plays a regulatory role on matters relating to both public health and primary health care (Machingura, 2012). The National AIDS Council (NAC) has functions to promote and coordinate the application of HIV/AIDS policies and resources from various sectors and partners to respond to the HIV/AIDS epidemic (Machingura, 2012). The National Association of NGOs (NANGO) is a non-partisan voluntary organization and is a membership driven organization with a membership base of over 1000. Its mission is to create space and identify opportunities for NGOs to pursue their
visions and mission and facilitate the building of members’ capacities, resource bases and synergies (NANGO, 2013).

The Ministry of Social Welfare monitors and regulates the program stakeholders in the Health Sector (Machingura, 2012). However, it does not usually intervene in coordinating and building sustainable partnerships, so as to achieve an overall optimal resource utilization of total allocated funds by implementing partners. NANGO has no regulatory powers but only an association of members. Stakeholder coordination can be enhanced by an establishment of an overall empowered central coordinating board which monitors and controls donor-funded programs. Zimbabwe programs have no regulatory board which enforces specific standards like the sphere but they only encourage compliance with internationally accepted standards. On key informant said, “For the standards, as the ministry of social welfare have no standards we follow but what we have here, are what is known as international best practices. For example in the children’s home, we do encourage them to follow acceptable CARE standards. For the sphere standards and minimum standards, we do not have that, that’s for the NGOs.” However information gathered in this study suggests that some laboratory scientists have noted that the machine does not also produce accurate results after about a year of operating. One key informant said, “As time proceeds, the PIMA starts giving results that are lower than the conventional machines.”

In Pakistan, the PHF did not exhibit a formal structure and ended up with a leadership crisis and could not monitor compliance of standards by member organizations (Currion, 2012). In Iraq, the NCCI members are required comply with the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (Oxfarm, 2008). From literature, it is evident that the establishment of a formal regulatory and coordination body will facilitate enforcement of standards compliance issues. In Iraq, the NCCI members are required to comply with the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (Oxfarm, 2008), while the cluster model does not encompass cross-cutting elements of accountability like minimum standards and Codes of Conduct (Hedlund, 2011). We fail
to reject the null hypothesis and conclude that coordinating stakeholders adheres to international implementation standards.

**External Quality Assurance (EQA)**

Zimbabwe National Quality Assurance Program (ZINQAP) Trust provides External Quality Assurance (EQA) for laboratories through provision of Proficiency Testing (PT) services and on-site assessments, among other services. ZINQAP are in the process of negotiating with UNICEF, so that they can provide EQA services to the UNICEF sponsored Pima CD4 machines. Currently, they are providing EQA for Pima CD4 testing for QASI and PSI. A key informant had this to say about the challenges they are currently facing in providing EQA for Pima CD4 testing; “The challenge we have faced is the remoteness of the sites”

However, key informants were quick to point out the need for EQA and a constant follow up and support since the Pima CD4 machine users are not laboratory scientists and it’s a new technology. This is what one key informant said: “The need is there considering that they are non-lab staff, and there is need for a constant follow up. There is need for training the provincial lab scientists. If the training is run properly, it reduces the burden on the people concerning transport and time.”

A key informant said “As time proceeds, the PIMA starts producing results that are lower than the conventional machines.” CHAI organized for EQA for its 10 machines. It ran 2 or 3 cycles then it stopped due to high costs. A key informant said that “EQA is the biggest challenge for UNICEF”. Another key informant said, “EGPAF approached ZINQAP, and ZINQAP said some ridiculous prices.” Medsure who are the specialist in the procurement, distribution and support services do not use ZINQAP, the major challenge is the price. In the collaboration model, stakeholders even go further and work together on a specific task in attainment of a common goal (Hveinden, 2004). Stakeholder coordination between Medsure and ZINQAP can lead to compliance with standards. Medsure is the Pima CD4 support services provider. It would be more effective if ZINQAP and Medsure form a strategic alliance.
4.8 Chapter conclusion

This chapter presented, analyzed, interpreted and discussed the research findings which will feed into the foregoing chapter where recommendations will be derived.
CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter concludes and finalises the dissertation by presenting the recommendations drawn from the researches and discussions done in the study. It presents the key findings, conclusion, modified conceptual framework, answers to the research questions, theoretical contributions, empirical evidence, policy recommendations, managerial recommendations, and suggestions on areas of further research.

5.2 Dissertation Conclusion
5.2.1 Stakeholder coordination
Stakeholder partnerships in donor funded programs are imminent for programming success. However, proper strategic partnerships should be established for the respective programs. Not coordinating is a problem and can both lead to poor resource utilization to the detriment of the country program. A situation where stakeholders did not coordinate was demonstrated when large hospitals (e.g. Nyajena hospital) could not offer ART initiation due to lack of skilled manpower, whilst they are numerous organizations (CARE International, AFRICARE, CRS, ZAPP, UNICEF, MoHCW, among others) running HIV/AIDS programs in the same area. A coordinated approach would have easily facilitated a workshop by these organizations and equip the personnel with the required skills. Another situation of poor coordination which did not optimize the resource utilization was the partnering of J.F. Kapnek, DTTU, NatPharm, MoHCW and JSI in the distribution of the Pima CD4 consumables. Nevertheless, there were complaints from key informants that they were a lot of unused expired cartridges. A well executed coordinated approach will yield programming efficacy. This was demonstrated by the UNICEF facilitated, Pima CD4 technology skills sharing by Alere South Africa to its local partners.
5.2.2 Optimal resource utilization

This dissertation was based on the evaluation of stakeholder coordination in donor funded programs in the Zimbabwe’s health sector. The major research question was whether field-level stakeholder coordination would optimize resource utilization by implementing partners. Empirical evidence in the case has shown that well coordinated stakeholder cartel would optimize resource utilization thus fostering donor and beneficiary accountability by implementing partners. This was illustrated in the case when stakeholders in the distribution of the Pima CD4 consumables failed to optimize resource utilization, and ended up consumables expiring at health facilities before use, due to short-dated supply of cartridges, and over supply. Generally, authors concur that coordination of stakeholders in humanitarian programs bring efficacy in programming through shared resources which are; skills, financial, material and information resources. Authors Ramalingam et al, (2008), Holland (2003), Hargreaves (2010), InterAction (2012 and DOD (2010) agreed that stakeholder coordination foster efficacy in resource utilization.

5.2.3 Information sharing and dissemination

Great insights are obtained from cross-functional networks which are well-informed and these networks share the decisions and processes throughout the organization (Schneider & Somers, 2006). This was illustrated in the case when CHAI and MoHCW shared their evaluation results, which were used by UNICEF to justify the implementation of the Pima CD4 technology. The conceptual framework has the MIS at the centre of the CCB, and it is a key element in facilitating coordination and collaboration between stakeholders.

5.2.4 Program sustainability

In Iraq, the NCCI enhanced program sustainability through staff dedication, retention of institutional memory, and establishing networks (Hansen, 2008). Organizations are subjected to continuous internal and external forces of chaos (Thietart & Forgues, 2009). The number of trained personnel who could operate the Pima CD4 machine was small, with one or two from a health facility. In the event death of transfer the program will die a natural death. The HIV/ AIDS multiple stakeholders in Masvingo province
should explore how best to build rapid learning cycles that evolve programs along with shifting environments so as to enhance program’s sustainability (Knezovich, 2012). One key informant suggests, “The Pima CD4 technology can be incorporated into midwifery training curricula. Program memory loss is a big challenge to Zimbabwean donor-funded programs, when other organizations intend to revive or implement a similar program; they will have to start afresh, this being costly. Stakeholder coordination will ensure programming continuity and/or memory retentions since many stakeholders will be involved.

5.2.5 Compliance with standards
From literature, it is evident that the establishment of a formal regulatory and coordination body will facilitate enforcement of compliance to standards. In Iraq, the NCCI is a formal board and it enforces its members to comply with the Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief (Oxfarm, 2008), In Pakistan, there is an informal board and there is no compliance enforcement. In Zimbabwe NANGO is not empowered to enforce compliance of standards, and most organizations do not comply, just like what happened in Haiti. The cluster model does not encompass cross-cutting elements of accountability like minimum standards and Codes of Conduct (Hedlund, 2011).

5.3 Research Hypothesis Validation
The hypothesis argued that poor resource utilization by field-level implementing partners is caused by poor coordination of these implementing partner organizations leading to low beneficiary and donor accountability. This hypothesis has been supported by the research findings. These NGOs and CBOs will possess their own competitive advantages (for example, good will, financial and material resources, skills, information, programming experience, among others). The stakeholder relationship can also be a horizontal relationship where implementing partners can be at the same level (i.e. a UNagency partnering with other agencies, or international agencies partnering with each other). This will facilitate (information, financial resource, material resource, skills etc.) sharing thus optimizing the resource utilization. The benefits of sharing resources will go the intended beneficiary.
5.1 Conceptual framework modified

Central Coordinating Board (CCB)
Complex Adaptive Systems (CAS) planning

Interacting member organizations

MIS Central Data Base

Centralised Operations & Research

Optimal resource Allocation & Operational Efficacy

Information sharing & dissemination

Standardised & integrated Reporting

Needs

Accountability

Beneficiaries

Government

Statutory Acts

Accountability

Donors

Funding

Proposals & Reports

Private and Public Companies

Compliance

Codes and Standards

International Boards

Donations

Strategic partnerships in Corporate Social Responsibility
5.4 Recommendations

5.4.1 Theoretical Contribution

1) Program stakeholders for specific programs are to be determined by the proposed Central Coordinating Board (CCB) sub-committees established for the program, and should be determined during stakeholder analysis stage up to the scooping process which succeed the clustering stage of the decision tree in the program life cycle. However, stakeholder analysis should be a continuous process throughout the project life cycle.

2) The member organizations should derive their own strategy framework from the overall country CAS strategy planning. These organizational frameworks should be derived from the overall country strategy, but are not regulated and member organizations should be free to choose what suits them, and what complies with their organizational policies.

5.4.2 Empirical Evidence

From the empirical evidence derived from the qualitative and quantitative data, it has been found that:

Stakeholder coordination

= f(Resource utilization, Resource sharing, information sharing, program efficacy)

1) Optimal resource utilization was not achieved despite an array of stakeholders in the distribution of consumables, with some expiring before use due to oversupply and the supply short-dated cartridges. This demonstrated that, even if NGOs and CBOs have partnered so as to synchronise their efforts, without an empowered external coordination monitor and evaluator, the program does not attain optimal resource utilization. UNICEF monitors and evaluates its partners for the funds channelled through it by the respective donors. Since it is empowered to hire and fire its implementing partners, it regularly monitors and evaluates its program stakeholder partnerships. This has brought success in UNICEF administered programs in the country, evidenced by the successful training of PIMA CD4.
technology, conducted by an array of coordinated partners (i.e. UNICEF, Alere, J.K. Kapnek, Medsure and MoHCW).

2) Information sharing does not only depend on stakeholder coordination but also depend on organizational policies. This was evidence when the researcher found it difficult to get information from most organizations, and the process required the respective organization's highest office or body to render permission. CHAI and MoHCW shared their findings on the internet on the PIMA CD4 technology's reliability, and this assisted EGPAF, UNICEF in the consideration of funding of this technology.

Information sharing among implementing partners helps in avoidance of double dipping by beneficiaries. This was evidenced when the researcher was part of the data abstraction process from health facility archives; there was no provision of tracking of patients who would have moved to other health facilities, form the uncomputerised health registered. A computerised central master database would have assisted in the tracking of patients and avoidance of duplication. Thisduplication problem was also evidenced when some key informants reviewed that competing organizations conducting similar programs in a district do not share information among themselves. This gives an opportunity to double dippers at the expense of other deserving beneficiaries being excluded. Shared databases of beneficiary information would minimise double dipping.

3) Empirical evidence has shown that coordinated multi-stakeholdereffort achievesprogramming efficacy while an uncoordinated approach yield the opposite. This was demonstrated in the distribution of consumables, where the coordination of stakeholders (NatPharm, DTTU, J.F. Kapnek, MoHCW, UNICEF and JSI) was not efficient. Though they achieved their objective of keeping most health facilities fully stocked, they did not achieve it efficiently by supplying short dated cartridges and over supplying consumables to other health facilities while others were short supplied. There was no proper forecasting of individual health facility's needs.
4) Empirical evidence has shown that humanitarian and development work organizations in Zimbabwe are not obliged to meet any set international standards. However, there are government departments which monitor and encourage them to adhere to best practices. Zimbabwean donor funded programs lack program memory. Many similar and/or related programs would have been run before or still running, but new program do not benefit from the information and knowledge accumulated through the passage of time. This is attributed to the lack of a central master database which will provide a platform for information sharing and program memory. A central database would also prevent double dipping by beneficiaries across districts run by different implementers, and also tracking of patients who move to other places within the country.

5.4.3 Policy Recommendations
1) Establishment of a Centralised Coordinating Board (CCB) in Zimbabwe, which will be enacted by parliament and comprising of all member Private Voluntary Organizations and responsible for all NGOs coordination and programming assistance.

2) The CCB to be affiliated with international boards and comply with international implementation and reporting standards i.e. sphere standards, reporting standards, etc.

3) In all programming the CCB will work in consultation with line ministries and member organizations and develop national strategies for respective programs, where individual members would derive and customise their own strategy, but guided by the national strategy.

5.4.4 Managerial recommendations
a) Managers from respective member organizations of the National Association of Non-Governmental Organizations (NANGO) should take the opportunity presented in the form of meetings and forums to suggest how there can
empower their body and make it more functional and relevant to their programming needs by converting it into a central coordinating board.

b) The CCB to adopt complex adaptive system planning with member organizations as units in a system which evolves internally to adapt to the ever-changing chaotic external environment.

c) A centralised operational research department should be established, comprising of operation research specialist and stakeholder representatives. This organ will give consultation services so as to optimize resource utilization for the overall country program.

d) A centralised database should be implemented by the CCB MIS department so as to foster information sharing and dissemination and support of integrated reporting.

e) A centralised M &E department which will be responsible for an integrated reporting will be a strategic department of the CCB.

5.4.5 Generalized recommendation

An international body where our local CCB will be member can be established. It will regulate and set international standards of the operating humanitarian and development work organization.

5.5 Areas for further research

1) How to optimise resource allocation among vertically and horizontally integrated organizations in donor funded programs

2) How NGOS can adopt CAS planning in donor funded programs

3) Methods of obtaining an optimal mix of stakeholders in donor-funded programming.
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APPENDICES

Appendix A  Consent form

Introduction to the Informant: Good morning/afternoon/evening.
My name is ____________________________. I am from University of Zimbabwe
doing an MBA degree and carrying out a study on the evaluation of stakeholder
coordination in donor funded programs in Zimbabwe. I would like to talk to you about
the overall stakeholder coordination of the country program. The interview should take
less than an hour. If it is ok with you I am asking for your permission if I could record the
interview since I will not be able to capture all what you say by hand.

I am kindly asking for your permission if I could go ahead with this interview. All
responses will be kept confidential. This means that your interview responses will only
be used in for this study only and we will ensure that any information we include in our
report does not identify you as the respondent. Remember, you do not have to talk
about anything you do not want to and you may end the interview at any time.

Therefore, I sincerely request your cooperation in responding to the following questions.
However, at any time during the course of the interview, you are free to terminate the
interview.
Are there any questions about what I have just explained?
Are you willing to participate in this interview?

Yes: Proceed  No: Thank the participant and terminate the interview

I certify that the nature and purpose, the potential benefits and possible risks associated
with participating in this research have been explained to the volunteer.
APPENDIX B

Interview Guide Questions for National AIDS Council (NAC)

1) What is the National AIDS council? What is the purpose of the National AIDS council? What is the scope of the National AIDS council? (Mtapuri-Zinyowera, 2012)

2) What are the NAC’s values? (NRF, 2009) Does the country have a national HIV/AIDS strategy / action plan? (Mowjee, 2009)

3) Was your organization consulted or involved in the preparation of the national strategy / action plan?

4) Where any other NGOs consulted during or involved in the preparation of the national strategy / action plan? (Mowjee, 2009)

5) What planning and coordination mechanisms exist between NAC and other stakeholders eg. NGOs, including UN agencies, government departments e.t.c.

6) Who are the major donors

7) In implementation of your own POC did you have any other partners and donors
8) Are there systems in place to monitor and evaluate the implementation of the national strategy / action plan? (Mtapuri-Zinyowera, 2012)

9) What and who were your primary sources of information in relation to the Country AIDS program?

APPENDIX C

Interview Guide Questions for NANGO

1) What is the National Association of NGOs?
2) What is the purpose of the NANGO?
3) What is the scope of the NANGO?
4) What are the NANGO’s values? (NRF, 2009)
5) What is its registration status? (Mowjee, 2009)
6) What and who were your primary sources of information in relation to the Country programs?
7) How do you share information with your members? What type of information is shared?
8) How do you coordinate multi-agency information sharing between NGOs and other stakeholders? (Australian Civil-Military Centre, 2005)
9) Does NANGO have a centralised database?
10) What is the role of NANGO particularly in stakeholder coordination (PMNCH, 2005)
11) What did not work well in relation to multi-agency coordination and/or cooperation in relation to preparedness, planning and deployment of resources? (Australian Civil-Military Centre, 2005)
12) How does NANGO get its funding

APPENDIX D

Interview Guide Questions for MoHCW and Ministry of Social Welfare
1) What role did you play in the planning, procurement, distribution, installation and training of users for the POC machines or any other program? (Mtapuri-Zinyowera, 2012)

2) What planning and coordination mechanisms exist between MoHCW and other stakeholders eg. NGOs, including UN agencies, government departments e.t.c.

3) What did not work well in relation to multi-agency coordination and/or cooperation in relation to preparedness, planning and deployment of resources? Please provide examples.

4) In relation to coordination and/or cooperation, what recommendations would you make to improve multi-agency coordination/cooperation structures for preparedness, planning and deployment of human and material resources in the future (Australian Civil-Military Centre, 2005)?

5) Which organizations are involved in the implementation of the POC machine (Mtapuri-Zinyowera, 2012)

6) When the implementing partners coordinated

7) What role did you play in the stakeholder coordination

8) What and who were your primary sources of information in relation to the Country AIDS program?

9) How do you share information with other Zimbabwean stakeholder? What type of information was shared?

10) How do you coordinate information sharing between NGOs and other stakeholders? Who were these stakeholders? What type of information was shared? (Australian Civil-Military Centre, 2005)

APPENDIX E

Interview Guide Questions for UNICEF, PSI, JSI and ZAPP

1. Please outline your role and responsibilities as an implementing partner for this CD4 POC program.

2. May you explain the part you played in the training of users, distribution and installation of the CD4 POCs?
3. Which partners did you engage in the POC installation
4. Which partners have you partnered with in the procurement, distribution, and implementation of POCs (ABD 2001)

1) Have you shared researched materials with other implementing partners with a different donor
2) Do have any policy about coordination with other CBOs and NGOs
3) To what extent have you coordinated with other organizations running similar programs in the country?
4) Have you engaged other international organizations to assist you in the program implementation
5) What and who were your primary sources of information in relation to the Country AIDS program? (Mtapuri-Zinyowera, 2012)
6) How do you share information with other Zimbabwean stakeholder? What type of information was shared?
7) How do you coordinate information sharing between NGOs and other stakeholders? Who were these stakeholders? What type of information was shared? (Australian Civil-Military Centre
### APPENDIX F

POC Study Client Exit Interview - 2012

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### INTERVIEW STATUS

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<td>How old are you?</td>
<td>__________________ (Age in completed years)</td>
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<td>Q102</td>
<td>What is your marital status now?</td>
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102
| Q105 | What is your religion? | Traditional | 1 |
|      |                       | Roman Catholic | 2 |
|      |                       | Pentecostal | 3 |
|      |                       | Apostolic Sect | 4 |
|      | (Specify)……………  | 5 |
|      | Protestant | 6 |
|      | Muslim | 7 |
|      | None |  
|      | Other ………………… |  

| Q106 | Number of surviving children |  

| Q107 | Are you currently pregnant? | Yes | 1 |
|      |                             | No | 2 |
|      |                             | Don’t know | 3 |

Section 2: In the next section I am going to ask you questions regarding CD4 cell count testing

| Q200 | Prior to your visit today, have you ever had a CD4 cell count test done on you? If “No” go to Q202 | Yes | 1 |
|      |                                                         | No | 2 |

| Q201a | When was the last CD4 cell count test done on you? | This month | 1 |
|       |                                                 | Last Month | 2 |
|       |                                                 | Two months Ago | 3 |
|       |                                                 | Three Months Ago | 4 |
|       |                                                 | More than 3 months | 5 |
| Q201b | Were you booked to come on a certain date for the last CD4 cell count test done on you? | Yes | 1 | No | 2 |
| Q201c | Were you taken a finger prick or venous blood for the last CD4 cell count test done on you? | Yes | 1 | No | 2 |
| Q201d | After how long did you get your results for the last CD4 cell count test done on you? | _______ Days |
| Q202 | For today’s CD4 test, were you previously booked? | Yes | 1 | No | 2 |
| Q203 | Which specimen was taken from you today? | Finger prick | 1 | Venous blood | 2 | Other specify | 3 |
| Q204a | Are you eligible for ARV? If “No” go to Q205 | Yes | 1 | No | 2 | Don’t know | 3 |
| Q204b | How long did it take you to be initiated on ART? | _______ Days |
| Q205 | Has any of your family members been tested for HIV? | Yes | 1 | No | 2 | Don’t know | 3 |
| Q206 | What were the results? | Positive | 1 | Negative | 2 | Don’t know | 3 |
| Q207a | Have they had a CD4 count? | Yes | 1 | No | 2 | Don’t know | 3 |
| Q207b | Where? | ……………………….. |
I am now going to ask you questions regarding your perception on the CD4 cell testing services. Please tell me if you ‘agree’ or disagree. Note: Probe if they “agree strongly” or “agree somewhat”, and if they “disagree strongly” or “disagree somewhat”.

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<td>Q302</td>
<td>I know why all the blood tests need to be done</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q303</td>
<td>I know what a CD4 Cell count test is</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q304</td>
<td>I understand why a CD4 cell count test needs to be done on me</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q305</td>
<td>The health staff that provided services for me today were friendly</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Q306</td>
<td>I did not wait very long before I could be served today?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Q401: What is it that you would like done better concerning your CD4 cell test?

Thank you!