

**PROSPECTS OF SUSTAINABILITY IN DEMAND-DRIVEN
PROJECTS**

**THE CASE OF COMWASH AND MASAF WATER
PROJECTS IN THYOLO DISTRICT**

MA (DEGREE IN DEVELOPMENT STUDIES) THESIS

THANASIUS LUTHER SITOLO

SEPTEMBER 2007

PROSPECTS OF SUSTAINABILITY IN DEMAND-DRIVEN PROJECTS

**THE CASE OF COMWASH AND MASAF WATER PROJECTS IN
THYOLO DISTRICT**

**A thesis submitted to the Faculty of Social Science, Chancellor College University of
Malawi in partial fulfillment of the requirements for Master of Arts Degree in
Development Studies.**

By

THANASIUS LUTHER SITOLO BSo Sc (University of Malawi) 1995

SEPTEMBER 2007

DECLARATION

CANDIDATE'S DECLARATION

PROSPECTS OF SUSTAINABILITY IN DEMAND-DRIVEN PROJECTS

A CASE OF COMWASH AND MASAF WATER PROJECTS IN THYOLO DISTRICT

This thesis is my own original work based on field research and has not been presented for any other awards at this or any other university.

Thanasius Luther Sitolo (BSoc.Sc).....Date.....

CANDIDATE

SUPERVISORS' DECLARATION

PROSPECTS OF SUSTAINABILITY IN DEMAND-DRIVEN PROJECTS

A CASE OF COMWASH AND MASAF WATER PROJECTS IN THYOLO DISTRICT

This thesis is submitted with our approval.

First SupervisorDate.....

Second SupervisorDate.....

DEDICATION

To my wife Elizabeth, my beloved daughter Olive and my parents for their love and moral support.

ACKNOWLEDGEMENTS

I wish to express my sincere gratitude and thanks to all those who contributed in various ways to the success of this research work. I would like to thank the Malawi Social Action Fund (MASAF) for the research grant, and the Director of Water Supply and Sanitation, Mr. Owen Kankhulungo for supporting my two-year study, without whom I would not have undertaken this program. Special thanks go to my supervisors, Dr. Charles Chilimampunga and Dr. Wapulumuka Oliver Mulwafu for their untiring and constructive guidance, helpful comments and encouragement from proposal development throughout to the writing up of this thesis.

I am grateful too to Messrs Mkweta (District Water Officer - Thyolo) and George Namizinga (Project Engineer - COMWASH) for assisting me with information and logistical arrangements whilst in Thyolo. I would also like to thank Messrs Nselera, Chilongo, Makina, Wandale and Nkhoma my research assistants for the technical support and perseverance in the hard conditions they went through. My heartfelt thanks also go to Messrs Joseph Kazombo of the Ministry of Irrigation and Water Development and James Mambulu of Canadian International Development Agency (CIDA) for providing me with background information for the COMWASH Project.

Thanks go to Mr J. Chiliko (MASAF - Blantyre) for allowing me to access documents and providing valuable information on MASAF funded projects in southern Malawi. I also thank Mr. Kaphuka (DPD - Thyolo) for providing administrative data for Thyolo, STA Mphuka and TA Bvumbwe and their Group Village Headmen for their co-operation and support during household interviews and focus group discussions.

I also express my gratitude to Dr. Blessings Chinsinga, the Master of Arts Development Studies Program Coordinator for providing program resources during the entire two years of my study. Thanks also go to my colleagues in the MDS Program for their encouragement throughout the study period.

Lastly but not least thanks go to The Almighty God for the good health and for taking care of me through to the very end of this “toughest exercise you will ever love to undertake”.

ABSTRACT

Inadequate water supply provision to most rural communities in developing countries and Sub-Saharan Africa including Malawi is one of the critical problems affecting people's well being and productivity. Low accessibility to safe water supply in these regions is attributed to poor sustainability of services, which is consequently associated with ineffective community participation in project initiation. As a result, water facilities break down; hence, many rural communities access water from unsafe sources. Consequently, people especially children are at risk of contracting or even dying from water related illnesses like diarrhoea.

It is against this background that a study was conducted to assess the prospects of sustaining demand-driven interventions in Malawi Social Action Fund (MASAF) and Community Water, Sanitation and Health (COMWASH) supported projects in Thyolo District. Data were collected from individual household surveys, key informant consultations and focus group discussions (FGD). The study used the Statistical Package for Social Scientists (SPSS) computer software for analyzing quantitative data. Qualitative data were analyzed by sorting and coding them into themes and sub-themes emerging from the discussions to identify similarities and differences of opinion between participants, within and among groups.

Results indicate that more respondents in MASAF projects feel that communities were responsible for project initiation than those funded by COMWASH. However, qualitative inquiries used to triangulate survey results showed that outsiders or other local representatives initiated the interventions and only consulted the intended beneficiaries at implementation stage. Nevertheless, the results revealed that these investments addressed beneficiaries' priority need. Moreover, results show that beneficiaries' contribution towards construction was high in both areas.

Results also show that many respondents in the study sample feel that the services are reliable and satisfactory. Among other reasons, the study observes that system reliability has had a major influence on consumer satisfaction. In addition, water users in MASAF sites express more sense of ownership on the facilities than those in the COMWASH. Both quantitative and qualitative investigations reveal that many respondents barely believe that they own the services because of their disappointment with facility performance including information flow in the scheme.

Concisely, the results suggest that there are prospects for sustainability in demand-driven projects. Therefore, encouraging the communities' participation in processes of installing new facilities has shown that it helps in locating investments in convenient and acceptable sites. In addition, satisfying beneficiaries' needs including providing users with community mobilization and maintenance skills has proved to be effective in ensuring continued service delivery.

The study recommends that agencies in the water supply sector encourage users' involvement in choice of investments. It is critical too that stakeholders in the sector agree on one understanding of the DRA and that local assemblies improve their capacities to effectively carry out monitoring of water services, which proves to be quite a challenge at the moment.

TABLE OF CONTENTS

Declaration.....	ii
Dedication	IV
Acknowledgements.....	v
Abstract	vi
Table Of Contents	VIII
List Of Tables	xii
List Of Figures	xiii
List Of Abbreviations And Acronyms	xiv
Definition Of Terms.....	xvi
CHAPTER ONE : INTRODUCTION	1
1.0 Introduction.....	1
1.1 Background To The Study.....	1
1.1.1 Overview Of Rural Water Supply Sector In Malawi.....	2
1.1.2 Problem Statement.....	5
1.1.3 Limitations Of The Study.....	6
1.1.4 Significance Of The Study.....	7
1.1.5 Expected Outputs.....	8
1.1.6 Research Objectives.....	8
1.1.7 Research Hypotheses.....	9
1.2 ORGANIZATION OF THESIS	9
CHAPTER TWO : LITERATURE REVIEW	11
2.0 Introduction.....	11
2.1 The Demand-Responsive Approach (DRA) in Theoretical Perspective	11
2.2 Challenges in the Water Supply and Sanitation Sector	13

CHAPTER THREE : METHODOLOGY	16
3.1 Introduction.....	16
3.1.1 Description Of Study Site	16
3.2 Sample Size And Sampling Methods	17
3.3 Data Collection Methods	19
3.3.1 Household Interviews	19
3.3.2 Key Informant Interviews	20
3.3.3 Focus Group Discussions (Fgds)	20
3.4 Data Analysis	21
3.4.1 Household Survey Data	21
3.4.2 Qualitative Data	22
CHAPTER FOUR : SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS	23
4.0 Introduction.....	23
4.1 Socio-Economic Characteristics	23
4.1.1 Sex, Marital Status And Age Of Respondents.....	23
4.1.2 Education Of Respondents.....	24
4.1.3 Occupation Of Head Of Household.....	25
4.1.4 Household Size	26
4.1.5 Household Assets.....	27
4.1.5.1 Access To Transport	28
4.1.5.2 Access To Information.....	29
4.1.5.3 Ownership Of Livestock	29
CHAPTER FIVE : ANALYSIS AND DISCUSSION OF MASAF WATER PROJECTS	31
5.0 Introduction.....	31
5.1 Overview Of The Malawi Social Action Fund (Masaf)	31
5.2 The Demand-Driven Approach In Masaf Water Projects.....	34
5.2.1 Community Involvement In Project Initiation.....	34
5.2.2 Whether Projects Addressed Beneficiaries’ Priority Needs	37
5.2.3 Beneficiary Influence In Decision-Making	38
5.2.4 Community Contributions	40
5.3 Sustainability.....	42
5.3.1 Water Supply System Performance	42

5.3.2	Response To Water Supply Systems Failure	44
5.3.3	Consumer Satisfaction	45
5.3.4	Operations And Maintenance	48
5.3.5	Financial Management.....	50
5.3.6	Amounts Of Contributions Towards Operations And Maintenance.....	51
5.3.7	Willingness To Sustain Systems.....	52
CHAPTER SIX : ANALYSIS AND DISCUSSION OF COMWASH WATER PROJECTS.....		55
6.0	Introduction.....	55
6.1	Community Water, Sanitation And Health (Comwash)	55
6.1.1	Community Cash Contributions	57
6.2	The Demand-Driven Approach In Comwash Water Projects.....	57
6.2.1	Community Involvement In Project Initiation.....	57
6.2.2	Whether Projects Addressed Beneficiaries’ Priority Needs	61
6.2.3	Beneficiary Influence In Decision-Making	62
6.2.4	Community Contributions	63
6.3	Sustainability.....	65
6.3.1	Water Supply System Performance	66
6.3.2	Response To Water Supply Systems Failure	68
6.3.3	Consumer Satisfaction	69
6.3.4	Operations And Maintenance	74
6.3.5	Financial Management.....	75
6.3.6	Amounts Of Contributions Towards Operations And Maintenance.....	78
6.3.7	Willingness To Sustain Systems.....	79
CHAPTER SEVEN : MASAF AND COMWASH WATER PROJECTS COMPARED		82
7.0	Introduction.....	82
7.1	Similarities	82
7.2	Differences.....	84
CHAPTER EIGHT : CONCLUSIONS AND RECOMMENDATIONS.....		88
8.0	Introduction.....	88
8.1	Conclusions.....	88
8.2	Recommendations.....	90
8.2.1	Areas Of Future Research.....	91

REFERENCES.....	92
APPENDICES	98
Appendix 1: Household Questionnaire	98
Appendix 2: Focus Group Discussion Guide.....	110
Appendix 3: Key Informants Interview Guide	112
Appendix 4: List Of Key Informants	114
Appendix 5: Map Of Thyolo District Showing Study Sites	115

LIST OF TABLES

Table 1: Number of households sampled by village.....	18
Table 2: Number of participants in focus group discussions by community and gender	21
Table 3: Sex of the respondents by area	23
Table 4: Water supply priority in MASAF sites.....	38
Table 5: Proportion of households involved in decision-making in MASAF sites	39
Table 6: Proportion of respondents who made contributions in MASAF sites	41
Table 7: Consumer satisfaction with water supply system in MASAF sites.....	46
Table 8: Respondents' perception of water from the established sources by project in MASAF sites.....	47
Table 9: Operations and maintenance practice in MASAF sites	49
Table 10: Financial management for operations and maintenance in MASAF sites.....	50
Table 11: Water users' perception on willingness to sustain systems in MASAF sites	53
Table 12: Water supply priority in COMWASH sites.....	61
Table 13: Proportion of households involved in decision-making in COMWASH sites	63
Table 14: Community cash contributions towards construction in COMWASH sites	64
Table 15: Consumer satisfaction with water supply system in COMWASH sites.....	71
Table 16: Respondents' perception of water from the established sources in COMWASH site	73
Table 17: Operations and maintenance practice in COMWASH site.....	75
Table 18: Financial management for operations and maintenance in COMWASH site	76
Table 19: Water users' perception on willingness to sustain systems in COMWASH site	79

LIST OF FIGURES

Figure 1: Marital status of household heads	24
Figure 2: Education of respondents by sex	25
Figure 3: Occupation of head of household	26
Figure 4: Community's perception of person(s) that initiated water supply in MASAF sites.....	36
Figure 5: The performance of water supply systems in past 12 months in MASAF sites.....	43
Figure 6: System operators' response to facility failure in MASAF sites	44
Figure 7: Proportion of water users contributing to the maintenance fund in MASAF sites.....	52
Figure 8: Community's perception of person(s) that initiated water supply in COMWASH sites.....	59
Figure 9: Performance of water supply systems in past 12 months in COMWASH sites	66
Figure 10 :Time to took for communities to respond to system failure in COMWASH sites	68
Figure 11: Proportion of water users contributing to the maintenance fund in COMWASH site	78

LIST OF ABBREVIATIONS AND ACRONYMS

ADC	Area Development Committee
AFRIDEV	Africa Development
AIDS	Acquired Immuno-Deficiency Syndrome
CBM	Community Based Management
CBO	Community Based Organization
CDD	Community-Driven Development
CEDP	Community Empowerment and Development Programme
CIDA	Canadian International Development Agency
CMP	Community Managed Projects
COMSIP	Community Savings and Investment Promotion
COMWASH	Community Water Sanitation and Health
CSP	Community Sub-Projects
DFID	Department for International Development
DPD	Director of Planning and Development
DRA	Demand-Responsive Approach
FGD	Focus Group Discussion
GOM	Government of Malawi
GVH	Group Village Headman
HIV	Human Immuno Virus
HSA	Health Surveillance Assistant
IDWSSD	International Drinking Water Supply and Sanitation Decade
IWRM	Integrated Water Resources Management
KNAHP	Karonga Nutrition and Health Project
LAMP	Local Assembly Managed Projects
MASAF	Malawi Social Action Fund
MDG	Millennium Development Goal
MK	Malawi Kwacha
MP	Member of Parliament
MPRSP	Malawi Poverty Reduction Strategy Paper
MSCE	Malawi School Certificate of Education
NGO	Non-Governmental Organization

NSO	National Statistical Office
O&M	Operations and Maintenance
PAP	Poverty Alleviation Program
PHAST	Participatory Hygiene and Sanitation Transformation
PMC	Project Management Committee
PRA	Participatory Rural Appraisal
PWP	Public Works Program
SPSS	Statistical Package for Social Scientists
SSP	Social Support Program
SSP	Sponsored Sub-Projects
STA	Sub-Traditional Authority
TA	Traditional Authority
TAP	Transparency and Accountability Project
UDF	United Democratic Front
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
US\$	United States Dollar
VH	Village Headman
WES	Water and Environmental Sanitation
WHO	World Health Organization
WMA	Water Monitoring Assistant
ESA	East and Southern Africa
VLOM	Village Level Operation and Maintenance

DEFINITION OF TERMS

Access	The degree to which each household and persons in those households are able to use the service. Criteria set by water sector policies mostly consider the number of users and the distance to the service. For example in Malawi the Ministry of Irrigation and Water Development set a minimum of 250 persons and a distance of about 500 metres (one way) from the user (WHO, 2000).
Capital contribution	Cash payments that beneficiaries make towards project costs to show that they are committed and able to raise funds to keep the new investments functional (Ministry of Water Development, unpublished).
Community	All households and other institutions that use water, contribute to the project costs, and participate in operating and maintaining the water supply system.
Community-Driven Development	A grassroots attempt to meet the unfulfilled needs of people living in poverty whose underlying principle is that community groups should be given “control of decisions and resources” (Wiennecke, 2005).
Demand	The quantity and quality of water community members will choose to consume at a given price (Sara and Katz, 1997 : 3).
Demand-Driven Responsive Approach	Allowing consumers or users of a facility to make choices and commit resources in support of those choices (Sara and Katz, 1997 : 4).
Participation	The active involvement of local communities in development initiatives, where specified groups, sharing the same interests or living in a defined geographic location, actively pursue the identification of their needs and establish

	mechanisms to make their choices effective (Dulani, 2003).
Safe water	Water that is free from organism capable of causing diseases, and also from other substances that can potentially induce physiological damage (Porto, 2004).
Sustainability	The maintenance of level of services through the design life of the water supply system
Water supply coverage	The percentage of the population with access to safe (improved) water supplies that provide 27 litres/person/day within one (1) kilometer of the household (WHO, 2000; GOM, 1999).
Household	One or more persons, related or unrelated, who make common provision for food and regularly take their food from the same pot and/ or share the same grain store (nkhokwe) or pool income for the purchase of food (Digby, 2000:8).
Smallholder	A person who cultivates customary land within the section and derives his/ her livelihood from smallholder agriculture (Digby, 2000:8).
Urban	In Malawi, urban areas include the four major cities of Lilongwe, Blantyre, Zomba and Mzuzu, and gazetted townships like Luchenza and Liwonde. Bomas or administrative centres, for example, Thyolo and Ntcheu belong to this category (NSO, 1998).
Rural	Rural areas by official classification comprise those parts of Malawi that are not urban (NSO, 1998).

CHAPTER ONE : INTRODUCTION

1.0 INTRODUCTION

This chapter provides background information on the benefits of safe water supply to human health. It further describes the challenges that the Malawi Government faces in its attempts to ensure that people in rural communities have improved access to safe water. Then, the chapter presents the problem statement, limitations of the study, its significance, research objectives and the hypotheses.

1.1 BACKGROUND TO THE STUDY

Water is the essence of life, and the provision of safe water is essential for the well-being of humankind and for sustainable development (Jabu, 2005 :1; Porto, 2004: 2, 7). The provision of adequate water and sanitation are important in improving living conditions and ensuring health, educational opportunities, gender equality and social inclusion. Increased access to water and sanitation create improvements in people's health through better hygiene, improved water quality and sanitation (Water and Sanitation Program, 2003). Furthermore, increased access to potable water and sanitation have an indirect positive effect on educational opportunities, gender equity and women empowerment. For example, Government of Malawi and UNICEF (2002) and DFID (2002) demonstrate that school enrolment of girls increases with the provision of latrines in schools. Similarly, easy access to safe water sources frees women from spending a lot of time on drawing and carrying water home. Unfortunately, research has shown that in rural Africa as much as 25 percent of household time is estimated to be spent on fetching water. The provision of safe water closer to households would substantially reduce time spent on fetching water and drudgery. Ultimately the time and energy saved would be used for other productive activities like agriculture and other income earning opportunities that might help the poor in rural areas improve household nutrition (DFID, 2002; Cairncross and Valdimanis, 2006: 771).

Safe water and sanitation too are known to underpin economic growth and environmental sustainability (Water and Sanitation Program, 2003:3; Amenga-Etego, 1994). Therefore, whenever water is easily accessible, people may gain income benefits (for both households

and government) due to reduction in cost of health treatment and gains in productivity. Thus productivity gains would stem from time that a community saves from collecting water, the availability of water as an input to the productive sector, and a decline in water and sanitation related illnesses like cholera. The World Health Organization (WHO) cited in Jabu (2005:1), observe that diarrhoea remains the major killer in children aged under five. Estimates show that 80 per cent of all illnesses in the developing world are related to water and sanitation. While reporting on the association between safe water supply and illness, DFID (2002) has shown that provision of safe water and basic sanitation combined with proper hygiene practices can reduce incidences of diarrhoea by about 25 per cent.

1.1.1 Overview of Rural Water Supply Sector in Malawi

The Government of Malawi recognised the importance of supplying safe water to communities from as early as the 1930s. In spite of the fact that the water sector in Malawi received increased financial support and investment during the United Nations Water Decade (the International Drinking Water Supply and Sanitation Decade or IDWSSD) of 1980 to 1990 many people in the rural areas still lack access to safe water supply. Another concern with the decade was that despite the many investments that many stakeholders made in the sector, the water services had not been sustainable (COMWASH, 2003). In general, the failure to sustain water delivery facilities is reported to be the result of lack of or inadequate effective participation from the users. In other words, effective participation in rural water supply is critical to project sustainability. Sustainability in this study should be understood as the project's capacity to maintain an acceptable level of services throughout the design life of a water supply system (Sara and Katz, 1997:30; Prokopy, 2005).

The need to achieve sustainable management of water supply comes with government's recognition that access to safe drinking water is one of the basic human rights. Unfortunately, Malawi Government's goal to provide safe drinking water in right quantities and acceptable quality to all citizens is limited largely by financial constraints. Therefore, government's supply-driven approach to water supply has proved costly since new investments have even been made in sites which had previously received safe water supply but had failed because of poor community involvement (COMWASH, 2003:8). Indeed, Government of Malawi and UNDP (2003) have demonstrated that access to safe drinking water available within 1 km (without mentioning the international standard recommendation of a maximum of 250 people per water-point and a maximum walking distance of 0.5km) had not changed much since

1990. In 1985 for instance, about 47 per cent of the rural population and 85 per cent of the urban population (the equivalence of 52 per cent of the entire population) had access to safe drinking water in Malawi. In 1992, access to safe drinking water especially in the rural areas was lower than in 1985, but in 2000, the average increased to 62 per cent. Currently, there are about 15 287 hand pumps, which are sufficient to serve 4 million people. In addition to hand pumps, the country has 56 rural gravity-piped water supply schemes with over 10 000 taps that would reach some more 1.2 million people. However, any hope for safe water supply to communities in these schemes is impeded. Estimates show that about 40 per cent of these taps are not functional, which means that the number of people served under this scheme could be less than what government anticipates (GOM and UNDP, 2003).

Similarly, with regard to overall access to safe water supply, Malawi Government and UNICEF (2001) report that approximately 30 per cent of all water systems are out of action and that it takes about 10 days to fix facilities. This, in effect increases the coverage gap by as much as 15 per cent. As a result, whenever facilities break down communities resort to fetching water from unsafe sources such as rivers or open hand-dug wells.

Emerging out of the UN Water Decade and the current challenges to improve coverage, the Malawi Government through the Ministry of Irrigation and Water Development began to encourage community-based management (CBM) of water supply in rural areas. In order to make this a reality, the Ministry revised its Water Development Policy in 2003. Currently, it is advocating a demand-responsive approach (DRA) to rural water supply (COMWASH, 2003:8). Demand-responsive approach refers to projects that allow consumer demand to determine major investment decisions. Alternatively, a project is demand-responsive (demand-driven) to the extent that it allows beneficiaries to make choices and commit resources in support of these choices (Sara and Katz, 1997; Wienecke, 2005). The approach is a shift from the government-led, supply-driven approach of the 1980s. DRA aims at providing greater choice for users and encouraging more responsible approaches to financing; to the extent that in some projects such as Malawi Social Action Fund (MASAF) beneficiaries control project funds. For instance, external agencies give communities through their elected local management committees the responsibility of managing project bank accounts, and contracting and supervising contractors. In general, the DRA has four overarching principles. Firstly, it recognizes that water should be managed as an economic as well as a social good. Secondly, the approach demands that management of rural water

supply services should be focused at the lowest appropriate level like a village. Thirdly, DRA expects that for users to make informed choices interventions must take a holistic approach to use of water resources; and finally, women should play a key role in the management of water supply (UNDP-World Bank WSP, 1998: 6; DFID, 2002). These principles are derived from the five Dublin Principles, which also guide the Integrated Water Resources Management (IWRM) whose aim is to ensure a coordinated development of water, land and related resources. The DRA uses the same principles but reduced to four whose to make water supply initiatives to address the users' needs.

In Malawi, the Malawi Social Action Fund (MASAF) and the Community Water Sanitation and Health (COMWASH) Project are examples of some of the initiatives that have attempted to adopt the DRA in their activities. MASAF is a social fund that was established in 1995 as part of meeting Government's objective of Poverty Alleviation through financing of self-help community projects and making cash transfers in safety net activities (GOM, 2003). MASAF (2003) indicates that the fund uses DRA in Community Sub-Projects (CSP), which involves financing of socio-economic infrastructure like water supply and classroom blocks. To ensure DRA in projects, MASAF sensitizes communities about its objectives and working principles of the CSP, its eligibility and funding criteria. Sensitization aims at allowing beneficiaries to exercise choice in the type of project activity that addresses priority needs in the community. In addition, the project requests communities to make contributions towards its implementation. MASAF is working towards empowering beneficiary communities further by letting them handle finances for works procurement especially in the MASAF III (GOM, 2003). The rationale for emphasizing that interventions meet priority needs as perceived by the communities was to come up with community infrastructure assets, a sense of control and ownership and increased chances of sustainability of both the assets and the residual empowerment of the beneficiaries to manage their own development.

Similarly, COMWASH is implementing its initiatives using the DRA as its empowerment and sustainability tool. The project, which is funded by the Canadian International Development Agency (CIDA) is piloting a community-based management (CBM) approach of water resources in Thyolo and Phalombe Districts in southern Malawi (COMWASH, 2003). COMWASH Project's objective is to strengthen national, district and community capacity to implement sustainable water, sanitation and health programs through gender-sensitive and demand-responsive approaches. The project whose implementation began in

2001 has drilled boreholes, constructed and rehabilitated a number of gravity-fed water supply schemes in both districts (COMWASH, 2003: 9). In its attempt to encourage demand-responsiveness to water supply delivery, the project requests each user village to make upfront cash contributions of about MK2 300. Part of this money (MK1 400) goes into the purchase of cement, and the remainder is put into a bank account for future operation and maintenance. COMWASH's DRA operationalization slightly differs from that of MASAF. According to the District Water Officer for Phalombe, local committees leave the control of project funds to the project staff and the District Assemblies until such a time when the beneficiaries shall have capacity to handle funds (Songola, personal communication, December 2005).

1.1.2 Problem Statement

In the past decade a number studies have evaluated the association between community participation and project outcomes in general and in particular water supply sustainability in the developing world and Malawi. However, little is known about the relationship between DRA to rural water supply in the country because even in the Ministry of Irrigation and Water Development the concept is relatively new. It came with the revision of the Water Development Policy in 2003 (COMWASH, 2003:8). Kleeimer's (2000) study on assessment of the impact of participation on sustainability of piped water schemes in Malawi though instructive about the importance of local control is limited in that it looked at schemes that government implemented in the pre-democracy period when choice was not available in state-led supply-driven approach.

Another problem is that studies dealing with demand have focused on urban water supply; particularly the question of assessing willingness to pay for improved water and sanitation services in small towns and peri-urban areas (Nakhwema, 2002; Kalua, 2000). The provision of safe water in rural areas has often failed to consider the idea of demand because of the deepening poverty affecting over 60 per cent of that population. For instance, Porto (2004: 14) indicate that rural poverty and public health concerns have led governments in the past to construct facilities with little involvement of the users. Consequently, government investment in the sector has failed to address community's priorities because it has not given beneficiaries an opportunity to express their demand for improved services. Therefore, since rural water supply in many circumstances has been implemented without consideration for

users' expression of choice, communities' commitment to sustain facilities has been limited. For that reason, the current study attempts to understand that association by comparing MASAF and COMWASH water projects. The comparison is made because although both agencies use the demand-driven approach they differ in their conceptualization on the definition of water user demand. For example, MASAF requires beneficiaries to make in kind contributions while COMWASH requests users to contribute in kind and in cash.

Furthermore, the global community acknowledges that despite decades of development assistance one billion people lack access to safe drinking water hence the call for countries to address the issue through the Millennium Development Goals (MDG). One of the goals in the MDG is to halve the proportion people living without access to safe drinking water by 2015. Thus if Malawi Government is to achieve that goal, it must ensure that the established facilities are sustainable. Since the demand-driven process is known to be associated with sustainable water service provision, it has the potential to improve the country's prospects of contributing towards reaching the targets set in the MDG.

1.1.3 Limitations of the Study

In this study it is assumed that DRA enhances project sustainability in the sites where COMWASH and MASAF are implementing interventions. Firstly, due to financial resources and time constraints the study failed to conduct technical assessments of water services in terms of construction quality and functionality. Technical soundness of structures is known to play a critical role to ensure that facilities are sustainable because poorly built structures are likely to fail even before beneficiaries experience the benefits. The World Bank (2002) has cited examples of structures built with social fund support in Malawi, Zambia, the Caribbean and other countries in Asia where some facilities were poorly constructed and needed repair even before reaching their design life.

Secondly, the study only covers Thyolo District such that results from that area may not be generalized to other districts in Malawi. The study could not cover other areas due to limited financial resources and time constraints. As such, a comparative study involving, for instance, three or four districts from each of the country's three (3) administrative regions would provide a clearer picture of the relationship between DRA and sustainability for the country as a whole.

Lastly, the two months period (June to July 2006) that the study covers may be inadequate to provide a deep understanding of local dynamics considering that several factors affect people's response to events in society. Changes in institutions like the operations of the local assemblies may influence the extent to which communities express their understanding of democracy in participatory development as the DRA hypothesizes. In addition, coordination of project activities has an impact on the way people appreciate implementation strategies that development agencies employ, such that conflicting approaches that agencies apply in the same localities tend to affect sustainability. Rall (2001) shows that in South Africa, communities have ended up becoming suspicious of projects that require communities to indicate willingness to pay since they (the communities) are used to government interventions that rarely request community involvement. Similarly, in this study, the issue of coordination of implementation approaches is crucial to sustainability, and as pointed out by COMWASH (2003) it is a challenge in Malawi.

However, despite these limitations the study was worth undertaking because it contributes to the dialogue on exploring the relationship between water user participation and sustainability of water supply in Malawi where it is new. While similar studies have been conducted in other countries such as India, Indonesia and the Caribbean little is known about DRA in Malawi. Therefore, the study will help bring to the fore the association between higher-level community involvement and sustainability through the investigation of local interventions that have adopted the DRA. The study too will help policy-makers understand issues guiding water user demand among the rural poor. More significantly, it will also increase the potential of Government of Malawi to achieve the MDG in water supply.

1.1.4 Significance of the Study

As indicated, safe water supply is important to improving people's living standards and the dangers that people (especially the poor and rural dwellers) face in the absence of this resource. Unlike in the urban areas where water supply provision is the responsibility of state-owned enterprises (the water boards), in rural areas it is the responsibility of the consumer and government to ensure that there is adequate and quality water. In an attempt to free itself from the responsibility of operating and maintaining rural water supply, government with the support of donor agencies is working hard to empower water users to own and manage water supply. Although other approaches have failed as was the case with

the experience of the IDWSSD in the 1980s and 1990s, development agencies are making efforts to achieve sustainability through approaches like the DRA or community-driven development (CDD). Therefore, this study is quite significant particularly in Malawi where many water supply interventions have not been sustainable resulting in the poor coverage and continued suffering of the poor rural communities. Thus the study will assist to reveal the potential benefits of the DRA in the country's development efforts in the water sector.

1.1.5 Expected Outputs

Recently, many discussions on participation and sustainability have supported the idea that DRA is a potentially useful tool to empower rural communities to own and manage projects. In Malawi, the MASAF and CIDA are some of the organizations promoting the DRA in their attempt to make water users sustain water supply services. Since the study targets projects that are conceptualized using the DRA the results that are obtained are expected to support the hypotheses. It is also expected that consumers' control of investment decisions in both MASAF and COMWASH projects will enhance the beneficiaries' perception of their role as partners rather than passive recipients of development aid. Specific tangible outputs include: this MA thesis, a discussion paper to be presented to MASAF and another paper to be published in the Malawi Journal of the Social Sciences.

1.1.6 Research Objectives

The overall goal of the research is to assess whether the demand-responsive approach (DRA) is associated with sustainability of water supply services.

Specifically, the study pursued the following objectives:

- i. To examine the extent to which each of the projects allows communities to express their demand for improved water services;
- ii. To investigate the association between the involvement of households in decision making in projects and user satisfaction of the water supply service;
- iii. To find out if there is any relationship between households' contribution towards construction and post-implementation contributions for operation and maintenance of water supply facilities;
- iv. To assess the capacity (training and financial management) of water committees to ensure successful service delivery; and

- v. To investigate the role of external development agencies in implementing demand-driven interventions.

1.1.7 Research Hypotheses

If sustainability of a water supply system is associated with a project's ability to respond to consumers' demand then communities that are offered an opportunity to express their demand for improved services and how much they would be expected to pay for those services should sustain their water supply. Therefore, the general hypothesis in this study is that water projects that take a more demand-responsive approach to service provision are more likely to be sustainable than those that are less responsive to demand. In this study, the following alternative hypotheses will be tested:

- i. Households' involvement in decision-making in projects is associated with consumer satisfaction;
- ii. There is association between household contributions towards construction of water services and the community's ability to contribute to future operation and maintenance of established water facilities;
- iii. Community participation in project identification is associated with consumer's willingness to take responsibility and ownership of established water supply facilities.

Past experience in the rural water supply sector has indicated that interventions that disregarded the users' involvement generally have been unsustainable. Therefore, if the interventions in the current study fail to address the beneficiaries' input in the various decisions, they would have little or no commitment or willingness to organize local initiative to support the services' O&M activities.

1.2 ORGANIZATION OF THESIS

This thesis is divided into five chapters. Chapter 1 presents background information to the problem under inquiry. It briefly outlines the importance of access to safe water by rural communities. The same chapter presents the problem statement and objectives of the study. Chapter 2 reviews the literature on rural water supply. Furthermore, it goes on to review the concepts and theories relating to demand-driven and community-driven development in association with sustainability. Key principles relating to demand-driven projects are outlined

to act as a guide for analyzing the conceptualization and operationalization of the concepts in this thesis.

Chapter 3 describes the research methodology. The first part provides a brief description of the study site while the second part presents sampling, data collection and data analysis techniques. Chapter 4 is a presentation and discussion on the characteristics of the respondents study. Based on the study findings too chapters 5 and six present and discuss the MASAFand COMWASH water projects respectively. In chapter 7 the thesis compares the two case studies. Finally, the research results and discussions are summarized in chapter 8. At the end of the chapter, the thesis makes recommendations on the application of demand-driven development in the water sector in Thyolo District.

CHAPTER TWO : LITERATURE REVIEW

2.0 INTRODUCTION

This chapter contains a discussion of the theoretical and empirical literature on the Demand Responsive Approach (DRA) and its relationship with sustainability in rural water supply interventions. At the end of the chapter, the paper explains the way MASAF and COMWASH conceptualize the DRA principles in the water supply projects they support to implement in rural communities.

2.1 The Demand-Responsive Approach (DRA) in Theoretical Perspective

The Demand-Responsive Approach (DRA) and its corollary, which the World Bank calls community-driven development (CDD) have their origin within the theory of participation. Worth noting in the discussion of these concepts is that they are dominant in poverty reduction strategies where the focus is to look at the poor as partners in development. For instance, in social funds like the MASAF, success of interventions is presumed to depend on the ability of the community in defining investment principles. Wienecke (2005) defines CDD as giving “control of decisions and resources to community groups”. Similarly, the DRA is aimed at allowing communities to make informed decisions about the level of service they want so that they play a leading role in selecting and employing various resources in projects (Sara and Katz, 1997:6). In the next section that follows the paper reviews the theory of participation, which underpins the tenets of the DRA and CDD concepts.

Essentially, the theory of participation traces its origin to the perceived failure of previous technocratic and top-down development initiatives as indicated in the introductory chapter. Although the term (participation) tends to present a number of difficulties in attempting to define what it is, participation apparently has three basic strands. Firstly, participation entails the active involvement of beneficiaries in identifying, planning, implementing, managing and evaluating projects. Secondly, according to Rifkin as cited in Dulani (2003), participation implies “the right and responsibility of people to make choices and therefore, explicitly or implicitly, to have power over decisions that affect their lives”. Finally, the concept requires that there exist opportunities for making local people’s choices effective. Concisely, participation could be understood or defined as “the active involvement of local communities in development initiatives, where specified groups, sharing the same interests or living in a

defined geographic location, actively pursue the identification of their needs and establish mechanisms to make their choice effective” (Dulani, 2003).

The ideals of participation as indicated in the definition are an expression that beneficiaries other than being viewed as passive recipients of development benefits should be looked at as assets and partners in development (Bamberger, 1991). Many development agencies are propagating participation in development projects for various reasons. Among them is the idea that participation helps in resource mobilization in the form of labour, materials, or money from the beneficiaries (Bamberger, 1991:282). The most cited benefit of participation is that it enhances the likelihood of sustainability. Furthermore, the World Bank recognizes that projects tend to be more sustainable and yield higher returns when they involve intended beneficiaries (Wienecke, 2005:22).

Generally, the demand-responsive approach or community-driven development as espoused by the UNDP-World Bank Water and Sanitation Program and the World Bank respectively are derived from the participation discourse. According to Breslin (2003: 2), although DRA and CDD are different in name and place different emphasis on for instance, beneficiary control of finances in projects both would like to achieve an informed and empowered beneficiary that is able to sustain interventions once the funding agency pulls out. In addition, the emergence of these concepts comes about because participation may take many forms and varying degrees ranging from passive to self-mobilization¹. In particular, a close examination of the ideas that DRA and CDD emphasize such as informed choice and local ownership of project funds (Wienecke, 2005:23; UNDP-World Bank Water and Sanitation Program, 1998:6-8), fit within typology number six (6) in Pimbert and Pretty’s *Participation Ladder*. According to that typology, people participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones (Dulani, 2003:5). Thus participation is a right, and not just a means to achieve project goals. In the end, it is expected that institutions that the project creates will take control over local decisions, and so people have a stake in maintaining structures.

¹ Pimbert and Pretty (1995), provide an explanation on the participation ladder of seven (7) rungs.

2.2 Challenges in the Water Supply and Sanitation Sector

McGarry (1991) and Warner (1991) argue that the issue of involving beneficiary communities in provision of rural water supply came to the fore because of the failures to sustain facilities during the IDWSSD of 1980 to 1990. Initially, the provision of safe water took an engineering approach that relied on technology and strict control of inputs and outputs. As a result, agencies devoted their efforts to the development of new hand pumps and water treatment processes with little attention to whether the systems functioned as designed or whether people used them. Consequently, although the Decade and its ‘hardware’ approach increased numbers of people with access to safe water it failed to meet one of its goals called ‘safe water and sanitation for all’.

Failures of the hardware, engineering or the supply-driven approach to safe water supply made agencies in the water and sanitation sector to become sensitive to the key roles that women, community leaders and other stakeholders could play to achieve sustainable projects (McGarry, 1991: 138; Warner, 1991; Rondinelli, 1991, International Water and Sanitation Center, 2001). Beyond the IDWSSD, the need to involve communities is further stressed in the Dublin Statement on “Water and Sanitation Development of 1992” where participants to the conference agreed that water development and management should be based on “a participatory approach, involving users, planners and policy makers at all levels.” In essence, the idea was to achieve sustainable water, which too became of paramount importance at the Earth Summit in Rio de Janeiro in June 1992 (International Water and Sanitation Center, 2001). At that summit meeting, world leaders committed themselves to a comprehensive programme to provide sustainable water supply and sanitation services to the hundreds of millions of people who lacked them. In order to show the importance of participation to sustainability, the World Bank too and later the Water and Sanitation Program developed the demand responsive approach. According to the International Water and Sanitation Center, the DRA was ideally developed to operationalize community management in rural water supply.

The Government of Malawi (1995:29) indicates that the problems of sustaining services in Malawi did not only affect the international agencies in the water sector. It is argued that government placed “too much emphasis on the so called village operation and maintenance (VLOM) like the Africa Development (AFRIDEV) hand pump, which gave planners the impression that a perfect ‘hardware’ would relieve them of the responsibility of

maintenance”. Unfortunately, over-reliance on perfect ‘hardware’ led to the rapid deterioration of many systems because government ignored operation and maintenance. As a result, water supply to rural populations declined. With coverage of 58 per cent for rural Malawi in 1995, the number of out of operation, malfunctioning, and/or dry facilities, service dropped to about 25 per cent. Therefore, only 43 per cent of the rural population had access to potable water supply on the government’s basis for standard consumption of 27 litres/capita/day at a distance of 0.5 km from water-point (GOM, 1995: 8). Moreover, when the distance is increased to 1.0 km the figure only goes up to 50 per cent indicating that access to potable water in the country still remains a challenge if issues of sustainability are not adequately addressed (GOM, CIDA & UNDP-World Bank, 1998:1; GOM & UNICEF, 2001:13).

Many studies including the ones that this paper cites assume that projects that adopt a participatory or demand-responsive approach ensure that everyone in the community participates. In practice that may not be the experience. Mansuri and Rao (2004) argue that even well-trained project facilitators are not always effective in overcoming entrenched norms of exclusion. In a study of community forestry in India and Nepal, it is reported that “women were systematically excluded from the participatory process because of their weak bargaining” (Mansuri and Rao 2004, World Bank, 2002). Furthermore, in other studies such as the evaluation of social funds in Jamaica, Nicaragua, Zambia and Malawi, wealthier and better-networked individuals or what the World Bank call ‘prime movers’ dominate the decision-making process (Mansuri and Rao 2004: 23). However, elite domination of development projects decision-making is known to be inevitable particularly in rural areas, where the elite are often leaders who embody moral and political authority. That should be the case because they are the ones who can effectively communicate with outsiders, read project documents, keep accounts and records, and write proposals. In the end, elite domination may, however, be in conflict with the broad-based democratic participation that the advocates of DRA or CDD envision. Mansuri and Rao (2004), argue that wider community awareness that the elite dominate and form project rules to which the beneficiaries have to abide may discourage other people’s participation in the project. Therefore, the association between participation and sustainability may fail to establish the causal direction.

In some studies, programs that emphasize the centrality of local communities have been criticized for assuming that communities choose the type of projects to implement. Wienecke (2005), argues that although beneficiaries take control of the decision-making process, project costs and implementation, and the management of environmental resources, the participation concept is not an entirely grassroots effort. Quite often, beneficiary communities may drive the process, but they may receive support from other actors, including local government, the private sector, civil society and central government. Moreover, the process cannot be truly 'community' or 'demand-driven' since an outside agency like CIDA or World Bank assists in the process at the request of the governments of member states, not at the request of community-based organizations (CBOs) like village development committees (Wienecke, 2005).

As for the case of MASAF in Malawi, it should be noted that MASAF was conceived by the Malawi Government in 1995 as a poverty alleviation instrument in the Poverty Alleviation Program (PAP) Framework, whose aim is to empower the poor in national development (GOM, 2003). In an attempt to achieve that objective, the Malawi Government negotiated for and obtained funds from the World Bank to finance the MASAF to whom government must account for the funds. In view of this scenario, this paper attempted to demonstrate that community-driven development or the demand-driven approach in rural projects does not always start from the ground up (Wienecke, 2005). In this example, the irony is that the choice to use CDD or DRA in Malawi and Thyolo in particular was not made by local people. Rather, the World Bank or CIDA made the choice through MASAF and the Ministry of Water Development respectively, with the collaboration of high-ranking government officials (Wienecke 2005: 28, Miraftab, 2003: 229-230). Miraftab (2003) and Wienecke (2005) argue that a participatory process must be conceived at the community level if it is to be defined as being community-driven. Therefore, 'once participation is institutionalized, that is, mainstreamed and required by the government bureaucracy, the conception of the process lies outside the community realm and loses its original meaning and effect.'

CHAPTER THREE : METHODOLOGY

3.1 INTRODUCTION

The chapter discusses the methods that the study used. Firstly, it describes the study sites, the rationale for choosing them and the process of selecting the two TAs. Secondly, it presents sample size and sampling procedures when identifying respondents for the study. Thirdly, the chapter describes the data collection methods including the number of participants in each technique the research adopted. It finally presents the data analysis methods that were used to fulfill the research objectives.

3.1.1 Description of Study Site

The study was conducted in Thyolo District, which is one of the 13 administrative districts in the southern region of Malawi (Appendix 5). Thyolo District was chosen as a study site unlike any other district in the country a number of reasons. Firstly, the district was selected because it has some of the most recent water supply projects that have implemented using the demand-driven approach, which MASAF and COMWASH are supporting. Secondly, although the district is the third most populated districts in the country after Chiradzulu and Blantyre it has a lower water coverage at both national and regional level. For example, NSO (2002) shows that Thyolo District has an average coverage of 51.1 percent compared to that for the whole country at 66.5 percent and that for the southern region at 73.9 percent. Finally, the site was chosen because it is close to Chancellor College such that the research could reduce traveling costs to and from the study area.

Specifically, the study was carried out in two areas namely: Traditional Authority (TA) Bvumbwe and Sub-Traditional Authority (STA) Mphuka. In order to identify the study sites key informants from Thyolo District Assembly and the District Water Development were requested to identify the areas, which were predominantly supported by MASAF and those by COMWASH. The research focused on rural areas because they tend to have the lowest access to water supply, and are therefore likely to be affected by water-related issues (GOM and UNDP, 2003). A list of 11 TAs and STAs was compiled but categorized according to

funding agency, that is, MASAF or COMWASH. Using simple random sampling one TA was drawn from each of the two categories.

3.2 SAMPLE SIZE AND SAMPLING METHODS

The study adopted a multistage sampling technique in selecting subjects for both village level and household investigation. The sampling frame for this study included all project villages (MASAF or COMWASH supported) that had been in their operation and maintenance stage from the year 2000 to 2005 that is about five years. The researcher chose this period because it was considered to be long enough to gain an understanding of water users' attitudes and practices regarding issues of operation and maintenance of water supply services. In addition, it was felt that in a period of five years most of the people who participated in the projects would be available and remember the role that they played in realizing the interventions. Since the water points that these external agencies have supported are scattered across the district two Traditional Authorities or TAs were randomly selected. That is, one which was mainly supported by MASAF and another by COMWASH projects namely: TA Bvumbwe and STA Mphuka respectively. It was from each of these TAs that villages were selected using a table of random numbers. Ten villages were thus selected for administration of the household questionnaire.

When planning for administration of the household questionnaire, 240 households (106 from TA Bvumbwe and 134 from STA Mphuka) were interviewed. The procedure to determine the total number of households to interview was based on time and financial constraints. This study made comparisons between these two projects because both rely on target communities' demand when funding development interventions. Moreover, MASAF who funded the research were interested in drawing some policy lessons from the COMWASH projects particularly on the best practices in supporting communities with the construction of gravity-fed water supply schemes. However, the determination of the number of sample households for each village was reached by using proportional sampling technique (Table 1).

Table 1: Number of households sampled by village

TA/ Village	Number of Households	Population		Total	Sample Size
		Male	Female		
Chimbalanga	88	169	188	357	11
Chinkwende	272	521	581	1102	35
Mpaso	104	184	217	401	14
Dzungu 2	282	558	624	1182	36
Dzungu 3	61	137	138	275	10
BVUMBWE (MASAF)	807	1569	1748	3317	106
Chikunkhu	488	890	959	1849	63
Mphera	211	470	487	957	27
Mpino	226	425	424	849	28
Liphama	7	9	12	21	2
Nsewa	109	176	192	368	14
MPHUKA (COMWASH)	1041	1970	2074	4044	134
TOTAL	1848	3539	3822	7361	240

Source: NSO, 1998 Malawi Population and Housing Census, (unpublished)

With due consideration on terrain and settlement patterns in the study sites, a sampling interval of four was predetermined between households due to time and financial constraints. Through the guidance of village heads, we initially identified the centre of the village to establish a starting point (household) to ensure that subjects are randomly selected. Whenever, the interviewer could not find a respondent at a set interval, the next household was chosen for the interview. Thus, the process continued to the rest of the households until the sample number was achieved.

In addition to administering questionnaires to households, 12 separate key informant interviews were conducted with purposively selected committee members, village headmen (3 in each of the TAs) and 6 with technical personnel directly involved in rural water supply issues.

Furthermore, in order to triangulate or crosscheck results among individuals or groups 6 focus group discussions (FGDs) were conducted with user committees. These were selected

purposively on the basis that they were familiar with water supply projects implementation and management issues. Both the survey methods and design were arrived at with the assumption that those study subjects were conversant with issues relating to management of water supply services in their respective areas of operation.

3.3 DATA COLLECTION METHODS

In this study, data were collected from various sources. For example, it conducted household interviews to collect quantitative data. The study also engaged people in focus group discussions and key informant interviews to get qualitative data to support the explanation of behaviour of quantitative findings.

3.3.1 Household Interviews

Household interviews were conducted in TAs Bvumbwe and Mphuka of Thyolo District. The exercise targeted two hundred and forty (240) household heads (male or female) in the study villages who were knowledgeable about participation in water supply and sanitation. In order to obtain less biased interviews, respondents were requested to answer a semi-structured questionnaire that contained both closed-ended and open-ended questions. For instance, the questionnaire had questions regarding the respondent's socio-economic status, previous participation in the project, awareness of the village water attendants or committees, perception of the water services performance and contributions towards operations and maintenance (Appendix 1). Through these face to face interviews, respondents were able to provide spontaneous answers. Besides, whenever the interviewer felt that the response(s) given was inadequate, he had an opportunity to request the respondent to clarify through probing for explanations to answers.

Interviewers were also able to solicit reliable responses because they had experience in both data collection and working with rural communities. Apart from experience, the researcher employed candidates whose minimum qualification was the Malawi School Certificate of Education (MSCE). To ensure quality data, the interviewers were trained in basic data collection skills like how to approach a respondent, beginning an interview, motivating a respondent to rapport and ending the interview. Interviewers were offered an opportunity to have a feel of the study tools but also to refine the instruments (qualitative and quantitative) through a field pre-test. The data collection exercise occurred in mid-June 2006. This period

was chosen because it is the time when most people in area have less work in the field than other times of the year.

3.3.2 Key Informant Interviews

Key informant interviews were another tool that the study used to generate qualitative data. In this study, we identified key informants as those individuals who have specific characteristics pertaining to water supply and sanitation. Therefore, individual water committee members, village headmen, district assembly officials (the secretariat and the Ministry of Irrigation and Water Development) including those people from supporting agencies namely: MASAF and COMWASH were purposively selected. In order to ensure gender equality in the process, both male (8) and female (4) informants (Appendix 3 and 4) were included.

Generally, these informants provided valuable information on issues of user participation at grassroots level from a technical or practical point of view. For instance, the study requested water committee members to indicate how the community came up with the idea of the projects, what they contributed and how they collaborated with the rest of the members of the village and extension staff. However, key informants that we identified from external agencies provided information regarding the technical explanation of the DRA and the prospects of sustaining the water services. The interviews were conducted in July 2006.

3.3.3 Focus Group Discussions (FGDs)

Focus Group Discussions in this study were conducted with leaders of water committees. Six FGDs were held to generate qualitative data, 3 in MASAF and another 3 in COMWASH project village (Table 2). Issues of discussion included themes like project identification at local grassroots level, forms of participation throughout the project cycle and operation and maintenance practices in the target village (Appendix 2). While MASAF supported villages had only one level of committee (the water-point committee), the COMWASH assisted villages had three levels (water-point, section and caretakers). Including a member of the other committees was felt necessary because they deal with challenges, which have a bearing on the operation of systems even at the water-point or tap committee level. In essence smooth running of the taps require that higher committees have the capacity to work on components like tanks or line valves, which if not properly managed may cause water problems in terms

of quantity or quality. For instance, failure to remove debris from screening tanks may cause blockage to water flow resulting in dry taps downstream.

By its nature, the FGD provides an opportunity to the researcher to interact with all members, record non-verbal behaviour besides allowing participants to interact among themselves. Therefore, the informal interactions accord them the liberty to express their views as a group as well as observing agreements, disagreements and consensus.

Table 2: Number of participants in focus group discussions by community and gender

Community	Male		Female		Total
BVUMBWE(MASAF)	n	%	n	%	n
Dzungu 2	2	25	6	75	8
Dzungu 3	2	22	7	78	9
Chinkwende	4	40	6	60	10
MPHUKA(COMWASH)					
Chikunkhu	3	25	9	75	12
Mphera	2	18	9	82	11
Liphama	2	33	4	67	6

3.4 DATA ANALYSIS

3.4.1 Household Survey Data

Quantitative data from the household interviews were analyzed statistically. Responses from the interviews were coded and analyzed using the Statistical Package for Social Scientists (SPSS) software program, to come up with descriptive statistics such as frequencies, crosstabulations, mean and range. The study uses these (statistics) to describe the characteristics of the sample population and people's participation in the project village. The study also uses graphics to assist the reader in grasping the information faster than when it is in a table or numbers (Babbie, Halley and Zaino 2003: 106). Furthermore, inferential statistics for instance were employed to reach more general conclusions about the study population and therefore go beyond the available data.

3.4.2 Qualitative Data

Qualitative data from FGDs and key informant interviews were analyzed by developing themes from emerging issues. The study used these themes to explain the findings from the household survey as well as existing theories, concepts and knowledge regarding the demand-responsive approach (DRA).

CHAPTER FOUR : SOCIO-ECONOMIC CHARACTERISTICS OF RESPONDENTS

4.0 INTRODUCTION

This chapter describes the socio-economic characteristics of the respondents in TA Bvumbwe and STA Mphuka of Thyolo District in southern Malawi. For example, it discusses the sex, marital status and the age of respondents in the study sites. Furthermore, it describes the respondents' education attainment, occupation of the household head and household size. Finally, the chapter discusses the respondent's household assets such as livestock and the radio as a measure of the household's economic status.

4.1 SOCIO-ECONOMIC CHARACTERISTICS

4.1.1 Sex, Marital Status and Age of Respondents

The study results show that more than half of the respondents, both in MASAF (72.6%) and in COMWASH (64.2) were females. However, males were reasonably represented in the sample, and constituted about 32 percent (n=240) of all respondents. In general, many of the households that were approached expressed the feeling that women were in a better position to recall issues in water supply than men (Table 3). The explanation they gave was that women dominate the collection and use of water (Cairncross and Valdmanis, 2004) and Rodda (1991: 51-52). It is reported for example that even non-governmental organizations (NGOs) accept that women generally are responsible for collecting water.

Table 3: Sex of the respondents by area

Sex	MASAF (n=106)	COMWASH (n=134)	Total (n=240)
Male	27.4	35.8	32.1
Female	72.6	64.2	67.9
Total	100.0	100.0	100.0

As for marital status, most of the heads of households in both case studies were married (Figure 5). In this study sample too, the ages of respondents ranged from 16 (minimum) to 76 (maximum) with a mean of 38.8 years. However, over 50 percent of the respondents were of

the middle age group (30-51 years). Therefore, this means that a high proportion of the population was economically active. Moreover, individuals aged over 68 years (NSO, 2000) account for only 3.7 percent similarly supporting the observation that most of the respondents 96.3 percent (n=240) are economically active. Most of these respondents would therefore be able to engage in gainful economic activities, which help them earn incomes to access many commodities including contributing cash towards O&M of water supply services.

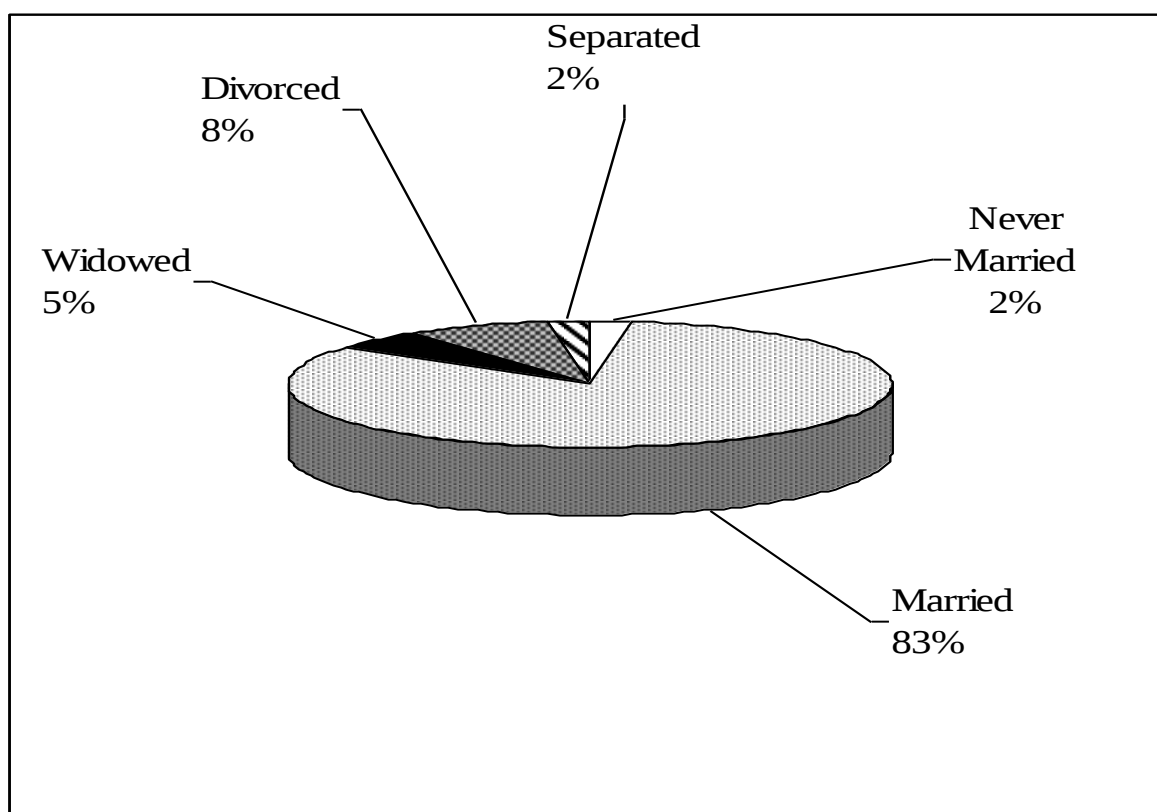


Figure 1: Marital status of household heads

4.1.2 Education of Respondents

The results showed that about 82.0 percent and 73.0 percent of the respondents in the MASAF and COMWASH sites respectively had attained some education. The results in this study indicate that the majority, about 65 percent of the respondents (n=240) had at least attended primary education, 12.0 percent had done secondary education, 0.4 percent had attended tertiary education while 23 percent had never attended school (Figure 6). The 1998 Malawi Population and Housing Census defines literate persons as those people attending school up to primary school standard four (4) (NSO, 2000). Considering this definition of literacy, results in the study show that the study population has lower literacy rate (48.0 percent) compared to the national census figure of 58 percent. Noteworthy in this study too is

that like in the national census, males (61.0 percent) tend to register higher education attainment than females (36.0 percent). In 1998, 64 percent of males and 51 percent of females were found to be literate in that year. Since some of the activities in water supply involve beneficiaries to prepare project proposals encouraging literate members of communities to participate in committee activities is would assist them reach informed decisions.

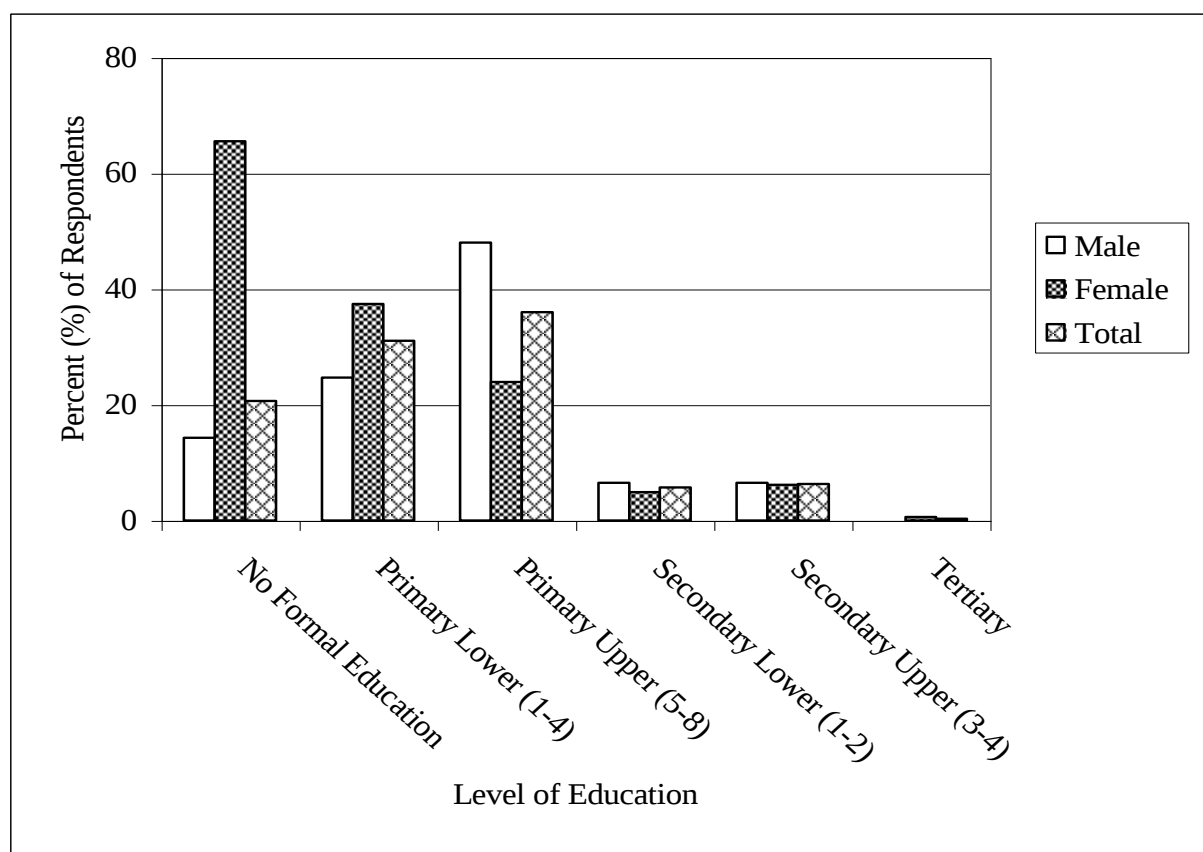


Figure 2: Education of respondents by sex

4.1.3 Occupation of Head of household

The major occupation of people in the study sites (MASAF and COMWASH) is farming. Results show that about 64.6 percent of the respondents reported that they rely on agriculture to earn their income. Most of this proportion of farmers is in the smallholder category where people mainly grow maize, groundnuts, sorghum, bananas, pigeon peas and cassava. A comparison of the proportion of respondents that depend on farming in this study is lower than that which the NSO reported in the 1998 population and census. NSO (2000) reports that of the economically active population (4.5 million) in Malawi, about 78 percent were subsistence farmers. This lower than the national figure of smallholders in the study

population could be as a result of some people who are turning to small-scale enterprises (14.6 percent in own business) as a coping mechanism because output has tended to decline in the subsistence agriculture sector (GOM, 1998). Another proportion of respondents 10.8 percent reported that they were in formal employment whereby many mentioned the estate sub-sector as the employer. In addition, about 10.0 percent undertook other activities like weaving as a source of income (Figure 7).

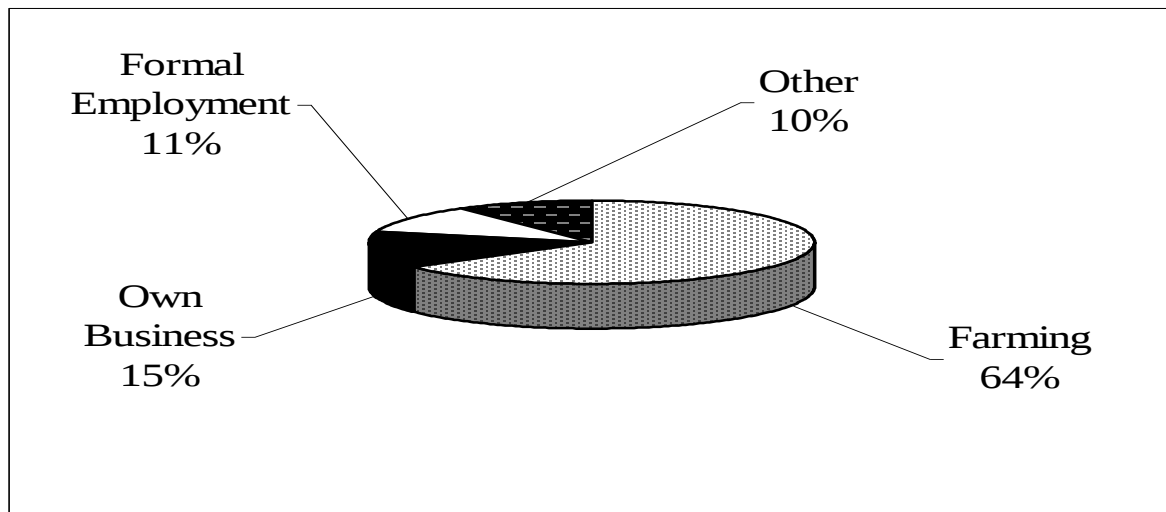


Figure 3: Occupation of head of household

4.1.4 Household Size

Household size and composition have an impact on the household capability to access resources for the survival of the members. According to the World Bank (2001: 28) a household may become poor depending very much on its characteristics, especially its link with the labour market. For example, larger households, those working on farms; smallholders in our case, and households that depend on social welfare are at great risk of becoming poor. Due to limited sources of income, poor households also tend to have limited access to social services such as safe water supply (Breslin, 2003; WHO, 2000). In this study, the mean size of households was about 5 (4.7) persons. The numbers of household members ranged from one (1) to fifteen (15) persons. However, the NSO (2000) in the census of 1998 reports that the mean household size for Thyolo District was about four (4) persons. The increase in the number of persons in the household is attributed to the death of parents from the HIV/ AIDS pandemic and broken marriages as children from such households get absorbed by their relations. As indicated in the section on marital status, the widowed, divorced and separated constituted about 15 percent (n=240). In a related scenario, the NSO

(2000) shows that Southern Region had the highest proportion (11.7 percent) of persons aged 20 years or younger with either one parent or both parents dead. Moreover, the same region had the highest proportions of those who were divorced or separated where nearly 6 percent of the nubile population were separated or divorced. In addition, the Demographic and Health Survey 2004 reports that in Thyolo District, for children who were living with a mother and not father 19.9 percent had a father who was alive whereas 5.9 percent had lost a father due to death (NSO [Malawi] and ORC Macro, 2005: 12). The same document reports that children (0.8 percent) who were living with father only had their mother dead and the same proportion had mother still alive whereas 3.5 percent were living alone because both parents had died. Studies elsewhere show that female-headed households are likely to be poor because women in Malawi tend to have lower education attainment and consequently limited income earning opportunities (NSO, 2005). Therefore, this may likely affect the household's socio-economic status and eventually access to basic needs like safe water.

4.1.5 Household Assets

Besides the occupation of the respondent and household size, household assets are an indication of whether a household is poor or not. The World Bank (2001: 20) shows that a household's assets – those that can be sold to compensate for temporary loss of income act as an indicator of its capacity to self-insure. Beyond asset ownership, it is also important to know the liquidity of those assets. That is, a functioning asset like a radio or bicycle could be more easily sold off than one, which is non-functional. In many cases, particularly the Malawi Population and Housing Census and the Demographic and Health Survey among others (NSO, 2000, NSO, 2005) use household access to (physical) assets to determine the well-being of people in the country. In this study, a household's well-being was measured in terms of ownership household of assets, namely: a radio, a bicycle, livestock and oxcarts. Such assets are important because they help improve access to water supply. For instance, households that have a radio gain access to information on benefits of using improved water services like taps. In addition, since government is promoting the decentralization process on this media, people owning radios may learn the procedures to follow when approaching external agencies (district assemblies or the MASAF) to demand social services such as safe water supply.

4.1.5.1 Access to Transport

According to this study, 31.7 percent of the households we interviewed had at least a functional bicycle as a basic means of transportation, which is an indication of the common means of mobility in the rural areas. During the 1998 Malawi Population and Housing Census, 27 percent of the population in Thyolo District at least had one functioning bicycle, a figure that is close to our findings (NSO, 2000). In the study site, people use the bicycle for transportation of farm produce to markets and other purposes like getting the sick to the nearest health facilities. Recently, the bicycle has become fast one of the means of income earning opportunities for young men who are using this technology (bicycle taxi) to ferry passengers from one point to another (Uzeni, personal communication, July 2006). Besides being a useful source of income to enable people contribute to facility operations and maintenance, bicycles may also assist rural communities to access spares for water facilities from shops that are located in urban centres (Blantyre or Thyolo District Headquarters). Although an oxcart has been a prominent means of transport in many rural areas in Malawi, it was non-existent in the study area. An interview with some of the key informants revealed that people in the area are not keen about oxcarts. In fact one of the key informants had this to say:

‘...kuno sikuli ngati ku Mzimba komwe anthu amakonda kuweta ng’ombe zoti zizikoka ngolo...(cattle rearing in this area is not as popular as it is in Mzimba where the cattle are used to pull carts)’
(Uzeni, personal communication, July 2006).

In fact, for the whole period of the study in the area there was no trace of an oxcart except the bicycle. Even respondents that reported that they owned cattle, which could supposedly be used for pulling carts, reared the beasts for dairy production. On the contrary, a zero (0) observation of oxcarts in the district may hold for this area because in 1998, the census report indicates that there were about 7094 oxcarts in Thyolo District (NSO, 2000). However, other studies suggest the trend may be pointing downward because NSO (2005: 77) findings reveal that the proportion of households owning an oxcart in the Southern Region has decreased from 2.3 percent to 0.4 percent in 2005.

4.1.5.2 Access to Information

In Malawi, most people particularly those in rural areas lack access to the print media as a source of information, instead they rely on the radio (NSO, 2005 :32-33). Results in this study show that in both areas (MASAF and COMWASH), 62 percent (n=240) of the respondents had at least one functional radio. Similarly, the 1998 Malawi Population and Housing Census (NSO, 2000) found out that 49.8 percent had at least a radio in Thyolo District. Increased access to radio is encouraging because the communities could access information on the operations of the district assembly and the issues regarding citizens demanding services in the decentralization frameworks. Generally, given that women are the major collectors and users of water, access to the radio in the district is advantageous because (UNICEF, 2004: 4) many messages regarding water and sanitation are disseminated through this medium.

4.1.5.3 Ownership of Livestock

Of all the livestock that people rear in the study sites, chicken was the most common since 55.8 percent (n=240) of the respondents had at least a chicken. Next to chicken as major type of livestock in the communities were goats, and among the respondents 20.8 percent at least had a goat. As for ownership of cattle, only 5.0 percent reported that they owned at least a herd of cattle. Other types of livestock present in the area included pigs (2.9 percent), pigeons, ducks and sheep were noted but occurred in less than 1 percent of the study sample. These findings are similar to those the NSO (2005: 110) report whereby most people had more chickens than goats and cattle in Thyolo District. Since livestock may be sold off and provide a household with cash income encouraging people in the area to rear and improve livestock could help improve their livelihoods. Income that people earn helps them access basic items including making contributions towards operations and maintenance of water supply services.

The discussion above indicates that knowledge of the beneficiaries' socio-economic characteristics is critical in the provision of water services. It is indicated that getting information about the target communities' major occupation can enable development agencies in the facilitation of the types of water services to construct in an area. For instance, rural dwellers who are engaged in subsistence agriculture have inadequate incomes they would not be able to pay for O&M expenses for a diesel powered water supply system. Thus,

simple technologies like the hand pumps would be appropriate because of their associated low operational costs.

CHAPTER FIVE : ANALYSIS AND DISCUSSION OF MASAF WATER PROJECTS

5.0 INTRODUCTION

This chapter provides an overview of the MASAF water projects under investigation. It describes how the projects were established. The chapter further presents the projects' working principles, and finally concludes by stating their significance as regards the demand-led approach. Finally, the chapter discusses the sustainability of the new water systems by looking at institutional and social indicators like community organizations and water users' satisfaction with the interventions.

5.1 OVERVIEW OF THE MALAWI SOCIAL ACTION FUND (MASAF)

As stated in the introductory chapter, the Malawi Social Action Fund (MASAF) is a social fund that was established in 1995 as part of meeting the Malawi Government's objective of Poverty Alleviation through financing of self-help community projects and making cash transfers in safety-net activities. The fund involves financing of socio-economic infrastructure like water supply and classroom blocks. Since 1995, there have been three phases of MASAF. The first phase MASAF I ran from 1995 to 1998 and received US\$56 million in funding from the World Bank, and another US\$2.9 million from the Government of the Republic of Malawi. A second phase called MASAF II ran from 1999 to 2003, received US\$66 million from the World Bank. Currently, the project is in its third phase, MASAF III which was launched in 2004 (MASAF, 2003).

By July 2003, MASAF had financed a total of 4 916 projects and a variety of Capacity Enhancement activities that included training of communities, project committees, and project facilitators in participatory development approaches, project management skills including asset management skills (MASAF, 2003: 4). The following major targets have been achieved in various sectors: education (4 697 classroom, 1 481 staff houses, 96 733 desks, 7 693 Ventilated Improved latrines), water (5 440 communal water-points that is, boreholes, kiosks, shallow wells), transport (1 118 bridges constructed and rehabilitated), 13 839.6 km

of road constructed/ rehabilitated, health (80 health units) and other facilities like postal agencies, rural markets and community halls. In addition, 898 000 marginalized and vulnerable persons had benefited from the social support component of the project. In capacity building, MASAF has empowered more than 92 000 people through training and other skills development activities.

MASAF (2003) and Bloom et al (2005) indicate that the MASAF Programme has evolved while Government was preparing new policy directions to effectively address the issue of poverty in the country. For instance, it is argued that the policies such as the Malawi Poverty Reduction Strategy Paper (MPRSP) of 2002, the National Safety-Nets Strategy adopted in 2001 and the Decentralization Policy of October 1998 guided the conceptualization of MASAF III-CEDP (Community Empowerment and Development Programme). In order to ensure that the project addressed decentralization issues, the MASAF embraced the principles of Community-Driven Development (CDD) approach. Since the approach emphasizes: empowering communities, empowering local governments, re-aligning the centre, improving accountability and building capacity MASAF has been working directly with communities through district-level institutions and NGOs. At the national level, MASAF collaborates with sector ministries and departments on policy issues.

According to Dulani (2003) from the project's inception in 1995, MASAF has had three (3) components namely: Community Sub-Projects (CSP), Public Works Programme (PWP) and the Sponsored Sub-Projects (SSP). The CSP provided financial and technical support for programmes that targeted the creation of community assets. In this category, projects included the construction and rehabilitation of primary schools, secondary schools and health facilities; rehabilitation and construction of economic infrastructures such as markets, small scale water supplies, storm drainages and sanitation sub-projects; and construction and pavement of access roads and construction of bridges.

The PWP was the second component of MASAF projects and was a safety-net scheme that was aimed at helping poor and vulnerable persons, households and communities by supporting programmes of labour-intensive construction activities. The programme created employment opportunities at the minimum wage to provide self-targeting individuals who have no alternative income-earning opportunities. Under this category, projects included construction, rehabilitation and maintenance of economic infrastructure such as access roads,

rain-harvesting structures, improved natural resource management through afforestation and terracing.

The final component was the SSP which specifically was aimed at getting resources and support for programmes targeted at marginalized groups through agencies already working with them. Projects under this component included support for orphans, activities targeted at tackling the HIV/ AIDS pandemic and support for organizations working with people with disabilities.

It is essential to indicate that the current MASAF (MASAF III) has five components as opposed to three in the previous phases (MASAF, 2003). MASAF III which has been under implementation since 2003, comprises the following project categories: Community Managed Projects (CMP); Social Support Projects (SSP); Community Savings and Investment Promotion (COMSIP); Transparency and Accountability (TAP); and the Local Assembly Managed Projects (LAMP). Generally, it should be noted that some of these projects share some elements with those in the earlier phases. The CSP for instance, has similar implementation principles to those of the CMP in the current MASAF. In both projects, facilitators are encouraged to assist the grassroots communities with identification of project activities in open forums through the Participatory Rural Appraisal (PRA) process.

MASAF through its motto claims that it is “The People’s Fund for Community Development”. As such it has created a new approach to community development which provides communities with opportunities to actively and effectively participate in the identification, preparation, and implementation of their own development projects. While emphasizing a demand-driven or participatory development approach the social fund sensitizes communities about its objectives and working principles, its eligibility and funding criteria. The rationale for the sensitization process rests on the premise that once awareness is created beneficiaries will be ready to exercise choice in the type of project activity that addresses priority needs in their respective communities. For instance, the social fund begins with the formation of a project management committee (PMC). The PMC is responsible for preparing, managing and supervising project activities and serves as an intermediary between target beneficiaries and MASAF including other stakeholders like the local assemblies.

It is assumed that the communities choose a project and elect a project management committee at an open community forum where all members in the group are involved in the decisions that the beneficiaries arrive at. MASAF upholds the participatory processes because it is its working philosophy to make sure that beneficiaries get involved in “decision-making at all stages of the project cycle which includes project identification and preparation, implementation, monitoring and evaluation, and management of completed projects”. In addition, the social fund requires beneficiary communities to show their commitment to the requests they make by making in kind contributions such as local construction materials (sand, bricks) including labour. However, although all these steps are set in order that beneficiaries actively participate, and that the resulting interventions truly reflect their aspirations most of the processes are marred by elite domination characterised by local power relations.

5.2 THE DEMAND-DRIVEN APPROACH IN MASAF WATER PROJECTS

5.2.1 Community Involvement in Project Initiation

One of the indicators that a project is responding to the target community’s demand is the way it is initiated, that is whether it is initiated by the users or outsiders (external agents from government or non-governmental organizations). This study examined how Malawi Social Action Fund (MASAF) supported projects respond to consumer demand in Thyolo District by looking at project initiation among other issues. MASAF’s approach to implementing interventions using the DRA operates on the ‘pure community model’ in which demand means that community members feel that they are responsible for initiating the project (Vajja and White, 2006). This is in contrast to situations whereby community members perceive that individuals outside the community initiate projects namely: project staff, politicians or the district assembly and other government agencies (KNAHP, 2000). In this study, determination of whether a project was initiated from within the community or not was derived from a series of questions regarding people’s awareness that they could get assistance to implement the intervention, whether the project was a priority including how their participation influenced decisions in the process.

Before a community initiates a project, however supporting or development agencies in this respect MASAF must create demand and encourage the expressed demand (Breslin, 2003: 4). Vajja and White, (2006: 10) and the World Bank (2002) show that MASAF has created

awareness about its activities to about 98 percent countrywide through public information campaigns by radio and other media like newspaper and fliers.

The standard procedure in the social fund is that communities that are interested to participate after awareness is to make formal requests on a form available from and submitted to the district assembly at Thyolo District Headquarters. MASAF uses project interest forms (PIFs) for that purpose forms (Kaphuka, personal communication, July 2006).

Ideally, DRA assumes that community members come together and identify a problem that they can resolve by collective action combined with an appeal for external support (Vajja and White, 2006: 10; GOM, 2001). Collective action was not the experience in as far as project initiation was conducted in the target communities. Generally, when respondents were asked about person(s) whose idea it was to initiate the project they often responded by saying '*anthu a m'mudzi muno*' meaning the 'community'. For example, results in this study show that over half 56.6 percent (n=106) of respondents in the MASAF sites felt that it was the community that initiated the water projects. However, the other proportion (20.8 percent) of respondents felt that it was MASAF and other external agents that initiated the projects, while the rest did not know (Figure 4).

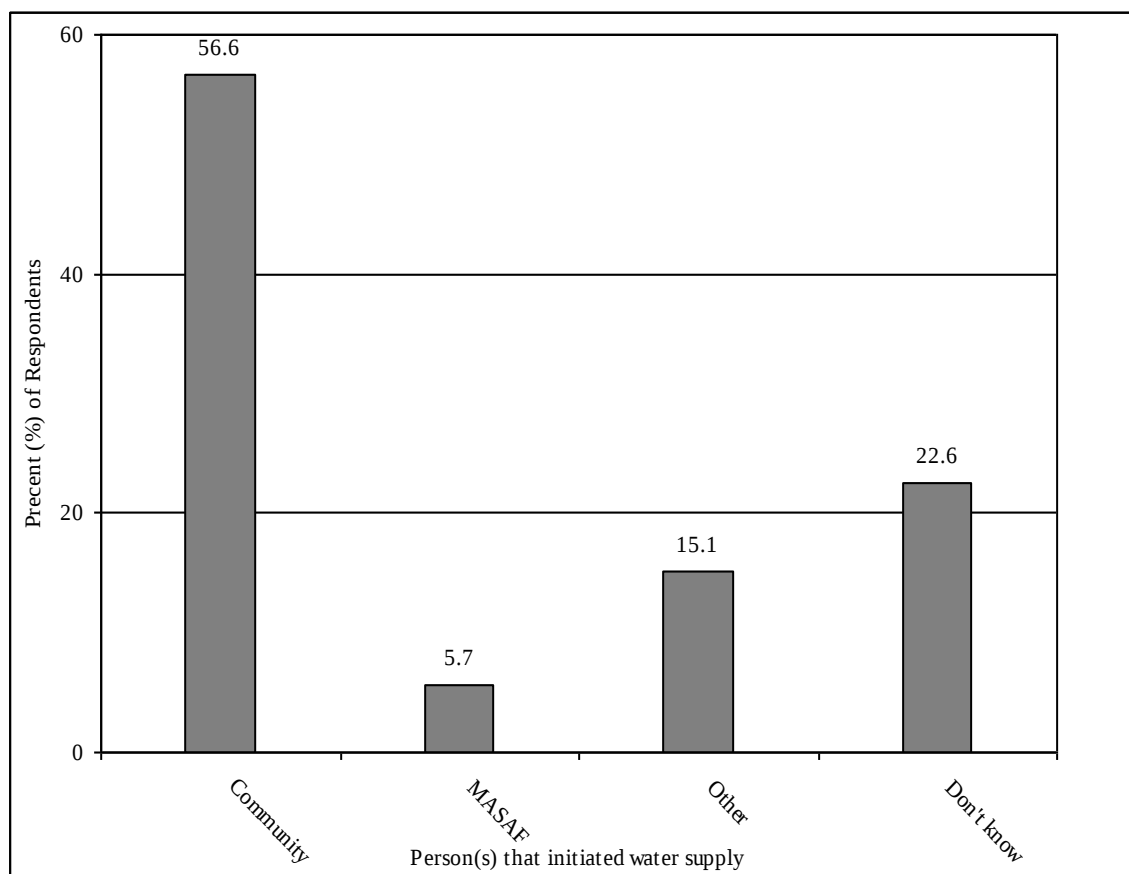


Figure 4: Community's perception of person(s) that initiated water supply in MASAF sites

Although the general impression in Figure 4 suggests that the community was responsible for initiating the projects, the interventions were not entirely from grassroots effort. According to the MASAF implementation manual, the social fund provides communities a range of options or service packages from which communities choose projects for support depending on felt need. The assumption is that in MASAF projects is that beneficiaries come together to choose a project that best solves their most pressing need. In practice however, it turns out that it was not the case. Instead, certain prominent persons in communities such as traditional leaders, ward councilors or Members of Parliament (MP) filled out project interest forms and only mobilized the target population once the financial support was acquired. Such was the experience in Dzungu 2 and 3 Villages. Participants in focus group discussions and key informant consultations revealed that the ex-MP for the area informed the village about the water supply project at the time they were being requested to mobilize local construction materials (bricks and sand) and their labour. One key informant, a chairman of a village development committee in the village felt that the MP did that because he wanted to gain support in 2004 general elections. Moreover, the MP left the oversight of the project

implementation in the responsibility of a constituency chairman and other United Democratic Front (UDF) party members (Mataya, personal communication, July 2006). In the same village, one woman in a focus group discussion commented *'mjigowu utabwera ife tidangolandira ngati mphatso yochokera ku MASAF'* (the villagers accepted the water supply as a gift). Most of the members of the group agreed with her statement.

The experience above shows that in reality a community is not a collection of equal people living in a specified geographic region. Usually, it is made up of individuals and groups who command different levels of power, wealth, influence and ability to express their needs, concerns and rights. However, despite these differences participatory approaches like the Participatory Rural Appraisal (PRA) that MASAF uses are potentially able to create space such that the majority and marginalized in the target communities participate in all phases of the projects at open forums.

5.2.2 Whether Projects Addressed Beneficiaries' Priority Needs

One of the arguments that experts put forward in support for DRA is that when target communities select projects of their choice, it is likely that those investments will address priority needs (World Bank, 2002; Dulani, 2003:9). In the preceding section, it was indicated that project initiation has not been a unified expression of community will, as the development experts suggest. On the contrary, it was a process whereby the elite like local politicians and village heads decided which project types the community would receive. For instance, decisions that would have possibly been carried out at grassroots level, ended up being taken by prominent members of communities. Despite these inconsistencies between the ideal and practice in this study, most respondents felt that the water projects in their respective areas met their priority needs at that time.

Results in Table 4 show that all respondents (100 percent) in the MASAF funded projects felt that the projects met their priority needs. Furthermore, some respondents in the study sites still held the opinion that safe water supply was still a priority even at the time of the study.

Table 4: Water supply priority in MASAF sites

Response	Proportion (%) and number of responses	
	%	n
Priority	100.0	106
Not priority	0.0	0
Don't Know	0.0	0
Total	100.0	100

Findings from focus group discussions support the quantitative results. In Dzungu 2 and 3 villages, a female participant in a focus group discussion recounted her experience before the implementation of the borehole project. She recalled that women used to wake up at about three o'clock (3:00 a.m.) to collect water in nearby streams only to come back home later in the morning around ten o'clock (10:00). That is about seven hours later. Other participants in the group added that the situation was particularly serious in the dry season when most of the open wells, which they used as sources of drinking water had dried. Another participant added that people in the area had problems in the wet season because open wells could not help either because surface run-off filled the water sources with dirt. Therefore, most people in the area believed that the borehole project had met the community's priority need.

5.2.3 Beneficiary Influence in Decision-Making

The study used a set of indicators to measure whether the beneficiaries had any idea as to what they were requesting to implement in their respective areas. One of the underlying principles of DRA is that water users should make informed choices of facilities they apply for support (Sara and Katz, 1998; Breslin, 2003). In essence, external agencies whether governmental or non-governmental should offer communities a range of technological options such as boreholes, taps, shallow wells, spring or rainwater harvesting. Beyond offering choice, those agencies should inform water users about their expected inputs (contributions) and responsibilities for operations and maintenance of facilities. Proponents of the DRA argue that such information will help guide communities to weigh what is possible and sustainable in the area given financial as well as technical capacities available over the facility's life span (Breslin, 2003: 3; Water and Sanitation Program, 1998).

This study measured beneficiaries' participation in decision-making by seeking respondents' answers to questions like a household's participation in project costing, location of facilities, type of water supply and the maintenance system (Table 5).

Table 5: Proportion of households involved in decision-making in MASAF sites

Area of Decision	Proportion (%) and number of responses	
	%	n
Project costing	0	0
Ancillary works	9.4	10
Type of technology	20.8	22
Maintenance system	17.9	19
Location of facility	19.8	21

Table 5 shows that communities in the MASAF funded projects participated in decision-making process for some aspects of the projects. For example, some respondents (20.8 percent) indicated that they were involved more in the choice of the type of technology than in any other issue. It suffices however to mention that the involvement that these respondents reported in these projects on choice of technology was mere consultation on issues that were already concluded at the district assembly. Generally, persons that command voice in determining development in the area like village heads and local politicians had the final say on what to offer to the grassroots. For instance, all the facilities that the study team visited had a standard design of the water delivery equipment consisting of a hand pump and washing slab. Among most respondents that were interviewed also indicated that all they knew was that they needed clean water such that the idea of the type of technology to install did not arise.

Results also show that beneficiaries were not involved in the determination of how much the facilities should cost as none of the respondents (0.0 percent) reported to have been involved in any of these activities. Consequently, most beneficiaries knew little about what was going on in the project. In the end, it was observed that most people in the project were only involved in those areas of decision-making like where to build the facilities because they require that local people contribute their land. Chiliko (personal communication, July 2005) in a key informant consultation agrees with this observation for he comments that 'normally,

it is committees that know most of the information about projects'. As far as the principles of DRA are concerned, that should not have been the case. The key informant goes further and indicates that gaps exist among members of the communities 'may be because of short-cuts at assembly level'. The reason is that under normal circumstances, during project appraisal in the case of MASAF supported projects, the local assembly should conduct costing in conjunction with all user households in the community. But in practice the opposite is true because extension staff often rely on local committees for information. In the end, as Platteau and Abraham (2002: 12) have argued, the use of 'elected' leaders who then receive training and gain control of resources on behalf of the community without clear and extended communication with other members about objectives, rights and duties creates distance between leaders and members.

5.2.4 Community Contributions

In demand-driven or community-driven development interventions, experts in water and sanitation sector use community contribution ('in cash' or 'in kind') as an indication that the beneficiaries are committed to meet expected costs of the system's operations and maintenance (Breslin, 2003; Prokopy, 2005; Sara and Katz, 1998; Water and Sanitation program, 1998). Proponents of DRA argue that a community that contributes towards construction costs of a water project demonstrates its interest and commitment to the intervention. However, although that is not the argument here, there is a debate as to whether poor rural communities should contribute 'in kind' or 'in cash'. For example, one camp argues that the poor are too poor to make cash contributions (Breslin, 2003; Prokopy, 2005; Chiliko, personal communication, July 2006). According to this argument, those in this group contend that poor communities should be asked or requested to make 'in kind' or 'symbolic' contributions (labour and construction materials) to show interest and commitment to the project.

Contrary to that argument another camp has argued that 'symbolic' contributions are of little value when communities need to repair systems once they break down (Breslin, 2003:8). For instance, communities that make some form of capital contribution feel a greater sense of ownership of their system than supply-driven programmes. Firstly, so they contend that if a community chose a hand pump technology, a good indicator of commitment to repair the system would be a contribution of spares like a pump rod or foot valve. Secondly, another

point that they make is that the advantage of capital contribution is that since it is linked to what is needed to sustain the system, the DRA model offers users opportunities to learn through the purchase of these (spares) goods. Essentially, the communities gain knowledge about where they can access materials, about prices of spares and justification of community contributions (Breslin, 2003).

The study found out that most respondents reported that they had contributed something towards the water facilities. In the MASAF projects for example, 84.0 percent (n=106) indicated that they had contributed either ‘in cash’ or ‘in kind’ (Table 6). However, some studies indicate that such statistics need further scrutiny because the contributions that beneficiaries make may be involuntary. Vajja and White (2006) in their study of MASAF projects observe that people in positions of power in communities such as traditional leaders apply for projects in their respective areas and impose penalties for any member who fails to make contribution. Therefore, the fact that communities are rated high in terms of community contributions masks the power relations among beneficiaries. Focus group discussions in the study sites show that any member of the community who failed to contribute was summoned to the village headman to give reasons for his or her failure. Whenever the traditional leaders felt that the excuse was weak she/he punished the offender by imposing a penalty in cash or in kind. In addition, other qualitative data indicate that those who reported that they did not contribute anything failed to do so because by then they were not present due to other activities they were undertaking outside the communities or were new members.

Table 6: Proportion of respondents who made contributions in MASAF sites

Response	Proportion (%) and number of responses	
	%	n
Contributed	84.0	89
Did not contribute	16.0	17
Total	100.0	106

Results also indicate that people in the MASAF funded projects made cash contributions towards construction. Although it is not the social fund’s policy to request beneficiaries to make contributions in cash (Vajja and White, 2006; Chiliko, personal communication, July 2006) nearly 16 percent of respondents that were interviewed made cash contributions (Table

6). It was indicated for instance that in MASAF sites contributions made in cash as stated earlier on in this section ranged from MK0.00 to MK1 000.00 but had a mean of about MK25.00. According to these households, they contributed cash either because they did not have adequate time to contribute their labour or it was because the village head requested them to do so for the purchase of food items to feed contractors. Many respondents indicated that households, which could not contribute cash for this purpose, contributed maize flour.

5.3 SUSTAINABILITY

Sustainability in this study is considered in terms of whether the water supply system continues to provide an acceptable level of services throughout the design life of the facility (Carter et al, 1999: 7; Sara and Katz, 1998; Water and Sanitation Program-ESA, 2000: 12). Therefore this study looked at sustainability as the water system's continued provision of water supply at the same rate and quality as per design. However, it is acknowledged that defining sustainability is quite a difficult exercise because the term depends on a number of factors that also change over time. For instance, water supply sustainability depends on economic, social and technical factors. Kahkonen (1999) has indicated that social capital, which refers to the cooperation, networks, and associations established among users and other stakeholders for water and sanitation delivery have a bearing on system sustainability. In other words, pre-existing social capital like other community groups promote the participation of water users in system management by reducing the cost of collective action, which is critical in demand-driven development initiatives. But if water has to continue flowing in a system it would indicate that the water users are contributing towards operations and maintenance, consumers accept the service and that the source is adequate. In addition, continued service may mean that community level committees and caretakers are motivated and available to carry out their duties (Carter et al, 1999). These aspects form a group of indicators that the study used to define sustainability.

5.3.1 Water Supply System Performance

Unlike other studies which have determined water systems sustainability by looking at the physical conditions, the current study basically discusses the same issue by considering the institutional and social aspects of projects. Precisely, this study measured facility performance by asking respondents about system failure in a period of 12 months before June

2006 (Figure 5). Where necessary the study used project documents to support observations that respondents and key informants (water attendants) made regarding water supply performance.

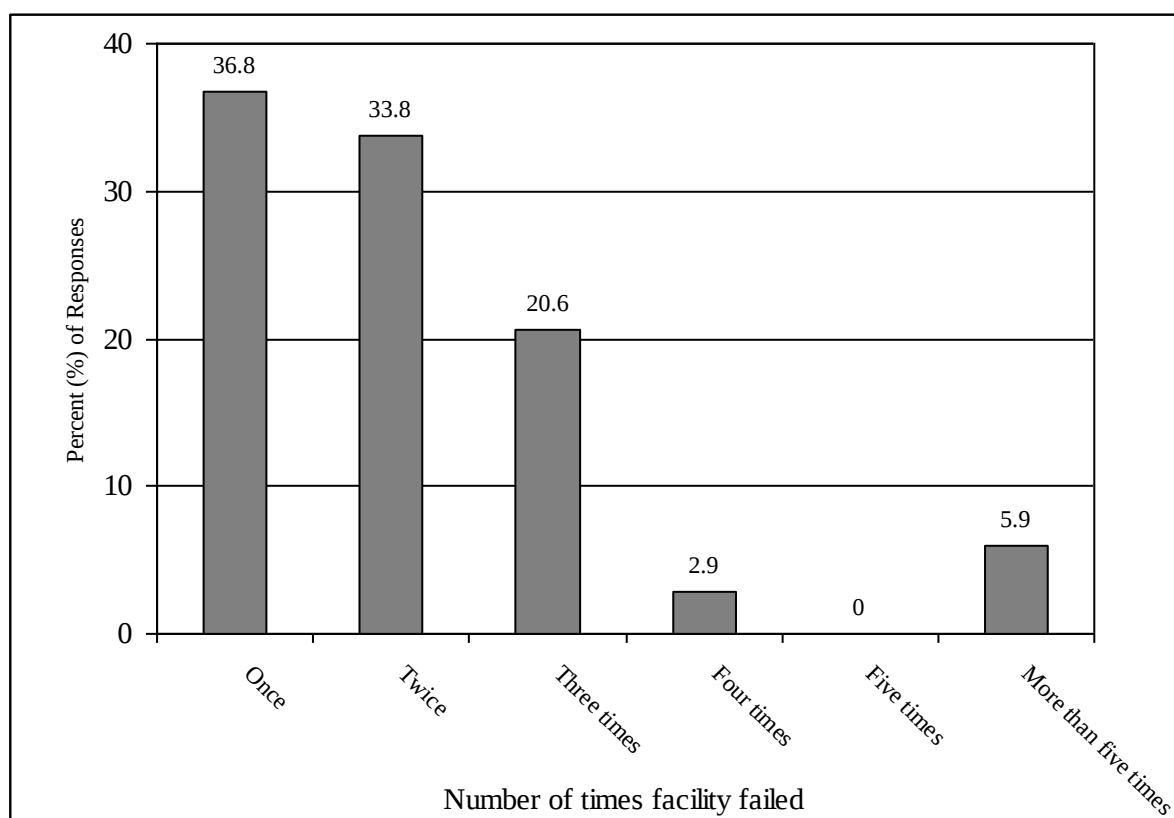


Figure 5: The performance of water supply systems in past 12 months in MASAF sites

An analysis of the systems' performance in the MASAF sites shows that most respondents reported that facilities had failed in the 12 months period before the study was conducted (Figure 5). As pointed out elsewhere, system failure in the MASAF funded projects was a reflection of the type of technology that was adopted (Kahkonen, 1999). For example, 91 percent of the respondents that noticed that the facilities had failed to provide water indicated that the facilities failed once but less than four times in that period. Although it is argued that point source like hand pumps, so defined because they are not connected to a network are known to be relatively free from interruption by people hence they do not fail frequently compared to piped systems the facilities benefit from the water committees. Many of the members of the committees that were trained as attendants encourage fellow water users. In Dzungu 3 Village for example, a Mrs Chisamba, who doubles as the village headman's councilor claimed a lot of respect among fellow villagers because of her encouragement to help others in pump maintenance.

5.3.2 Response to Water Supply Systems Failure

While system failure may indicate some of the technical aspects to system sustainability, the rate at which system operators respond to breakdown is critical to continued service. Malawi Government and UNICEF (2001) observe that in Malawi, approximately 30 percent of all water systems are out of action and that it takes about ten 10 days to fix facilities. As a result, communities resort to rivers or open wells for drinking water. In this study, results show that in the MASAF funded projects repairs on most water facilities took less than a week. For example, 65 percent (n=68) respondents indicated that it took less than a week for the local committees to attend to system failure 12 months before this study (Figure 6). In many cases, the repairs occurred within a day. However, in a few situations repairs were reported to have taken about a month, as indicted by 21 percent of the respondents. Key informants interviews and FGDs results revealed that sometimes repairs on the boreholes took long whenever the problem was beyond the communities' capability.

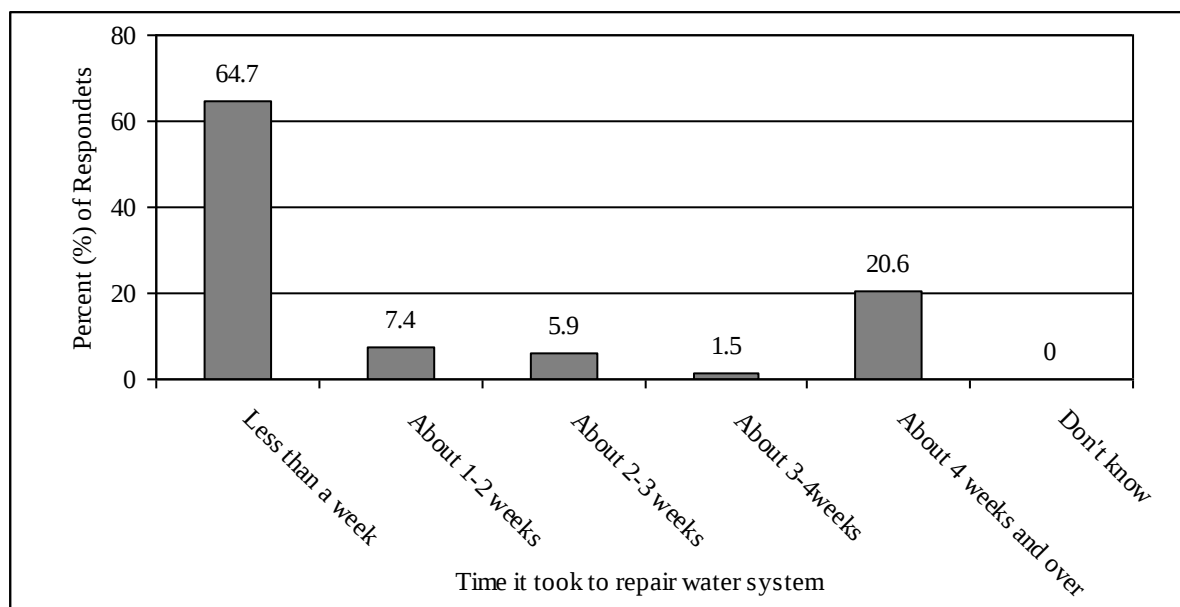


Figure 6: System operators' response to facility failure in MASAF sites

For example, if a raising main pipe burst the local committee lacks the technical skills to rectify the problem. Normally, the committees relied on the expertise of Water Monitoring Assistants (WMAs) who are just a few in the district, and already overstretched with heavy workload (Nselera, Kaphuka, personal communication, July 2006). As a result, it takes long for the communities to get assistance in repairing the water facilities. At times, whenever the

communities feel that they cannot wait for the WMA any longer, they hire local pump technicians from Bvumbwe Trading Center. During the time of the study, one of the key informants showed the researcher one of the compounds where one of such technicians was based.

5.3.3 Consumer Satisfaction

Consumer satisfaction was one of the factors that was considered in measuring system sustainability. This indicator was selected because even if a system may be technically sound its continued use and support for repairs depends on users' motivation to contribute towards operations and maintenance. For example, water users may not be interested to commit their financial resources to a system that they derive no satisfaction or use value from. Carter et al (1999:9) observe that it is critical that users should believe that the new source is preferable to their traditional source in terms of access, proximity or quality and quantity.

In this study, consumer satisfaction was measured by asking respondents about their general satisfaction with systems, their opinion about facility reliability, and distance to the new source. In addition, respondents were asked about their perception on whether the facility had helped to reduce the incidence of waterborne diseases, quality of water and overall service (Table 7).

Table 7: Consumer satisfaction with water supply system in MASAF sites

Consumer satisfaction	Proportion (%) and number of responses	
	%	n
General satisfaction	100.0	106
Satisfied	74.5	79
Indifferent	6.6	7
Dissatisfied	18.9	20
Facility reliability	100.0	106
Reliable	92.5	98
Not reliable	7.5	8
Don't know	0.0	0
Water borne diseases reduced	100.0	106
Reduced	99.1	105
No reduced	0.0	0
Don't know	0.9	1
Distance to new source	100.0	106
Shorter	68.9	73
The same	0.9	1
Longer	30.2	32

Results in Table 7 show that many water users in the MASAF funded project villages were satisfied with the water supply systems. It is indicated that about 74.5 percent of the respondents reported that they were satisfied with the water facilities. As for the other indicators namely: system reliability, reduction in incidence of waterborne diseases, and distance to source tended to reflect the consumers' general satisfaction with their facilities. In addition, results show that in the MASAF project sites 92.5 percent of respondents expressed that their systems were reliable. However, in terms of closeness of water facilities to households, 68.9 percent of the respondents reported that the facilities were located closer to their homes than previous sources. This observation is encouraging considering that on average only 51 percent of the population in Thyolo District have access to clean water supply. Moreover, given that it is not easy to construct a borehole as close to each and every household in the community because of technical considerations, results suggest that the

system on the determination of location of facilities was fair. Generally, since it is machines that determine siting, the location that water users select are usually not the ones that the experts decide to construct facilities on.

In order to gain more insight into consumer satisfaction with systems, the study went further by attempting to seek opinion about water quality and quantity (Table 8). Essentially, the rationale for measuring consumers' perception on water quality was that although the facilities may be reliable or closer to users' home, people may not be satisfied with aesthetic characteristics of water (colour, taste) and quantity such that sustainability may be critically at risk. According to Porto (2004: 7), drinking water must be aesthetically acceptable: no colour, without odour, and insipid if it is to qualify as being safe.

Table 8: Respondents' perception of water from the established sources by project in MASAF sites

Consumer perception on:	Proportion (%) and number of responses	
	%	n
Colour	100.0	106
Good	94.3	100
Fair	0.9	1
Poor	0.0	0
Depends on season	4.7	5
Taste	100.0	106
Good	100.0	106
Fair	0.0	0
Poor	0.0	0
Depends on season	0.0	0
Quantity	100.0	106
Adequate	88.7	94
Fairly adequate	2.8	3
Inadequate	3.8	4
Depends on season	4.7	5
Time on queue	100.0	106
Short	53.8	57
Fair	12.3	13
Long	21.7	23
Depends on season	12.3	13
Overall service	100.0	106
Good	89.6	95
Fair	10.4	11
Poor	0.0	0

Results in Table 8 show that 89.6 percent respondents in MASAF projects were satisfied with the water supply systems. For instance, 53.8 percent of the respondents indicated that they did not spend much time on the queue. In this project, this was the lowest proportion of all. According to how the proportions are split among variables like *short*, *fair* and it is evident that the facilities were serving a lot of people. That could be the reason for the respondents in the section on whether the projects addressed the priority needs to insist that water supply was still a priority even after installing the new facilities in the target villages. However, it is observed that people's perception about water from newly established established water facilities was highly rated on taste (100.0 percent), colour (94.3 percent) and finally quantity (88.7 percent) as good.

5.3.4 Operations and Maintenance

Besides facility performance, response to system failure, and consumer satisfaction, the sustainability of water supply systems critically depends on the presence of skilled members for operations and maintenance. Kahkonen (1999: 18) argues that merely mobilizing users to participate in a project is insufficient for sustainable service provision to poor rural communities. Therefore, it is necessary to ensure that water users gain sufficient skills to manage the systems. For example, Randonelli (1991) cites a situation in Tanzania where communities failed to manage their systems because they did not know how to maintain and repair facilities.

This study used a set of indicators to measure operations and maintenance in the study sites. For instance, the study requested respondents about the presence of a water point committee and a local water attendant (Sara and Katz, 1998; KNAHP, 2000). Furthermore, some questions required respondents to provide information regarding capacity of committees such as whether they had received training and the types of skills they gained. Table 9 provides information on operation and maintenance practices at local level institutions in the MASAF study sites.

Table 9: Operations and maintenance practice in MASAF sites

Operation and Maintenance	Proportion (%) and number of responses	
	%	n
Water point committee available	99.0	105
Local attendant available	72.6	77
Local attendant trained	80.0	68
Trained to operate and maintain system	80.0	68

Results on operations and maintenance show that most water users in the MASAF sites knew that they have water-point committees, which were responsible for looking after the water facilities (Table 9). For example, 99.0 percent (n=105) respondents reported that their water supply facilities had a water-point committee. This observation is encouraging since GOM and UNICEF (2001) has indicated that most of these committees in Malawi become non-functional soon after the water supply is installed. Unsurprisingly, qualitative investigations revealed some serious challenges than the statistics can suggest in the so-called ‘committees’ in MASAF sponsored projects in Bvumbwe’s area. Ideally, a pump committee comprises ten (10) members, but in these committees there were less than the standard required number of members. Participants in a focus group discussion in Dzungu 2 and 3 indicated that in the past two years alone they had replaced their committees twice because of poor performance. Most of them mainly cited mismanagement of cash contributions as the major problem in maintaining committees in the area. Consequently, in some committees in the sample villages it was the treasurer, secretary and chairperson who were active while many of the others had simply given up their positions.

In the MASAF projects, it was also noted that 76.3 percent of the respondents reported that they had local water attendants who are locally identified as ‘*amakanika*’, and were solely responsible for system repair. When the study inquired further during the household surveys, some respondents in Chinkwende and Dzungu 3 Villages (TA Bvumbwe) indicated that they had no local attendants; instead the communities hired private pump attendants. Water users were under pressure to hire technicians because most individuals who got replaced in committees were unwilling to render services. The problem experienced in these villages raises similar concerns that Sara and Katz (1998: 28) observed as to how projects can ensure that knowledge is transferred when such people in communities change roles. However,

whenever such challenges arise it is the duty of the remaining committee members to approach the district assembly through elected representatives (ward councilors or members of parliament) to help them fill vacancies as well as gain needed skills in O&M.

5.3.5 Financial Management

Financial management is an indicator that a community has capacity and commitment to financially sustain a system over time once external support is phased out (Breslin, 2003: 7; Sharma et al, 2005). In this study, data on financial management was based on questions regarding users' knowledge of the presence of a maintenance fund, mode of fundraising, how communities keep finances and amounts of cash contributions that they (users) make (Table 10).

Table 10: Financial management for operations and maintenance in MASAF sites

Financial Management	Proportion (%) and number of responses	
	%	n
Users have O&M fund	97.3	103
Mode of fundraising		
Monthly contributions	88.6	93
Post harvest contributions	1.9	2
Contribution on breakdown	9.5	10
Safe-keeping		
With treasurer	53.8	57
In bank account	16.0	17
Don't know	30.2	32
Most users contribute	87.7	93

Results in Table 10 show that most users have established some mechanisms to collect cash contributions to support operations and maintenance. For instance, in MASAF sites 97.3 percent (n=103) respondents indicated that they had established an O&M fund. Most of them reported that they maintained the fund by mobilizing monthly contributions from their members. In these projects however, it was apparent that monthly cash contributions were not mandatory generally because it takes long to replace some parts of the hand pumps and that since all the water attendants work on voluntary basis they felt that they did not need to keep

large sums of money all the time. In addition, many FGD participants in the study sites were of the opinion that ‘in cash’ contributions towards the maintenance fund had become irregular because of unstable committees. Furthermore, statements from some members of the communities show that many water users had lost trust in their water-point committees such that they had resorted to defaulting on operations and maintenance contributions. One respondent made it clear that she defaulted payment because despite her continued contribution to the fund for sometime, the committees scarcely provide a report of their financial transactions.

Table 10 also shows that 53.8 percent respondents in the MASAF sites reported that the committee treasurer was responsible for the safe-keeping of the contributions. However, it was also observed that 16.0 percent of the respondents reported that their committees kept the contributions in a bank account. Many persons that were interviewed commented that the local committees indeed had opened accounts with a credit cooperative at Bvumbwe Trading Center in the district. Unfortunately, as pointed out by members of FGDs in Dzungu 2 Village most of the accounts were not operational at the time the current study because committee treasurers had misappropriated the funds. Despite this problem, it was encouraging to note that 87.7 percent of the respondents indicated that most water users were contributing towards the O&M fund. Interviewees indicated that many people in the communities continued to contribute because they appreciated the benefits of drinking water from safe sources.

5.3.6 Amounts of Contributions towards Operations and Maintenance

Apart from attempting to understand the presence of a maintenance fund, custody of contributions and whether most users contribute, the study went further to find out how much water users contributed (Figure 7).

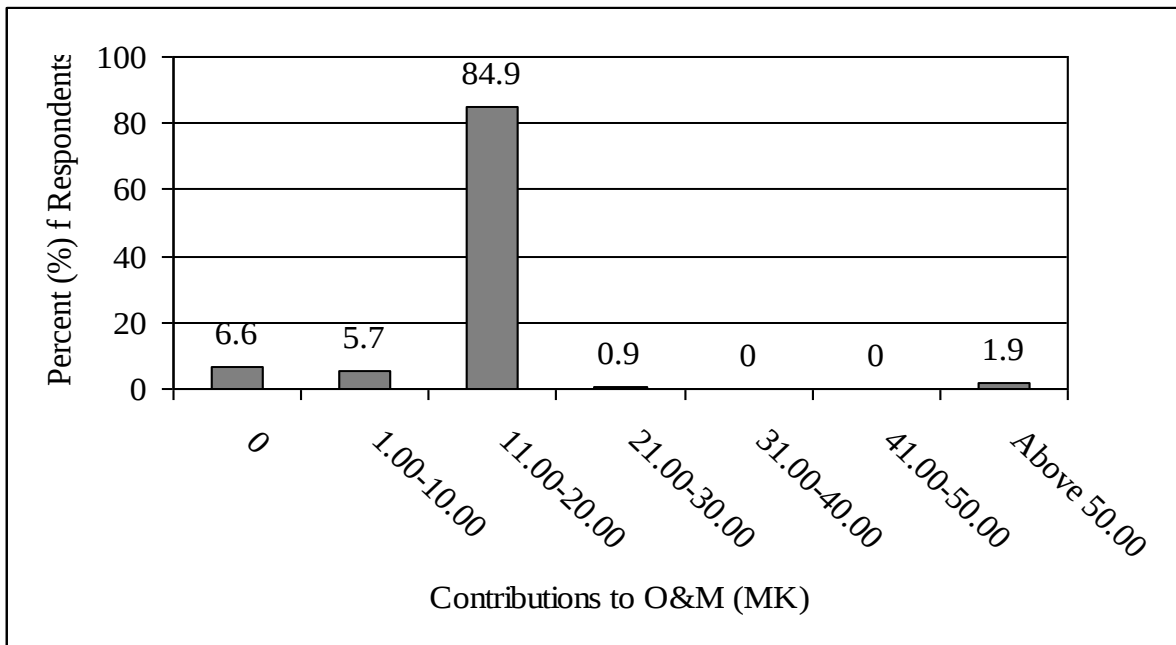


Figure 7: Proportion of water users contributing to the maintenance fund in MASAF sites

Results in Figure 7 show that most water users were contributing cash towards O&M. For example, the figure shows that 84.9 percent of the respondents in the MASAF funded projects contributed between MK11.00 and MK20.00 per month. Qualitative enquiries in the project villages indicated that water user committees requested their members to contribute MK20.00 per household per month. It was also learnt that households that defaulted their payments were denied the use of the facilities. In the MASAF sites, many interviewees in Chinkwende and Dzungu villages explained that *‘mwezi ukatha akomiti amakhala pa mjigo kukatolera ndalama za kuthumba, ndipo ngati wina alephera kupereka amaletsedwa kutunga madzi’* (some members of the committee standby the hand pump and collect contributions, and bar defaulters from accessing water from the facility). It is only after the defaulters had fulfilled their obligation to the water-point committee that they are permitted to use the hand pump, otherwise they are forced to use unsafe water sources (rivers or open wells). However, the committees’ activities with regard to the collection of monthly contributions have somewhat declined due to resistance by many members of the communities to commit themselves to the O&M fund (Chisamba, Personal Communication, July 2006).

5.3.7 Willingness to Sustain Systems

In interventions that adopt the demand-driven approach, funding agencies assume that communities will sustain services because they are a priority to them (Breslin, 2003: 7). In

this study, the indicators on users' willingness to sustain services included questions on willingness to contribute more to the maintenance fund, users' perception about community's financial capacity to sustain the facility and ownership (Table 11).

Table 11: Water users' perception on willingness to sustain systems in MASAF sites

Willingness to Sustain	Proportion (%) and number of responses	
	%	n
Willingness to contribute more to fund	70.8	75
Community financial capacity to sustain system	79.2	84
Facility ownership	80.2	85

As shown in Table 11 above, results show that 80.2 percent of the respondents felt that they owned the facilities. It was also observed that 79.2 percent of them were of the opinion that their communities had the financial capacity to sustain the facilities. These observations are quite encouraging because many communities in other districts in Malawi have tended to associate ownership of water facilities to supporting agencies. For example, in a study by Chilowa and Chinsinga in Karonga District of northern Malawi, communities gave ownership of water facilities in their respective villages to either MASAF, Malawi Government or World Vision among others (KNAHP, 2000). Therefore, in this study, the communities' perception that they own the facilities is the reason for most of them to be willing to contribute money towards the water services. In addition, it was also observed that many residents in the study sites were ready to solve the problems using local financial resources.

In conclusion, the general observation in the preceding discussion was that the MASAF projects were conceived on the idea of the demand-driven approach and issues of sustainability. Firstly, on the part of addressing the beneficiaries' demand, the social fund created awareness among them to enable them request assistance based on informed choice. Such an arrangement is quite opposite to the past supply-led interventions that agencies implemented with little or involvement of the consumers of the project's benefits. However, the approach was not without its limitations. Results showed for instance that although the project emphasized the centrality of involving those directly affected by the outcomes of the services, local power relations made difficult to achieve. Consequently, the local elite like MPs dominated the project activities in the study sites. Secondly, whenever beneficiaries are

made aware about their responsibilities in the newly established water services it was assumed that they would be able to sustain them. In the present study, a number of indicators such as community contributions and willingness to sustain the services were used to measure sustainability. On average, MASAF projects had projects of being sustained. For example, most respondents including key informants in the project sites felt that they owned the water facilities. While putting this observation into perspective FGD participants in one of the villages commented that

‘..nowadays, government is encouraging “mphamvu ku anthu (decentralization)” and it is therefore lack of understanding on the part of some users to say that facilities belong to MASAF...We feel we own the borehole because people who trained us emphasized that it is ours. They also advised us to contact our Health Surveillance Assistant (HSA) whenever we experience any fault beyond our capacity’. (Members in FGD at Dzungu Village, June 2006)

It is such knowledge that external agencies share with communities to help build trust and mutual understanding on O&M. When water users become aware of their responsibilities, that is, taking charge of services repair and the appropriate stakeholders to contact for technical support indicates that there are prospects of achieving sustainable service provision in the rural water supply sector in these study sites. However, Mansuri and Rao (2004), Carter et al (1999) and KNAHP (2000) note that the fact that communities’ show sense of ownership should not mean that government has the reason to abandon communities after completing projects. Instead, external agents should recognize that monitoring is a critical component in attempting to gain continued use of services. KNAHP (2000) for instance, shows that communities in Karonga District complained about the absence of extension staff from Ministry of Irrigation and Water Development to carry out monitoring of hand pumps in their area.

CHAPTER SIX : ANALYSIS AND DISCUSSION OF COMWASH WATER PROJECTS

6.0 INTRODUCTION

This chapter provides an overview of the COMWASH water projects under investigation. It describes how the projects was established. The chapter further presents the projects' working principles, its objectives and its significance as regards the demand-led approach. Finally, the chapter discusses the sustainability of the new water systems by looking at institutional and social indicators like community organizations and water users' satisfaction with the interventions.

6.1 COMMUNITY WATER, SANITATION AND HEALTH (COMWASH)

The Community Water, Sanitation and Health (COMWASH) is another project that uses the participatory development approach that emphasizes the demand-led process, which aims at empowering beneficiaries. This project in Malawi is funded by the Canadian Agency for International Development Agency (CIDA). Unlike MASAF, which has a nationwide coverage the COMWASH is concentrated in Thyolo and Phalombe Districts of southern Malawi (COMWASH, 2003). The project's objective is to strengthen national, district and community capacity to implement sustainable water, sanitation and health programs through gender-sensitive and demand-responsive approaches (DRA). The COMWASH project whose implementation began in 2001 has drilled boreholes, constructed and rehabilitated a number of gravity-fed schemes in both districts (COMWASH, 2003: 9). COMWASH (2004: 1) also indicates that the project is aimed at testing procedures for implementing community managed water supply schemes. In order to achieve that objective, the project has among other issues set to ensure that it:

- provides resources and services to communities based on the demand-driven approach;
- transfers ownership, operation and maintenance of facilities to user communities;
- reduces the implementation role of government extension workers and increasing their skills and responsibility for monitoring and supporting community based management; and

- promote increased participation of the private sector, including NGOs to provide user-pay goods and services in the rural water, sanitation and health sub-sector.

In Thyolo District where this study was conducted, the project has been implemented in two schemes namely: the Didi and Mvumoni (COMWASH, 2004:13; COMWASH, 2005). The structure for implementation in the district is through a two-tier committee structure that comprises a scheme committee and water-point committees. For example, the Didi Scheme covers 14 villages while that of Mvumoni caters for 8 villages. The total number of committee members in these schemes tally with the number of villages within the particular scheme because representation on the scheme committee is at village level. In both schemes, the scheme committees have been established as the top-most committee to take care of implementation of the project activities. The establishment of the committees in the Mvumoni scheme was facilitated through the Area Development Committee (ADC).² A meeting of the ADC was called to which other members were co-opted and later selected into the scheme committee.

Similarly, in the Didi Scheme an effort was made to have the committee established at a public function. However, COMWASH (2004) reports that discussions with water-point committees' representatives indicated that the committees were selected by their traditional leaders. Therefore, other than holding democratic elections to identify members these leaders used their powers to select individuals of their choice based on previous experience in another gravity-fed water supply scheme implemented by the Malawi Government in the 1970s.

Unlike the scheme committee whose membership comprises representatives from villages served by the scheme, the water-point committee consists of people selected by water users around the respective taps. In the study sites, Didi Scheme has a total of 103 water-point committees and Mvumoni has 86 similar committees. According to the project's arrangements, each committee should have 6 members.

² The ADC is top-most of the action committees that the national decentralization policy empowers district assemblies to create, and it is there to provide for local people's participation in the formulation and implementation of the District Development Plan (DDP). This committee is chaired by the Traditional Authority (TA).

6.1.1 Community Cash Contributions

Apart from establishing committees, the project also encourages water users to pay for the services. In its attempt to encourage the participatory approach to water supply and sanitation delivery, the project requests target beneficiaries to organize water user groups to request for assistance. Therefore, before a water user group requests support from the project through official project agreement forms, they are required to indicate their commitment to the exercise by mobilizing local construction materials (bricks and sand) including an upfront cash contribution of MK2 300.00 or US\$16.35. Part of this contribution that is, MK1 400.00 is used for purchasing cement, MK600.00 is for paying a builder also called Technical Service Provider (TSP) and the remainder is saved in a bank account for future operations and maintenance of the facility.

In the COMWASH projects, besides water users making capital contributions, households are also required to contribute MK5.00 every month towards operations and maintenance of the scheme. Water-point committees are responsible for collecting these funds and they later pass them on to the scheme committees for onward banking into the respective bank accounts at Standard Bank at Luncenza (COMWASH 2004: 16). In addition, households make contributions at the water-point towards the maintenance of their water-point. For example, whenever a tap gets worn out they use these resources to purchase a new bibtap for replacement.

6.2 THE DEMAND-DRIVEN APPROACH IN COMWASH WATER PROJECTS

6.2.1 Community Involvement in Project Initiation

According to Sara and Katz (1998: 19), the first indicators that a project is responding to the target community's demand is the degree to which the beneficiaries feel that they were responsible requesting of the new water system. This is in contrast to the perception that the project had been initiated by individuals from outside the community such as project staff, local representatives or government. As was indicated in the MASAF project, the study examined the way in which COMWASH funded projects responded to water user demand in the district. It was also noted that COMWASH operates on the 'pure community model' in which demand means that community members feel that they are responsible for initiating the project (Vajja and White, 2006; COMWASH, 2006). This is in contrast to situations whereby community members perceive that individuals outside the community initiate

projects namely: project staff, politicians or the district assembly and other government agencies (KNAHP, 2000). In this study, determination of whether a project was initiated from within the community or not was derived from a series of questions regarding people's awareness that they could get assistance to implement the intervention, whether the project was a priority including how their participation influenced decisions in the process.

Before a community initiates a project, however supporting or development agencies in this respect COMWASH must create demand and encourage the expressed demand (Breslin, 2003: 4). COMWASH (2004) shows that most of the awareness creation activities in the project were done through social marketing. In order to achieve wide awareness therefore, the project staff and government extension workers conducted public meetings with local leaders and the general public in the target communities before implementation began. In the case of COMWASH, awareness about its operations in the area is quite high considering that results from focus group discussions and key informant consultations with the population in the study sites (STA Mphuka) showed that most people recognized the organization's activities.

The standard procedure in the projects is that communities that are interested to participate after awareness is to make formal requests on a form available from and submitted to the district assembly at Thyolo District Headquarters. COMWASH project office requests villages that are interested to participate in the water project to complete project contract forms (Kaphuka and Shaba, personal communication, July 2006). However, since the project specializes in water supply and sanitation it offers communities a range of technological options to choose from within this sector. Therefore, communities requesting assistance from COMWASH can only choose to participate in a water project, by either constructing boreholes, shallow wells and gravity-fed schemes depending on technical advice from the project and the Thyolo District Assembly.

Ideally, framers of the demand-driven approach assume that community members come together and identify a problem that they can resolve by collective action combined with an appeal for external support (Vajja and White, 2006: 10; GOM, 2001, COMWASH, 2002). On the contrary, collective action was not the experience in as far as project initiation was conducted in the COMWASH projects in STA Mphuka. Similar to the observation that was made in the other case study, when respondents were asked about the person(s) whose idea it

was to initiate the project most of them often responded by saying ‘*anthu a m’mudzi muno*’ meaning the ‘community’.

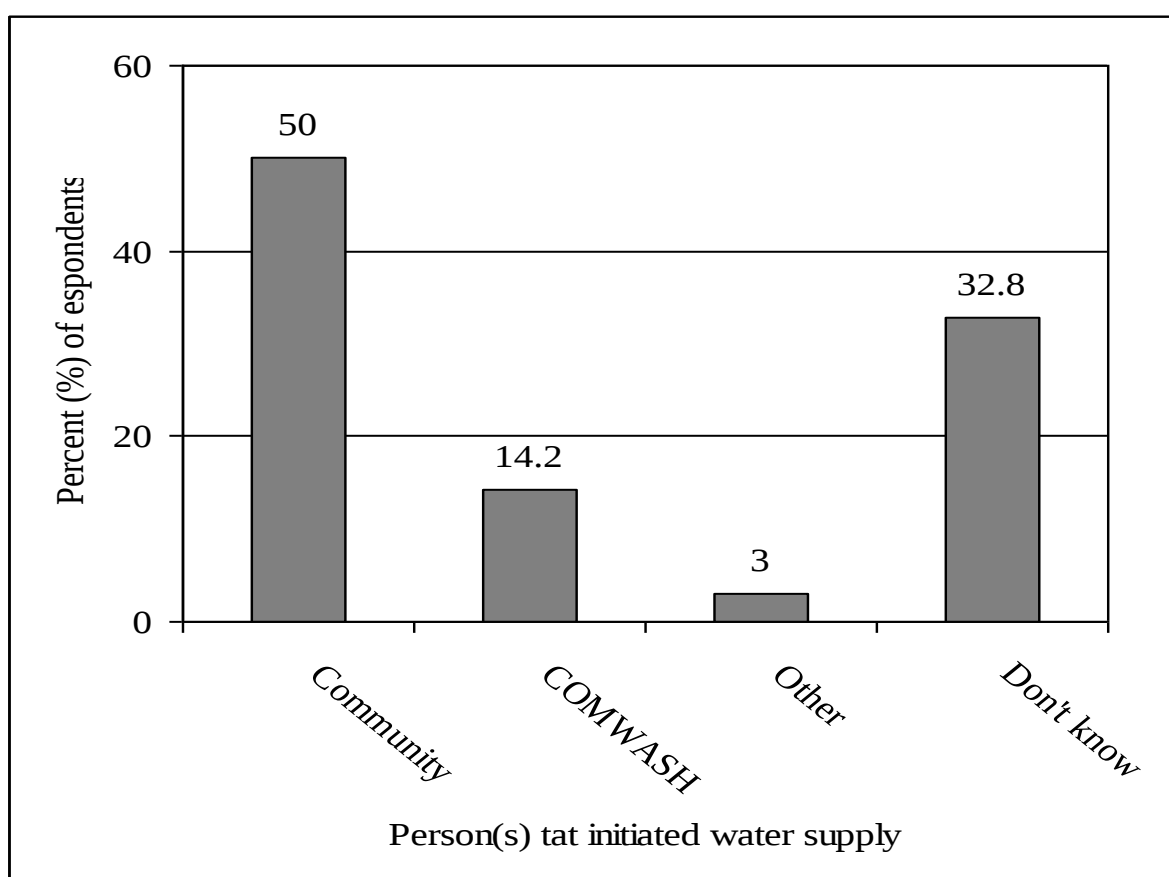


Figure 8: Community’s perception of person(s) that initiated water supply in COMWASH sites

Results in Figure 8 show that many respondents (50.0 percent) in COMWASH projects reported that it was the community’s idea to initiate the projects. Though the general picture in the figure above suggests that the community was responsible for initiating the projects, the interventions emanated from external agencies through the district assembly. Results from qualitative data analysis indicated that in the case of this project, a donor Canadian International Development Agency (CIDA) had planned to provide assistance to the Government of Malawi by financing a piped water project in Thyolo District (Mambulu, Kazombo and Shaba, personal communication, July 2006). This followed consultations between the donor, and Ministry of Irrigation and Water Development and the district assembly. Following those consultations, Thyolo District Assembly sensitized the target communities about the project. According to the Director of Planning and Development

(DPD) for the district, the normal procedure is that the assembly initially consults chiefs (Traditional Authorities or TAs) about new projects. Through TAs as channel of communication, the message goes down to Group Village Headmen (GVH) who carry information further to Village Headmen and eventually the issues trickle down to the intended communities. That is how COMWASH began as a project in STA Mphuka's area. Therefore, as seen in the preceding discussion, by the time the message comes to members of the communities (villages), the assembly will have already agreed with the other external agencies as to what is possible in the area. Just as Wienecke (2005) and Vajja and White (2006) observe, there is little that communities can do to change anything at this point. Usually, communities will not even refuse to participate in the project because doing so would scare away agencies willing to support them in other areas of need. For example, Sara and Katz (1998) give an account of external determination of need in Uganda where communities that had other equally pressing needs (a road and a school) nevertheless accepted a water project because they did not want to lose the opportunity for funds. Moreover, the authors report that the communities 'perceived the water project as a first step in obtaining government support for a road and a school.'

In short, those projects, which go with the label demand-driven or community-driven, essentially, are identified from outside the community as the example of COMWASH shows. CIDA with the co-operation of the Malawi Government carried out an appraisal (consultations) with the aim of supplying piped water to rural communities in Thyolo District. When both parties agreed at that higher level as Mambulu (Water and Environmental Specialist at CIDA, personal communication, July 2006) puts it, the 'community' was consulted about the project. In this case study therefore, what was apparent was that the communities served by the project were selected based on need and were later asked to participate before construction was approved. like MPs who apply for the fund and only inform beneficiaries about the project when it is already approved (Kaphuka, personal communication, July 2006), initiate other similar projects like those supported by MASAF. This scenario apparently tends to discredit the idea of self-improvement in communities because beneficiaries perceive the projects as something they receive from donors and not the result of their demand.

6.2.2 Whether Projects Addressed Beneficiaries' Priority Needs

World Bank (2002) and Dulani (2003:9) have argued that projects that encourage target communities to select projects of their choice, ensure that those investments address priority needs. Although, it was indicated that project initiation had not been a unified expression of community will, as the development experts suggest the resulting interventions addressed the water users' needs. On the contrary, it was a process whereby the donor and the assembly decided which project types the community would receive. In spite of these inconsistencies between the ideal and practice in this study, most respondents felt that the water projects in their respective areas met the communities' priority needs at the time of the current study.

Table 12: Water supply priority in COMWASH sites

Response	Proportion (%) and number of responses	
	%	n
Priority	97.0	130
Not priority	1.5	2
Don't Know	1.5	2
Total	100.0	134

Therefore, regardless of the limitations of the demand-led approach, results in Table 12 showed that most respondents (97.0 percent) in the COMWASH project felt that the newly established water supply services met their priority needs. This was because although the community previously benefited from an old government constructed gravity-fed water supply scheme, the facilities were quite unsatisfactory. For example, most participants in STA Mphuka's area vividly remembered the old (Malawi Government) supported piped water supply, which had decayed due to lack of rehabilitation. They further believed that the situation got worse when World Vision International failed to correct the situation even after securing funds from United States Agency for International Development (USAID). Moreover, considering that the area has limited alternative sources of safe water supply like boreholes, most of them used to draw drinking water from streams or open wells (GVH Chikunkhu, personal communication, July 2006). As a result, people in the area often suffered from waterborne diseases with cholera as the major threat in many times of the year. Although the COMWASH project had not yet conducted a thorough investigation in this regard, the general feeling was that the incidence of water borne diseases such as diarrhoea

(cholera, dysentery) had gone down with the implementation of the water supply (VH Mphera, Mambulu, personal communication, July 2006).

Generally, results have shown that most respondents in the COMWASH project all but two mentioned other priority: namely a road and health facility as their felt need. All in all, the study findings tend to support the feeling that water supply was a priority issue in the study sites.

6.2.3 Beneficiary Influence in Decision-Making

Another set of indicators that were used to measure whether the beneficiaries had any idea as to what they were requesting to implement in their respective areas was involvement in the decisions that were taken. In essence, external agencies whether governmental or non-governmental should offer communities a range of technological options such as boreholes, taps, shallow wells, spring or rainwater harvesting if the process is to be truly demand-led. In addition to offering choice, those agencies should inform water users about their expected inputs (contributions) and responsibilities for operations and maintenance of facilities. It is argued that such information helps guide beneficiaries to weigh what is possible and sustainable in the area given financial as well as technical capacities available over the facility's life span (Breslin, 2003: 3; Water and Sanitation Program, 1998).

Similar to the MASAF case study, beneficiaries' participation in decision-making was determined by seeking respondents' answers to questions like a household's participation in project costing, location of facilities, type of water supply and the maintenance system (Table 13).

Table 13: Proportion of households involved in decision-making in COMWASH sites

Area of Decision	Proportion (%) and number of responses	
	%	n
Project costing	0	0
Ancillary works	9.4	10
Type of technology	20.8	22
Maintenance system	17.9	19
Location of facility	19.8	21

In the COMWASH sponsored projects too, results show that 11.6 percent of the respondents were involved in decision regarding project costing. That was the case because FGD participants reported that there was constant interface between project staff and the community through the local committees before and during implementation. Therefore, the observation that some members of the community knew the cost of project activities reveals that there contacts between local leaders and the representatives external agencies. As Sara and Katz (1998:22) observe, often water or local committees are better informed about the consequences of their decisions than anyone else since project staff heavily rely on community representatives.

6.2.4 Community Contributions

As in the MASAF case, in the COMWASH funded projects most people made contributions. As indicated in Table 14, 93.3 (n=134) respondents reported that they had contributed either ‘in cash’ or ‘in kind’ or both in many cases. In this project, the investment policy requires that beneficiaries make capital contributions. Results show that households, which failed to raise cash were requested to provide labour. Key informants and some respondents in Nsewa Village in STA Mphuka reported that those who contributed through this path were assumed to have contributed to the required MK2 300.00 per village. Households that fulfilled their obligation through labour were unable to tell how much they worked for per hour or per day. Moreover, key informants indicated that the project did not put a money value on the labour these households contributed although the assumption suggests that these people had paid MK55.00 if their labour was given a money value. The reason for the project’s failure to place a money value on beneficiaries’ labour contributions supports what other experts have

commented on projects adopting DRA. For instance, observers have argued that development initiatives that require beneficiaries to make cash contributions towards construction costs fail to clearly link what people pay and what they receive (Sara and Katz, 1998).

Table 14: Community cash contributions towards construction in COMWASH sites

Contribution (MK)	Proportion (%) and number of responses	
	%	n
0.00	23.9	32
10-49.00	17.1	23
50-99.00	32.1	43
100-149.00	14.1	19
150-199.00	6.7	9
200-249.00	0.7	1
250-299.00	0.7	1
300-349.00	0.7	1
350-399.00	1.5	2
400-449.00	1.5	2
450-499.00	0.0	0
500-549.00	0.0	0
550-559.00	0.0	0
600 +	0.7	1
Total	100.0	134

Generally, in the COMWASH funded projects results show that 76.1 percent of respondents (n=134) contributed ‘in cash’. Contributions ranged from MK0.00 to MK600.00 with a mean of MK74.00. This high mean ‘in cash’ contribution reflects the project’s policy on community contributions. Both study results and project documents indicate that the money that villages contributed purchased 2 pockets of cement (MK1 400.00), paid contractor to build tap apron and washing slab, and the remainder (MK300.00) was saved in a bank account as up-front payment for future operations and maintenance (COMWASH, 2004: 14). However, this arrangement falls short of the third DRA principle because it does not take into account the fact that beneficiaries should contribute a proportion of cost of investments. For instance, even if prices change there are no adjustments to the amount of community

contribution in the project. While contributing to one of the questions regarding this issue Mambulu (personal communication, July 2006) observed that the system was not truly demand-driven because even the formula that the project (COMWASH) used to come up with the figures above as user contribution was unclear. However, (COMWASH, 2004 and 2006) show that in some communities scheme committees did not clearly know about the breakdown and the arrangements on how they could handle the capital contribution. Furthermore, even focus group discussions revealed that at household level many consumers were unaware about the use of the cash. All they knew was that they made payments to the water-point committees, which forwarded the same to scheme committees but whatever happened afterwards was unclear to many of the water users. Nselera, Shaba and Kaphuka (personal communication, July 2006) blamed the low awareness among the users about the project's operations on the upper-level committees (scheme, section and repair teams) for their failure to share information (lack of downward accountability) with their members at lower levels such as tap committees and end users.

6.3 SUSTAINABILITY

As was indicated in the introductory chapter, sustainability in this study is defined as the water system's capacity to continue providing an acceptable level of services throughout its design life (Carter et al, 1999: 7; Sara and Katz, 1998; Water and Sanitation Program-ESA, 2000: 12). In that case then sustainability is the water system's continued provision of water supply at the same rate and quality as per design. However, it is acknowledged that defining sustainability is quite a difficult exercise because the term depends on a number of factors that also change over time. For instance, water supply sustainability depends on economic, social and technical factors. Kahkonen (1999) has indicated that social capital, which refers to the cooperation, networks, and associations established among users and other stakeholders for water and sanitation delivery have a bearing on system sustainability. In other words, pre-existing social capital like other community groups promote the participation of water users in system management by reducing the cost of collective action, which is critical in community-driven development initiatives. However, if water has to continue flowing in a system it would indicate that the water users are contributing towards operations and maintenance, consumers accept the service and that the source is adequate. In addition, continued service may mean that community level committees and caretakers are motivated and available to carry out their duties (Carter et al, 1999). These aspects form a group of indicators that the study used to define sustainability.

6.3.1 Water Supply System Performance

With regard to water systems performance, the study bases its analyses on indicators that measure the institutional and social determinants of sustainability at the community level. Therefore, in an attempt to understand how well the facilities were performing the study collected information on the institutional factors from interviews with water committees and water attendants whereas on issues about the social aspects data was also collected from water users themselves. At the household level for instance, the study asked respondents about the frequency system failed in a period of 12 months before June 2006 (Figure 9). At the community level, the study interviewed the system operators as well as other key informants for example, village heads.

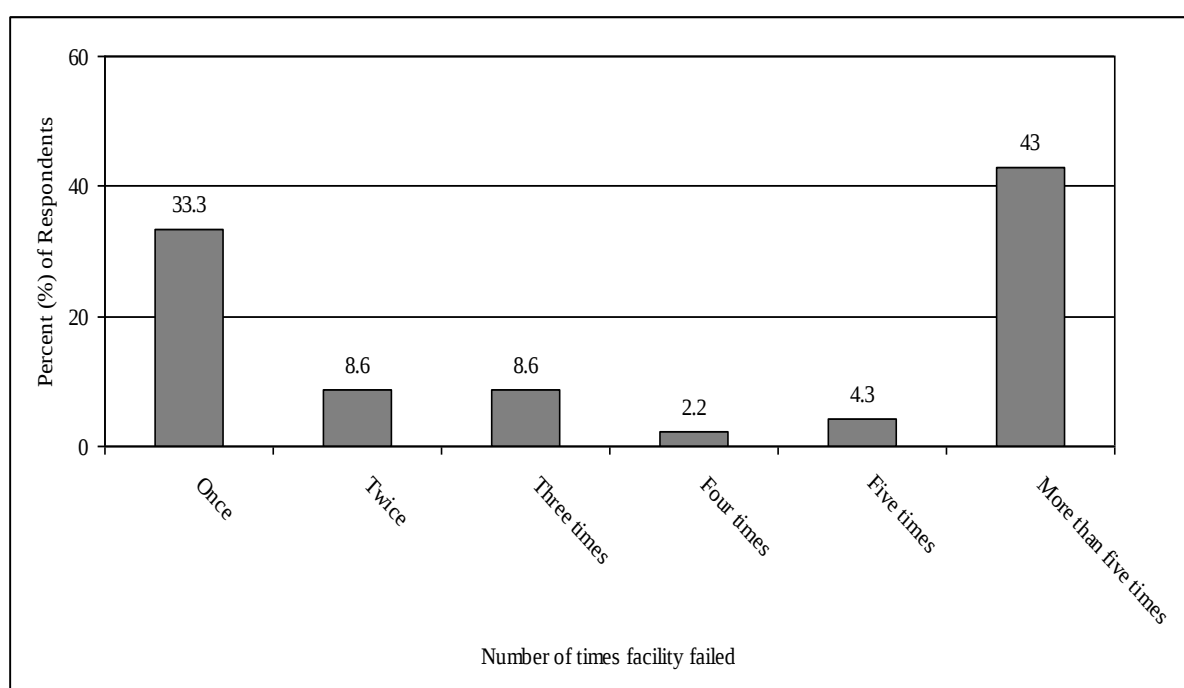


Figure 9: Performance of water supply systems in past 12 months in COMWASH sites

Figure 9 shows the performance of the water facilities in the COMWASH funded sites. Results show that 51.0 percent of the respondents reported that their facilities failed once but less than four times in the past 12 months before this study. However, an overall scenario indicates that many facilities in this project failed the most number of times. For instance, nearly 67 percent of the respondents reported that the water facilities failed ‘More than once’ during the same period. As observed with MASAF sponsored facilities, unlike hand pumps network sources tend to easily get affected by illegal human activities. In the sites that this

study was conducted, many FGD participants revealed that some people on a pipeline illegally tap water for irrigation or other purposes hence causing poor water flow in the system downstream (COMWASH, 2006; Chiliko, personal communication, July 2006). Specifically, focus group discussions at Liphama and Mphera show that other water users in the scheme who are located upstream of the pipeline interfere with facility performance since some of them divert water for irrigating bananas and vegetables. Similarly, (Mambulu and Shaba, personal communication, July 2006) added that intermittent flows in the scheme are a result of software problems as the paper has highlighted above.

In addition, it was noticed that 43.0 percent (n=93) of respondents in COMWASH sites showed that their water supply systems failed 'More than five times' 12 months before this study. According to focus group discussion participants at Liphama, Mphera and Chikunkhu Villages, this uncharacteristically high failure rate was reported to occur in the dry season of the year. Moreover, Mambulu (personal communication, July 2006) indicated that the consultant (Cewater International) had been monitoring the problem and had promised to rectify it. Other sources at the district assembly concurred with what their colleagues reported, and attributed the persistent system failure in the scheme to faulty design (Nselera, personal communication, July 2006). For example, a 'Report on Board of Trustees and Scheme Committees Training on COMWASH Schemes' quotes a 'Situation Analysis Report' for the same schemes, which indicated that at one point during that study none of the taps (n=107) in Didi Scheme of STA Mphuka were functional. The reasons that the report pointed for poor performance included low flows in the dry season, diversion of spring sources for vegetable and banana growing and inadequate supervision by the Thyolo district Assembly (COMWASH, 2006).

Moreover, it was learnt that one of the villages in the study sites in STA Mphuka had requested the project to construct a borehole in the area because in the beneficiaries opinion the taps were problematic (Village Headman Liphama and Nselera, personal communication, July 2006). The villagers are reported to have already mobilized some capital contributions for the COMWASH to support them to construct a borehole, but option was felt to be unattainable because the area's high terrain renders too expensive to provide that type of technology. It should be acknowledged however that given the extensive network of pipelines, system failure was inevitable. Another observation that was made was that many users that reported that

reported problems with the facilities were those who were located on the far end of scheme. Lastly, the study noted that a period of 12 months was long enough to tell the systems were sustainable or not. In this case therefore, the fact that the water facilities failed once or five times in that period does not suggest that the water supply is unsustainable considering that similar systems in the urban areas like Blantyre City in Malawi have been experiencing water shortages for close to a week or over.

6.3.2 Response to Water Supply Systems Failure

Besides technical problems, system performance may be an indicator of how well the institutional and social aspects are contributing to the system sustainability. In other words, the rate at which system operators respond to the water system's breakdown is critical to continued service because it shows whether the institutions are effective in their operations and maintenance activities. Therefore, for the facilities to continue providing safe water to the intended beneficiaries, system operators should have be able to attend to water problems in good time.

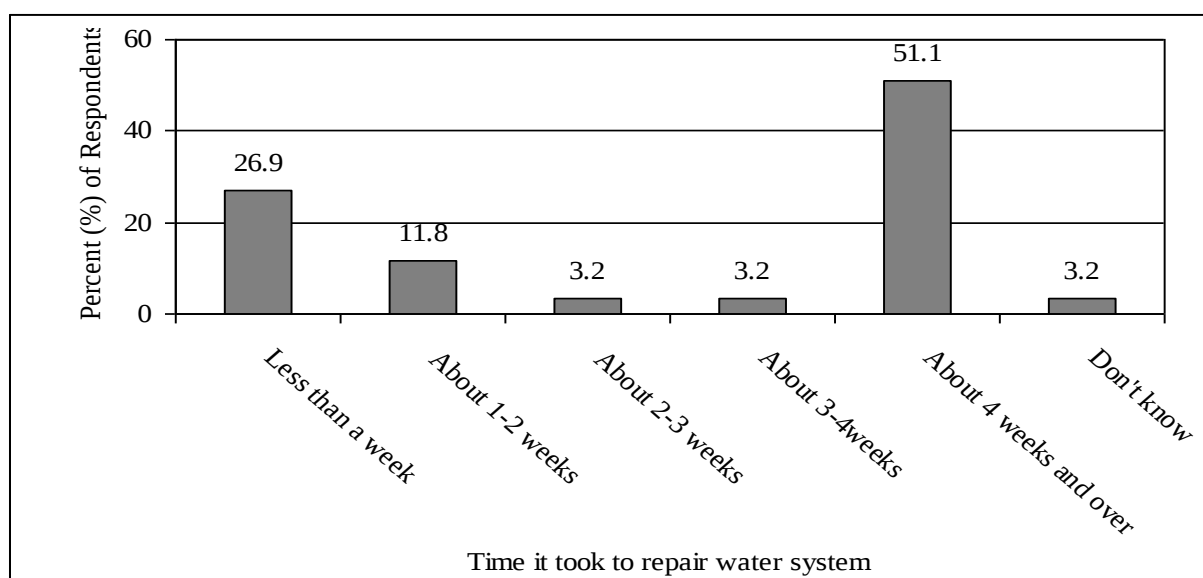


Figure 10 :Time to took for communities to respond to system failure in COMWASH sites

Figure 10 shows that in the COMWASH funded projects many respondents felt that it took long for the local committees to rectify water facilities' failure. In the figure above, about 27.0 percent (n=93) respondents reported that repairs took less than a week to be done. In addition, unlike in the other case study many respondents, 51 percent in the COMWASH

sites reported that water facility failure took a month or over to correct. These results tend to support the observations that were made earlier on in this section. It was indicated for instance that water facilities' failure in the piped water scheme in STA Mphuka showed both institutional and social challenges particularly as a result of the technology (gravity-fed scheme). Both key informant interviews and FGDs support the results for they show that system operators (scheme committees and caretakers) do little to help water users whenever the problem arises. For instance, (COMWASH, 2006: 32) notes that repair teams delay in responding to needs for repair. Furthermore, interviewees reported that sometimes caretakers do not clean intake works hence the structures get blocked by silt.

Much as DRA depends on community's responsibility for the systems' repair, government and other external agencies (non-governmental organizations) should cooperate with water users in fulfilling their commitments in carrying assigned tasks (Mansuri and Rao, 2004:18; Carter et al, 1999: 9; Kahkonen, 1999: 17). Therefore, in view of the challenges that face communities as they carry out their operation and maintenance activities, other stakeholders should avail themselves to provide backstopping services to ensure continued service. The point is made here because given the resource constraints that face government and other development agencies these days some people have the misconception that once they use demand-driven approach, communities should shoulder the entire burden for facility management even before they have adequately built capacity at the grassroots. Many other commentators in the water supply and sanitation sector have decried the 'project' mentality on the part of funding organizations. Sharma et al, (2005) note that the situation in which institutions construct facilities and train the communities in financial management, technical skills and community mobilization, and immediately leave the sites tend to undermine sustainability. The experience that communities who committed their resources towards facilities that are taking over four times as many days as the minimum downtime of 10 days should remind funding agencies like COMWASH about the need to ensure that system operators are equipped with the requisite skills before the project phases out.

6.3.3 Consumer Satisfaction

Consumer satisfaction in the COMWASH project sites was used to measure the water users' perception about how their systems worked. This indicator was selected because even if a system may be technically sound its continued use and support for repairs depends on users'

motivation to contribute towards operations and maintenance. For example, water users should be satisfied with the systems' water pressure, the number of hours water is available, and the quantity, colour and taste of the water if they are to commit the finances towards the systems' O&M. Carter et al (1999:9) observe that it is critical that users should believe that the new source is preferable to their traditional source in terms of access, proximity or quality and quantity.

As was indicated in the other case study, consumer satisfaction in the COMWASH also was measured by asking respondents about their general satisfaction with systems, their opinion about facility reliability, and distance to the new source. Apart from that, respondents were asked about their perception on whether the facility had helped to reduce the incidence of waterborne diseases, quality of water and overall service (Table 15).

Table 15: Consumer satisfaction with water supply system in COMWASH sites

Consumer satisfaction	Proportion (%) and number of responses	
	%	n
General satisfaction	100.0	134
Satisfied	71.6	96
Indifferent	16.4	22
Dissatisfied	11.9	16
Facility reliability	100.0	134
Reliable	70.1	94
Not reliable	27.6	37
Don't know	2.2	3
Water borne diseases reduced	100.0	134
Reduced	76.9	103
No reduced	8.2	11
Don't know	14.9	20
Distance to new source	100.0	134
Shorter	86.6	116
The same	6.0	8
Longer	7.5	10

Results in Table 15 show that most water users in the COMWASH sites were satisfied with their water supply systems. It was noted that 71.6 percent of the respondents in the project were satisfied with the water facilities. As for the other indicators namely: system reliability, reduction in incidence of waterborne diseases, and distance to source tended to reflect the consumers' general satisfaction with their facilities. In addition, it is observed that 70.1 percent respondents felt that their water facilities were reliable. In terms of proximity to the water users' homes, 86.6 percent reported that the services were closer to their homes than previous sources. Shaba (personal communication, July 2006) attributed the high score in terms of proximity to households to the type of technology. She stated for example that the donor (CIDA) decided to support piped water supply because it tends to reach more consumers at lower cost than a point source like a borehole. For example, she noted that a borehole in Thyolo District may cost about MK800 000 while a tap cost approximately,

MK140 000.00 (US\$1000.00). Although the study did not quantitatively measure average distances, most participants in FGDs in STA Mphuka (COMWASH) expressed that taps were close to most users. The key informant stressed that the same could not have been possible because a borehole largely depends on technical considerations. Furthermore, given that machines determine siting, the locations that consumers select are not the ones that experts decide to construct the facilities on.

In order to gain more insight into consumer satisfaction with systems, the study went further to seek opinion about water quality and quantity (Table 16). Essentially, the rationale for measuring consumers' perception on water quality was that although the facility may be reliable or closer to the user's home, people may not be satisfied with aesthetic characteristics of water (colour, taste) and quantity such that sustainability may be critically at risk. According to Porto (2004: 7), drinking water must be aesthetically acceptable: no colour, without odour, and insipid if it is to qualify as being safe.

Table 16: Respondents' perception of water from the established sources in COMWASH site

Consumer perception on:	Proportion (%) and number of responses	
	%	n
Colour	100.0	134
Good	53.0	71
Fair	11.9	16
Poor	2.2	3
Depends on season	32.8	44
Taste	100.0	134
Good	91.8	123
Fair	5.2	7
Poor	2.2	3
Depends on season	0.7	1
Quantity	100.0	134
Adequate	60.4	81
Fairly adequate	23.1	31
Inadequate	11.2	15
Depends on season	5.2	7
Time on queue	100.0	134
Short	85.1	114
Fair	7.5	10
Long	7.5	10
Depends on season	0.0	0
Overall service	100.0	134
Good	70.1	94
Fair	23.9	32
Poor	6.0	8

Using similar measures as explained in the MASAF project, overall, respondents also show that they were satisfied with the established water facilities in the COMWASH projects (Table 16). Generally, the table also shows that respondents rated their water sources as good in terms of taste (91.8 percent), quantity (60.4 percent) and colour (53.0 percent). As regards

time spent on queue at water source, 85.1 percent respondents indicated that they spent less time on queues than at previous sources. Data from FGDs in the project sites show that in COMWASH sites show that consumers were discontented with colour of water and quantity in Didi Gravity Scheme particularly in the rainy season. They explained that during the rainy season, the community draws drinking water from rivers and open wells, because the taps produce muddy water. Many key informants concurred that water quality especially at the beginning of the rainy season is poor because the source suffers from soil erosion as a result of environmental degradation (Nselera, Shaba, personal communication, July 2006). They recall that even before the consultant began construction of the facilities it embarked on a tree planting exercise whose aim was to rehabilitate the catchment (Thyolo Mountain Reserve). They decided on this initiative because by then the reserve was heavily degraded by human activities like cutting down of trees and cultivation on fragile ground. Currently, the catchment is still under threat because people in the surrounding communities continue their activities even to the extent of slashing the young trees. The only hope for any improvement in the catchment is government's plan to turn the mountain reserve into an army camp. Probably, only then could the communities be forced not to tamper with the catchment (Shaba, personal communication, July 2006).

6.3.4 Operations and Maintenance

In addition to measuring system performance, response to system failure, and consumer satisfaction, the sustainability of water supply systems critically depends on the presence of skilled members for operations and maintenance. Therefore, merely mobilizing users to participate in a project is insufficient for sustainable service provision to poor rural communities. Precisely, it is necessary to ensure that water users gain sufficient skills to manage the systems. For example, many studies have indicated that users did not receive relevant skills communities failed to manage their systems because they did not know how to maintain and repair facilities.

Since experience has shown that even a well-constructed water system needs proper O&M arrangements, the study used a set of indicators to measure specific institutional aspects of the COMWASH projects. For instance, the study requested respondents about the presence of a water point committee and a local water attendant (Sara and Katz, 1998; KNAHP, 2000). In addition, some questions required respondents to provide information regarding the

technical capacity of committees such as whether they had received training and the types of skills they gained. (Table 17) provides information on operation and maintenance practices at local level institutions in the study sites.

Table 17: Operations and maintenance practice in COMWASH site

Operation and Maintenance	Proportion (%) and number of responses	
	%	n
Water point committee available	95.5	128
Local attendant available	79.1	102
Local attendant trained	81.6	92
Trained to operate and maintain system	81.6	92

Table 17 also shows that most water users in the COMWASH projects knew that they had water-point committees that were charged with the operations and maintenance of the facilities. In these projects, the standard number of committee members was six and were well organized. As indicated in the table above, 95.5 percent of the respondents reported that facilities had a functional committee. Generally, most respondents were aware that local attendants were available, were trained and that local water attendants had been trained to operate and maintain the system. Both key informants and FGD participants supported this observation. In these study sites, it was indicated that most water users(81.6 percent) were aware that their local water attendants were trained. Moreover, since performance of the facilities depended on the presence of the attendants the communities made every effort to keep the attendants performing their duties by making timely contributions towards wages. These water attendants are paid every month for removing of sediment from tanks and repairing of pipe breakage on the main pipelines. However, whenever they repair a service line, the water-point served by that particular line is responsible for paying the attendant.

6.3.5 Financial Management

According to Breslin (2003: 7) and Sharma et al (2005), financial management is an indicator that a community has capacity and commitment to financially sustain a system over time once external support is phased out;. Data on financial management was based on questions regarding respondents' knowledge of the presence of a maintenance fund, mode of

fundraising, how communities kept finances and amounts of cash contributions that they (users) made (Table 18).

Table 18: Financial management for operations and maintenance in COMWASH site

Financial Management	Proportion (%) and number of responses	
	%	n
Users have fund	97.8	131
Mode of fundraising		
Monthly contributions	96.2	126
Post harvest contributions	1.5	2
Contribution on breakdown	2.3	3
Safe-keeping		
With treasurer	80.6	108
In bank account	2.2	3
Don't know	17.2	23
Most users contribute	79.9	107

In the COMWASH funded water projects 97.8 percent (n=131) respondents were aware that the community had a maintenance fund (Table 18). It was also reported that most of the people in the area made 'in cash' monthly contributions. Qualitative analyses supported these findings. For instance, FGD participants reported that monthly cash contributions in the project were mandatory. The project encouraged the communities to contribute regularly because the scheme committee needed steady finances to pay caretakers and repair teams (local water attendants) every month or each time a water attendant repaired a pipeline breakdown (Kaphuka, personal communication, July 2006; COMWASH, 2004: 17).

As regards the custody of the funds in the COMWASH projects, results in Table 18 show that 80.6 percent respondents reported that their treasurers were responsible for the safe-keeping of the funds. Surprisingly, only 2.2 percent of the respondents reported that their local committees kept their finances in a bank account. This observation generally reflects the situation on the ground. Considering that water-point committees are responsible for the repair of the tap and service line only, they do not need to handle large sums of money. According to Shaba (personal communication, July 2006), tap committees need not handle

large sums of money because a tap does not cost much to repair compared to a hand pump or main line. Indeed, many people that were interviewed indicated that their water-point committees committed most of their time raising funds towards the scheme as a whole (GVH Chikunkhu, personal communication, July 2006).

At household level, information on the custody of finances by higher committees in COMWASH projects was rather blurred. Apparently, the reason was that those committees rarely made themselves accountable to lower level committees like the ones at a tap. COMWASH (2004) observed that often, reporting was from lower committees to higher committees and not vice versa. One of the cases that showed that there was downward accountability in Didi Scheme became clear during FGDs in Chikunkhu and Mphera Villages. Most participants in the FGD could not tell how much was in the scheme account except a lady scheme committee member who rescued the situation when she reported an amount of about MK48 000.00 as of June 2006. In the final analysis, it was realized that other committees were ignorant of the management of finances in the scheme because higher committees did not pass that information to their colleagues in lower rungs of the committees structure. This practice is in stark contrast to one of the scheme's by-laws, which requires the scheme committee to conduct monthly meetings with water users so as to update them on the financial status in the project (Nselera, personal communication, July 2006).

At the bottom of Table 18, most respondents 79.9 percent felt that most water users were contributing to the fund. Many interviewees indicated that some members of the community were unwilling to make payments to the scheme because of the intermittent flows in the water supply system. Results from qualitative data that were collected from the three villages showed that some villagers felt that 'there was no reason for them to contribute while the system was not serving the purpose it was established for'. Officers at both COMWASH and the district assembly admitted that poor performance in some parts of the scheme was a challenge to financially sustain the systems. Therefore, the major concern then was to ensure that most of the underserved water users were assisted through regular monitoring of the systems so as to motivate them to continue paying the monthly contributions to the scheme.

6.3.6 Amounts of Contributions towards Operations and Maintenance

In this study too, apart from attempting to understand the presence of a maintenance fund, custody of contributions and whether most users contributed, the study went further to find out how much water users contributed in the COMWASH projects (Figure 11).

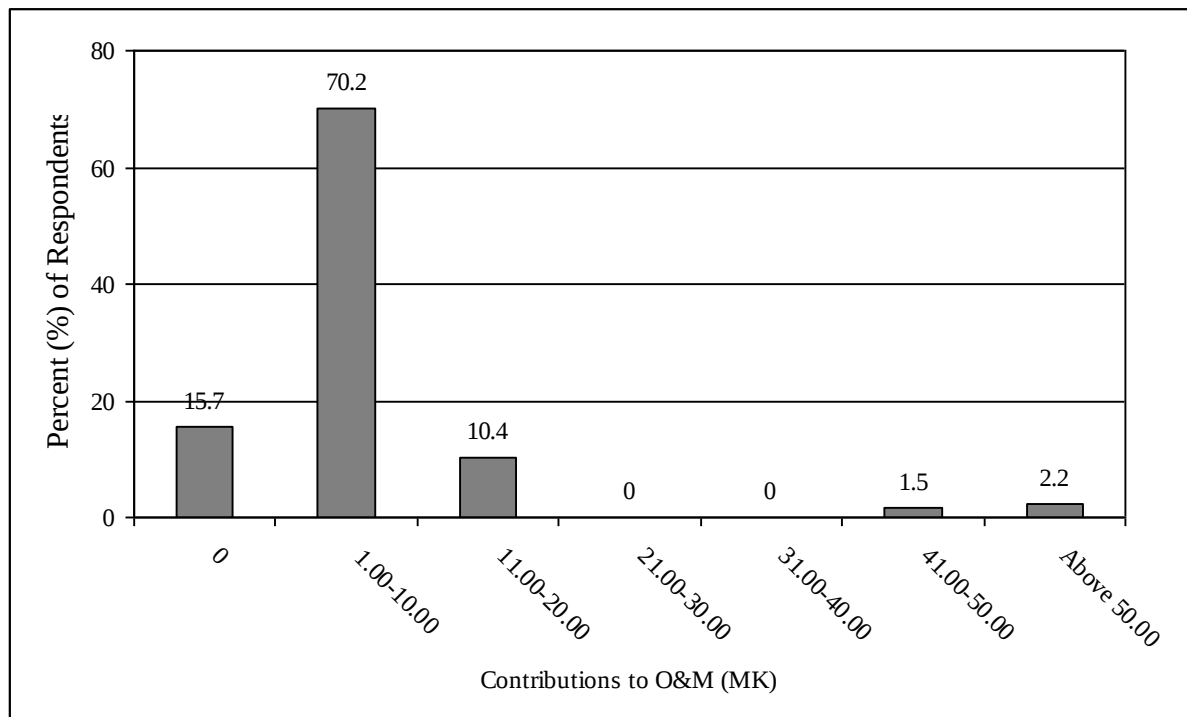


Figure 11: Proportion of water users contributing to the maintenance fund in COMWASH site

In the Figure 11, results show that most water user too were contributing towards facility O&M. For instance, about 70.0 percent of the respondents indicated that they were contributing between MK1.00 and MK10.00 per household. Key informants and project documents revealed that the standard amount of contribution per household was set at MK5.00 (COMWASH, 2004:16; Nselera, personal communication, July 2006). Since the scheme committees are charged with the responsibility of ensuring that the water system is operational using locally generated financial resources, households that failed to contribute were denied access to the services. As per the scheme's by-laws, all water users who defaulted payment and resorted to using alternative sources they were duty-bound to repay all the outstanding amount even for the period that they did not access water from the newly established facilities. As a result, this arrangement has ensured that most people in the scheme maintain their membership. Therefore, in Figure 11 those respondents who indicated that they had paid over MK10.00 in the area reported that they were paying for the previous

month or were making advance payments in case they run short of money to honour their obligation to the scheme committee (GVH Chikunkhu, personal communication, 2006). Generally, beneficiaries in the COMWASH sites reported that regular monitoring from government extension workers with support from the project staff has ensured that these best practices are maintained. As pointed out earlier, the success of demand-driven approach and community management is better in communities where there are monitoring mechanisms than where is none (Kahkonen, 1999: 15).

6.3.7 Willingness to Sustain Systems

In interventions that adopt the demand-driven approach, willingness to sustain water systems measures the water users' support for the systems because they are a priority to them (Breslin, 2003: 7). The indicators on users' willingness to sustain services in the current study included questions on willingness to contribute more to the maintenance fund, users' perception about community's financial capacity to sustain the facility and ownership (Table 19).

Table 19: Water users' perception on willingness to sustain systems in COMWASH site

Willingness to Sustain	Proportion (%) and number of responses	
	%	n
Willingness to contribute more to fund	56.7	76
Financial capacity to sustain system	56.7	76
Facility ownership	67.9	91

With regard to willingness to sustain the water services, results in the COMWASH projects show that 67.9 percent of the respondents expressed that they owned the water services. However, another proportion of them 56.7 percent indicated that they had both the willingness to contribute more to the O&M fund and financial capacity to sustain the services. Overall, these results reflect the type of technology adopted, and the information gap that existed between the implementing agency (COMWASH) and the beneficiaries. Among many key informants that were consulted on this subject, it was indicated that the grassroots committees had inadequate knowledge in the operations of the scheme. For example, most participants in the FGDs expressed the concern that they did not know how to handle pipe breakage on the main pipeline. This responsibility falls within the duties of the

scheme committee and repair teams not the water-point committees or individual as they complained. This complaint about the lack of skills to repair pipes were made because most members of the communities served by the scheme were inadequately informed about their duties and responsibilities. During discussions on the same topic, one of the key informants explained that users in the area doubted their capacity to technically sustain the facilities because they have inadequate knowledge on modalities regarding operations and maintenance. COMWASH (2006) and Mambulu (personal communication, July 2006) observe that even scheme committees were failing to access funds from their account. The reason these sources cited was that the institutions did not understand the use of the contributions as laid down in the by-laws. In other words, there was great need for the scheme committees and the project staff to conduct public meetings with the target communities and their representatives to adequately explain such matters.

As indicated earlier in the consumer satisfaction section, another reason for some water users in the COMWASH project not willing to contribute more towards system operations and maintenance was inadequate service delivery. In general, people that express satisfaction with systems should be willing to contribute more for services because of the value they place on those facilities (Sara and Katz, 1998; Breslin, 2003, Sharma et al, 2005: 366).

Overall, these results show that the COMWASH project was based on the ideals of addressing the water users' demand and the quest to achieve sustainable service provision. In order to ensure that beneficiaries in the project fully participated in the activities, the COMWASH in collaboration with the Thyolo District Assembly conducted social marketing campaigns in which they stated the project's objectives and working principles. Once the beneficiaries in those areas developed the interest to participate in the project, they made their request by completing project contract forms. The forms acted as contracts that bound both parties to make sure that each of them fulfilled the assigned tasks. In spite of the contracts being signed, the study found out that the relationship between the two was unequal. For example, results showed that project staff controlled most key decisions like project costing. In a truly demand-driven project, the COMWASH agents should have held open forums with the beneficiaries and disclosed the costs of the new investments the community was requesting. In a way, the participating households in those communities could have been enlightened more about the water facilities than was the case.

Despite the external agency's limited involvement of the beneficiaries, the water services were generally sustainable. Considering that the implementing agency had not yet phased out its activities in the project area they still had time to correct the technical challenges in the Didi Scheme. Similarly, the project should be in a position to fine-tune the local committees operations so as to strengthen their capacity to adequately discharge O&M duties. More importantly, the study found out that many beneficiaries in the COMWASH sites were generally satisfied with the water services. Their expression of satisfaction with the services was based on aggregate measures such as the distance, the time spent on the queue and water quality among others. Qualitative results indicated that the respondents' satisfaction was made in relation to previous water sources. People in the area for instance considered their tradition water sources as less reliable and situated further away from their homes. In addition, to some extent the approach based on beneficiaries' involvement showed that it helped to instill a sense of self-reliance among the users. In the study sites, both FGD and key informant interview results complemented the quantitative findings as was observed in the following:

'...we cannot say that the taps belong to COMWASH because project staff are not the ones using these sources...' Another member went on to state '...the taps belong to us because we are the users and people from Thyolo District Assembly do not drink from the taps..' (Members in FGD at Mphera Village, June 2006).

CHAPTER SEVEN : MASAF AND COMWASH WATER PROJECTS COMPARED

7.0 INTRODUCTION

In the two preceding chapters, the thesis presented and discussed results of the study done in MASAF and COMWASH water projects in Thyolo District of southern Malawi. In the discussions, it was also apparent that the two projects shared some similarities. At the same time, although the projects were similar they tended to be different in some aspects especially on the operationalisation of the demand-driven concept. This chapter discusses the similarities and differences between these two water projects.

7.1 SIMILARITIES

Firstly, it was observed that with regard to project initiation, both MASAF and COMWASH operated on the ‘pure community model’ in which demand meant that the community members felt that they were responsible for initiating the water projects. For example, in order to encourage community demand of water services, project staff and the district assembly conducted awareness campaigns before implementing the activities. Following, the awareness meetings the communities were offered an opportunity to express their interest to participate in the project. Therefore, if a community was interested in the interventions it was requested to make a formal request by completing project forms in which the representatives of a given community indicated their commitment. Such processes were put in place on the assumption that all the community members come together and identify a problem that they can resolve by collective action combined with an appeal for external support. In the end, it turned out that collective action in both projects was not the experience as far as project identification was conducted because only a few individuals were actually involved in most of the decisions.

Secondly, in the area of informed choice about the interventions the projects tended to be similar. As indicated earlier, in any demand-led approach, it is recognized that for beneficiaries to appreciate their role in the project they should be well informed about the decisions they take. For example, it is argued that whenever beneficiaries are provided with adequate information about the type of facilities to construct, their location including the people’s contributions and responsibilities for O&M they feel that they are part and parcel of

the decision-making processes and the project's results. In the projects that this study was based, it was found out that communities were involved in decisions regarding the projects. However, in general most of the beneficiaries in both MASAF and COMWASH sites were not adequately informed about most of the key decisions. It was indicated for instance that most respondents reported that they had no or very little involvement in determining the costs of the activities. This was in contrast even to the project manuals which emphasize the centrality of consumers of project benefits to participate in for example the procurement of contractors and supplies.

The study too revealed that in both MASAF and COMWASH water projects, many respondents indicated that many of them participated in the choice of location facilities. The reason that was advanced for this observation was that project staff tended to consult more with the beneficiaries on issues that required the latter's contribution than those areas which did not need them. Therefore, given that siting of facilities requires villagers to surrender parts of their pieces of land for that purposes it made it imperative for representatives of external agencies to involve the owners of that land in the process.

Thirdly, the study found out that in both MASAF and COMWASH projects, target communities were making contributions towards construction and O&M activities of the water facilities. For instance, the projects requested communities to on the assumption that a community that contributes towards the establishment of interventions demonstrates its interest and commitment to the project. In order to underscore that commitment to the newly established water systems, most users in the communities in this study reported that they had contributed something, that is, whether 'in cash' or 'in kind'. However, it was pointed out that although most members of the communities indicated that they had committed their resources to the projects, many of the contributions were involuntary. That was because many members of the communities under investigation made their contributions out of fear of penalties by their traditional leaders and not mere commitment.

Finally, the projects were similar in the sense that both considered operations and maintenance as a critical aspect for water systems sustainability. This decision was arrived at on the understanding that for a project to realize sustainable results, water users should be mobilized and provided with sufficient skills to manage the systems. In order to achieve that goal both projects organized the water users to establish local committees, system operators

whom they trained to effectively fulfill their responsibilities. Generally, results showed that most of the beneficiaries had water-point committees and local attendants who had skills for conducting O&M activities in their respective areas. For example, it was indicated that the water-point committees were responsible for organizing water users to contribute money for the purchase of spare parts and paying of operators who carry out repairs on the systems. As for the water attendants, their duty was to ensure that they conducted the necessary repairs on the facilities in time. The beneficiaries' commitment in this area was also by the availability of a maintenance fund in the community.

In conclusion, although these projects were funded by two different donors altogether they started shared some similarities. For example, it has been indicated that both made attempts to ensure that water users' needs were met, they indicated their commitment to the systems by contributing resources as well as setting up institutions to manage the facilities.

7.2 DIFFERENCES

Although MASAF and COMWASH shared some characteristics in their implementation like giving opportunities to beneficiaries to express their felt needs, the projects differed in certain areas as well. In the MASAF project for instance, it was noted that instead of leaving the community members to identify their own perceived areas of need, the elite took it upon themselves to complete forms and only mobilized the target beneficiaries when the financial support was acquired. Therefore, the elite dominated the process such that the grassroots were sidelined in an activity that was within their responsibility. In the COMWASH project on the other hand, after CIDA had conducted consultations with the district assembly, the activity was carried further to the grassroots so as to build awareness among all the beneficiaries. At village for example, public campaigns were done with local committees and households to help them understand the project's working principles and the beneficiaries' responsibilities in the process. As a result, people in this project scarcely experienced any political interference. That is, while politicians were filling in project forms in the MASAF projects local villagers in the other case study carried out the same activity without any problem.

The other difference between the two projects was on the extent to which the beneficiaries in the villages were involved in decision-making in the various aspects of the projects. Results

in the MASAF study sites indicated that none of the respondents were involved in deciding how much the project activities would cost. However in the COMWASH project, about 11.6 percent of the respondents reported that they had participated in that area of decision-making. In general, considering that the interventions adopted a demand-driven approach most of the members of the communities should have been involved. The results reveal that the project made comprises by merely involving local committees and not the wider community. Therefore, based on this aspect it was noted that the former was less transparent to its beneficiaries than the latter because project decisions were predominantly in the control of the most powerful individuals in the study sites.

Community contributions was another area that indicated that these projects were different. For example, the MASAF project implementation manual did not specifically require its target beneficiaries to make 'in cash' contributions as is the case in the COMWASH. Key informants reported that communities in the former contributed about 25 percent of the project costs in the form of bricks, stones, sand and labour. If at all beneficiaries contributed 'in cash' it was out of their own initiative when they wanted to mobilize money for purchasing foodstuffs to feed contractors. In the COMWASH project however, 'in cash' contributions were a basic criterion for the communities to participate. Moreover, other than merely linking the contributions to construction the water users were also supposed to show their commitment towards the water facilities by establishing an O&M fund even before construction began. Such a commitment was indicated by the communities reserving some money which they deposited in a bank account. In a way that enabled them to recall that the daily running of their water supply shall depend on their commitment to mobilize local resources.

In addition to community contributions and the other issues, these case studies were different in the way the facilities in each of them performed. For instance, quantitative analyses indicated that water supply systems failed less frequently in MASAF than in COMWASH sites. The reason for that experience was that the projects differed in the type of technology and consequently the kind of management institutions they adopted. Therefore, boreholes that MASAF constructed in TA Bvumbwe needed a different institutional set-up from that of the taps in the latter. Since point sources are not connected to a network, problem solving on the facilities is relatively easy to carry out because diagnosis and repair occur at a single point. The same is not applicable with network sources like the gravity-fed scheme in the

COMWASH. Generally, although a water problem may be noted at a single or a few taps, the source of the fault may originate from a distant point in the system. For example, the water shortage could be due to a pipe breakage on a pipeline buried underground, sediment accumulation in tanks or blockage on a service line. Thus, taking all these factors into consideration it is most likely that the network systems would be more prone to interruption than the point sources. As a result, even the exercise of identifying the cause of the problem would not be easily known, and repairs are subjected to delays. The problem is further compounded by the fact that while identification of faults on a borehole only involves a single committee, that of a gravity-fed scheme requires the involvement of several other committees besides the tap committee. In that case then the MASAF project technology was less complicated both institutionally and socially than that of the COMWASH.

The final aspect that made the MASAF project differ from that of the COMWASH was on financial management. The major factor for this difference in this area was the institutional set-up. Results showed that who served in MASAF sponsored project committees did so on voluntary basis while those in the latter got paid monthly or each time they conducted certain tasks like repairs. It was observed that repair team members had this privilege. For that reason, water-point committees in the COMWASH project ensured that they collected 'in cash' monthly contributions so as to meet those costs. Otherwise if they failed to do so system operators would be unwilling to offer their services. As a result, even the average contributions per household in those sites tended to be higher than in the MASAF sites. Generally, it was also noted that there were two different forms of contributions in the COMWASH project. More precisely, beneficiaries were in the first place mandated to contribute towards the operations of the whole water supply scheme and thereafter made payments to water-point committees for repairs to the individual taps. In such a situation, it was evident that the requirement for water users to contribute to the scheme's O&M activities served as a monitoring mechanism to ensure that the tap committees remained in place and performing their purpose. The same could not have been possible in the borehole committees because there is only a single committee that therefore lacks another body to act as a monitoring mechanism on the O&M operations.

In short, despite that both projects dealt with the provision of safe water supply to rural communities through a demand-driven approach, they did that some differences. This chapter has thus demonstrated that in the case of the MASAF projects in which traditional and

political leaders dominated the process whereas in the opposite case study, most of the decision-making processes were in the control of project staff. It has also been highlighted that in the social fund, community contributions mainly took the form of commodities not cash. However, in the other project beneficiaries contributed 'in cash' as per project rules. Finally, the fact that all members of committees in the MASAF funded projects work as volunteers, O&M contributions were taken less seriously than in the COMWASH whereby local system attendants were paid monthly or each time they carried out specific tasks in the scheme.

CHAPTER EIGHT : CONCLUSIONS AND RECOMMENDATIONS

8.0 INTRODUCTION

This chapter presents conclusions and recommendations based on the study results and experiences drawn from various literature on water user demand and sustainability in rural water supply projects. In particular, the chapter looks at sustainability in the interventions and recommends that the goal is achievable but that local community institutions still need to improve on their responsibilities.

8.1 CONCLUSIONS

The study has demonstrated that communities in both study sites (MASAF and COMWASH) believe that they were responsible for project initiation. Quantitative survey results showed that 56.6 percent in MASAF projects and 50.0 percent of respondents in those funded by COMWASH reported that it was their idea to implement the project. The remaining proportion of respondents either did not know or identified project initiation with other stakeholders like the district assembly, MASAF, COMWASH and political representatives (MP or ward councilors). However, results from qualitative investigations reveal that some interventions are identified outside the communities such as COMWASH. For instance, experts carry out appraisals without involving the grassroots and label those projects demand-driven because beneficiaries commit their resources to realize benefits even though the communities were not party to needs assessment. In addition, the study has demonstrated that although other projects like MASAF provide opportunities for beneficiaries to participate in project identification, they often end up implementing the ideas of some privileged individuals in the rural communities. For example, in certain cases MPs who have better access to information in the organs of government like the district assembly, they fill out project application forms and only inform beneficiaries at implementation stage. Despite these contradictions in theory and practice of the conceptualization of the demand-driven process, the benefits that the projects brought happened to address the priority needs in the study sites.

Considering that the interventions in the study sites adopted the demand-driven development approach, beneficiaries were expected to participate in key decisions on the investments. Most of the areas of decision-making that the water users participated in involved were not key to the projects in both study sites (MASAF and COMWASH). For example, beneficiaries mainly participated in deciding on location of facilities and maintenance system. The study shows that in both funding agencies most consumers reported that they did not participate in deciding on the cost of investment. Therefore, the sponsors of the projects allowed communities to decide on those resources which the poor rural beneficiaries had control over namely: land for siting facilities, and contributions for future operation and maintenance system.

Furthermore, the study has demonstrated that at implementation stage, most beneficiaries contributed various resources towards construction. Nearly 80 percent in the MASAF and 90 percent in the COMWASH respondents in this inquiry reported that they contributed something to the project. Although the contribution are perceived as being voluntary, studies show that local political power relations play a major role in mobilization of the contributions. Just as Vajja and White (2006), and Platteau and Abraham (2002) observe, the study found out that traditional leaders that is, village headmen use their power to ensure that people in the villages contribute to development work by imposing penalties on members who fail to make contributions.

The ultimate goal of implementing projects using the demand-driven concept is to make projects realize sustainable benefits. The study used indicators like system reliability, consumer satisfaction, O&M, and community perception on facility ownership to define sustainability. Through use of crosstabulations and qualitative data analysis the study has attempted to indicate that demand-driven interventions have prospects of being sustained. For instance, reliability (performance) of facilities is affecting consumer satisfaction and ownership in COMWASH sponsored projects in STA Mphuka because consumers are disillusioned with results of the water facilities. The reason is that frequent system failure and long down time is reducing users' motivation to support O&M requirements in the area. When the facilities fail, and sometimes it take long, a month or over, people in the communities decide to default on payments to the scheme. As for the MASAF sites, facilities are relatively reliable. In spite of that, all is not well because the challenge in the area is the

performance of the user committees. Due to poor or lack of water-point monitoring in the district, the institutions are failing to deliver on their responsibilities.

Generally, if users at the household level choose interventions and truly gain control of project decisions, demand-driven initiatives in the study communities indicate that they are sustainable. The fact that most users express that they are satisfied with the services, contribute to a maintenance fund, have a sense of ownership and that they make attempts to put facilities back in action even to the extent of hiring technicians would mean that they value the investment.

8.2 RECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:

1. MASAF and COMWASH with the support of local assemblies should encourage the use of extension workers to facilitate the project preparation exercise in order to substantially reduce opportunities for the political elite to exercise political patronage. Generally, most extension staff in the water sector have undergone training in participatory techniques such as the Participatory Hygiene and Sanitation Transformation (PHAST) and PRA, which encourage community involvement in project identification and planning. In addition, the projects and their partners at the grassroots should conduct regular monitoring activities to ensure that the target communities are fully involved in determining costs of project activities as well as associated beneficiaries' contributions towards the creation of the infrastructure.
2. It is observed that the promotion of the AFRIDEV hand pump has limited the local communities' input into the selection of technologies to construct in the project villages. It is recommended therefore that through open forums as expressed in the first recommendation should guide MASAF, COMWASH and the local assemblies to present to beneficiaries a range of technological options that are potentially able to fulfill water users' needs. Specifically, this is possible if the assemblies develop water resources database or mapping.
3. Past initiatives have considered the demand-driven (responsive) process in terms of community cash contributions for O&M only. It is recommended that right at the project identification phase beneficiaries should be aware of the cost of the type of infrastructure the communities are applying for possible funding. Cash contributions should be

encouraged to serve as a sign of the beneficiaries' commitment to the project's establishment and future O&M. Therefore, beneficiaries shall not consider their contribution as a cost-cutting mechanism by funding agencies but as their (the communities') commitment to the services they demand or request.

4. Target communities at all levels, traditional and political leaders, and the end users of water facilities should be adequately consulted on the dangers of vandalism of infrastructure and damage to the environment with regard to the safety of drinking water. For instance, people should be aware of the consequences of environmental degradation to water quality and quantity. More precisely, the more the more effective the institutional capacities to protect the environment from degradation the better the water quality and quantity.
5. It is also noted that the one-off training that local committees undergo is inadequate to counter various challenges the institutions face. It is recommended that MASAF and other stakeholders in the water sector ensure that regular monitoring is put in place to assist local committees in terms of technical issues and other new demands arise. As information continues to flow in the local communities, water users currently served by hand pump or communal taps could request improvements through installation of solar or wind power including individual house connections. Thus the local assembly should be available to adequately facilitate the process.
6. In addition, it is recommended that local assemblies set up mechanisms to provide backstopping services like replacement of members who withdraw from local water committees. Local assemblies with the support of Ministry Irrigation and Water Development and others should make sure they facilitate the re-establishment and training of redundant committees. This is one of the roles that such external agencies can play in demand-led projects like those by MASAF or COMWASH.

8.2.1 Areas of Future Research

- Assessment of the effect of community cash contributions on the financial sustainability of rural water supply services;
- Examination of water users' evaluation of the health benefits of safe drinking water;
- A study on rural communities' perception of individual or private water connection.

REFERENCES

- Amenga-Etengo (1994), 'Water Privatization in Ghana: The Reality and the Mirage',
<http://www.isodec.org.gh/Papers/Realities&Mirage.PDF>
- Babbie C., F. Halley and J. Zaino (2003), 'Adventures in Social Research: Data Analysis Using SPSS 11.0/11.5 for Windows', Sage Publications, Thousand Oaks, California: USA.
- Bamberger M., (1991), 'The importance of community participation', *Public Administration and Development*, Vol. 11 (3), pp. 281-284
- Breslin E. D. (2003), 'Demand responsive approach in practice: why sustainability remains elusive', *Case study of the Water and Poverty Dialogue Initiative at 3rd World Water Forum, March 2003, Japan.*
http://www.wateraid.org.uk/documents/elusive_sustainability_breslin.pdf
- Butterworth et al (2001), 'Water resources and water supply for rural communities in the Sand River Catchment, South Africa', *2nd WARFSA/ WaterNet Symposium: Integrated Water Resources Management: Theory, Practice and Cases, Cape Town, 30-31 October 2001.*
- Caincross S. and Valdmanis V. (2006), 'Water Supply, Sanitation, and Hygiene Promotion', *Disease Control Priorities in Developing Countries*, World Bank, Washington DC.
- Carter et. al. (1999), 'Impact and Sustainability of Community Water Supply and Sanitation Programmes in Developing Countries', *Journal of the Institute of Water and Environmental Management*, Vol. 13, pp. 292-296, August 1999.
- CIDA (2005), 'Community Water, Sanitation and Health Project, Malawi' *Quarterly Progress report, Quarter 20, July 1- September 30, 2005.*
- Comrey et al (1983), 'Elementary Statistics: A Problem-Solving Approach ', Wm. C. Publishers, Dubuque, Iowa: USA.
- COMWASH (2006), 'Report on Board of Trustees and Scheme Committees Training on COMWASH Schemes', May 2006, Thyolo: Malawi

- COMWASH (2004), 'An Assessment of DRA/ CBM governance Issues for COMWASH gravity Fed Schemes', *Field Report No. 29, March 2004*, Thyolo: Malawi
- COMWASH (2003), 'Water Ownership and Access Rights in Malawi: customs practices and statutory laws', *Operational Research Report, October-November 2003*, Lilongwe: Training Support for Partners,
www.sarpin.org.za/documents/d001327/index.php
- DeGabriele J. (2002), 'Improving Community-Based Management of Boreholes: A Case Study from Malawi', *Broadening Access and Strengthening Input Market Systems (BASIS)*, University of Wisconsin-Madison, www.wisc.edu/lrc/basis.html
- DFID (2002), 'Addressing the Water Crisis : healthier and more productive lives for poor people', *Strategies for Achieving the International Development Targets*, London.
- Digby P. K. (2000), 'Measuring the size of the rural population in Malawi', *A contribution to the 1999-2000 Starter Park Evaluation Programme*, Statistical Services Centre, University of Reading: UK.
- Dulani B. (2003), 'How Participatory is Participation in Social Funds? An Analysis of Three case studies in the Malawi Social Action Fund', *Paper presented at the Conference on Participation: From Tyranny to Transformation: Exploring New Approaches to Participation in Development*, University of Manchester.
- Glazewski (2000), 'Environmental Law in South Africa, Butterworth Publishers', (Pty) Ltd, Durban: South Africa.
- GOM (2003), 'Policies Influencing Patterns of Use of Water Resources in Malawi', *Water Resources Management Policy and Strategies*, Ministry of Water Development. <http://www.ies.wisc.edu/lrc/live/bassaf99904.pdf>
- GOM and UNDP (2003), 'Malawi Development Goals Report', Ministry of Finance and Economic Planning: Lilongwe.
- GOM, CIDA and UNDP-World Bank (1998), 'Water and Sanitation Sector Programme up to the Year 2020', *Community Water and Sanitation (COMWASH) Project Identification Workshop*, Mangochi-Malawi, May 1998.

- GOM (1995), 'Rural Water Supply and Sanitation in Malawi: Sustainability Through Community-Based Management', Ministry of Irrigation and Water Development, Lilongwe: Malawi.
- GOM (unpublished), 'Manual on Community Managed Piped Schemes', *Ministry of Water Development, Lilongwe: Malawi.*
- International Water and Sanitation Centre, (2005), 'Community Water Supply Management : History of a concept', www2.irc.nl/manage/manuals/refdocs.html
- Jabu C.G (unpublished), 'Assessment and Comparison of Microbial Quality of Drinking Water in Chikwawa, Malawi', University of Strathclyde. <http://www.cspf-online.org/news/jabupaper.pdf>
- Kahkonen S. (1999), 'Does Social Capital Matter in Water and Sanitation Delivery?', *Social Capital Initiative, Working Paper No. 9*, The World Bank. <http://www.siteresources.worldbank.org/INTSOCIALCAPITAL/Resources/Social-Capital-Initiative-Working-Paper-Series/SCI.WPS-09.pdf>
- Kalua B. (2000), 'An Economic Analysis for a Proposed Water Supply Development for Fourteen Centres: Fourteen Centres Water Supply Project, Socio-Economic Report', Chancellor College: Zomba.
- Kleemeier E. (2000), 'The Impact of Participation on Sustainability: An Analysis of the Malawi Rural Piped Scheme Program', *World Development*, Vol. 28, No. 5, pp 929-944.
- KNAHP (2000), 'Applied Water Research', *Research Report submitted to Karonga Nutrition and Health Project*, by W. Chilowa and B. Chinsinga, University of Malawi, Chancellor College: Zomba
- Langa B. M. (2005), 'Determinants of Sustainability in Malawi Rural Water Supply Programs: The Case of Mangochi District', MA (Economics) Thesis, Chancellor College: Zomba
- Mansuri G. and V. Rao (2004), 'Community-Driven Development: A Critical Review', *The World Bank Research Observer*, Vol. 19(1). <http://www.cultureandpublications.org/bijupdf/mansurirao.pdf>

- MASAF (2003), 'MASAF III Program', MASAF Development Communication Unit: Lilongwe.
- M^cGarry M.G (1991), 'Water and Sanitation in the 1990s', *Water International*, Vol. 16(3). pp 153-160.
- M^cPhail A.. A. (1993), 'The Five Percent Rule for Improved Water Services: Can households afford more', *World Development*, Vol. 21(6). pp. 963-973
- Miraftab F. (2003), 'The Perils of Participatory Discourse: Housing Policy in Post apartheid South Africa', *Journal of Planning Education and Research*, Vol. 22, pp. 226-239
- Mtisi S and Nicol A (2003), 'Water Points and Water Policies: Decentralization and Community Management in Sangwe Communal Area, Zimbabwe', *Sustainable Livelihoods in Southern Africa, Research Paper 15, March 2003*.
http://www.odi.org.uk/upp/publications_pdf/SLSA_15.pdf
- Nakhwema A (2002), 'Demand for Higher Level Water Services in Lilongwe', *MA (Economics) Thesis*, Chancellor College: Zomba.
- NSO (2000), 1998 Malawi Population and Housing Census: Report of Final Results', National Statistical Office, Zomba: Malawi.
- NSO (2005), 'Integrated Household Survey 2004-2005', National Statistical Office, Zomba: Malawi
- NSO and ORC Macro (2005), 'Malawi Demographic and Health Survey 2004', Calverton, Maryland: NSO and ORC Macro.
- Platteau J. and A.Abraham (2002), 'Participatory Development in the Presence of Endogenous Community Imperfections', *Journal of Development Studies*, Vol. 39, pp 104-136.
- Porto M. (2004), 'Water and Ethics: Human Health and Sanitation', *UNESCO International Hydrological Programme, UNESCO, Paris: France*,
<http://unesdoc.unesco.org/images/0013/001363/136324c.pdf>

- Prokopy L.S. (2005), 'The Relationship between Participation and Project Outcomes: Evidence from Rural Water Supply in India', *World Development*, Elsevier (in press).
<http://www.elsevier.com/locate/worlddev>
- Rall M. (2001), 'Partnerships for Sustainability: The Mvula Trust Experience' The Mvula Trust: south Africa
- Rondinelli D. (1991), 'Decentralizing water supply services in developing countries: factors affecting the success of community management', *Public Administration and Development*, Vol. 11 (5), pp. 415-430.
- Rodda A. (1991), 'Women and the Environment', United Nations Non-Governmental Liaison Service, Zed books: London.
- Sara J. and T. Katz (1998), 'Making Rural Water Supply Sustainable: Report on the Impact of Project Rules', UNDP-World Bank Water and Sanitation Program.
<http://www.wsp.org>
- Sharma et al (2005), 'Maximizing the Benefits from Water and Environmental Sanitation: Evaluation of hand pump water supply in selected rural and semi-urban areas of Zambia', 3rd WEDC International Conference, Kampala, Uganda.
- UNICEF (2004), 'Responding to the Cholera Crisis: UNICEF WES in Malawi', *UNICEF Case Study*. http://www.unicef.org/wes/files/malawi_cholera.pdf
- UNICEF-GOM (2002), 'Country Programme of Cooperation (2002 - 2006)', *Water and Sanitation Plan of Operations*, Lilongwe.
- UNDP-World Bank Water and Sanitation Program (1999), 'Participation, Gender and Demand Responsiveness: Making the links with impact and sustainability of water and sanitation projects', *Malawi Country Report*: Bunda College of Agriculture and Ministry of Women, Youth and Community Services, Lilongwe.
- UNDP-World Bank (1998), 'Community Water Supply and Sanitation Conference', Washington DC. http://www.wsp.org/publications/global_proceedings.pdf

- Vajja A. and White H. (2006), 'Participation in Social Funds in Malawi and Zambia', *Q-Squared Working Paper No. 20, February 2006, Centre for International Studies, University of Toronto, Toronto: Canada.*
- Warner B.D and L. Laugeri (1991), 'The Legacy of the Water Decade', *Water International*, Vol. 16(3). pp 135-141.
- Water and Sanitation Program (2003), 'Water Supply and Sanitation in Poverty Reduction Strategy Papers: Developing a Benchmarking Review and Exploring the Way Forward', WSP-Africa Region: World Bank.
http://www.siteresources.worldbank.org/INTPRS1/Resources/PDF/wss_in_prsp.pdf
- Water and Sanitation Program (2002), 'Social Funds in Africa: Supporting Community-Managed Projects in Rural Water Supply', *WSP-Africa Region Field Note 15*. http://www.wsp.org/publications/af_socialfundsafrika.pdf
- Water and Sanitation Program-ESA (2000), 'Demand responsiveness, participation, gender, and poverty: making links with sustainability of water and sanitation programs', *East and Southern Africa regional synthesis report*, The World Bank, Hill Park, Nairobi: Kenya.
- WaterAid (2000), 'Proposed Strategy and Work Plan for Malawi Programme', Wateraid, Lilongwe.
- Wienecke D. (2005), 'Community-Driven Development in Central Asia: A World Bank Initiative', *Critic: A Worldwide journal of politics*.
<http://lilt.ilstu.edu/critique/spring2005docs/centralAsia.pdf>
- World Bank (2002), 'Social Funds: Assessing Effectiveness', The World Bank: Washington DC.
- World Bank (2001), 'World Development Report: Attacking Poverty', The World Bank: Washington DC.

APPENDICES

APPENDIX 1: HOUSEHOLD QUESTIONNAIRE

Prospects of Sustainability in Demand-Driven Projects: A Case of COMWASH and MASAF Water Projects in Thyolo District

A. IDENTIFICATION INFORMATION

Funding Agency

Questionnaire Number

Village

Village Code

GVH

T/A

Enumerator Code

Date of Interview

B. BACKGROUND INFORMATION

NO.	QUESTION	ANSWER	CODE
a)	Name of household head		
b)	Name of respondent		
c)	Relationship to household head	1 [] Head 2 [] Wife 3 [] Child 4 [] Grand Child 5 [] Other (Specify)	
d)	Sex of respondent	1 [] Male 2 [] Female	
e)	Age of respondent		
f)	Marital status of household head	1 [] Never married 2 [] Married 3 [] Widowed 4 [] Divorced	

		5 [] Separated	
g)	Highest education of respondent	1 [] Primary lower (Std 1-4) 2 [] Primary upper (Std5-8) 3 [] Secondary lower (Form 1-2) 4 [] Secondary upper (Form 3-4) 5 [] Tertiary 6 [] Adult literacy 7 [] No formal education	

C . SOCIO-ECONOMIC INFORMATION

NO.	QUESTION	ANSWER					CODE
a)	How many people live in this household?						
b)	What is the major occupation of the household head?	1 [] Farming 2 [] Labourer 3 [] Own business 4 [] Formal employment 5 [] Casual labour (i.e ganyu) 6 [] Weaving 7 [] Other (Specify)					
c)	Do you own the following assets?	Assets	Number	Number functional	Number non-functional	Total	
		Bicycle					
		Radio					
		Oxcart					
d)	Do you own the following livestock?	Livestock			Number		
		Cattle					
		Goats					
		Sheep					
		Pigs					
		Chickens					

D. PROJECT RESPONSIVENESS TO DEMAND

NO.	QUESTION	ANSWER				CODE
a)	Does the village have any improved water source?	1[] Yes 2[] No				
b)	If Yes to D (a) complete the following:	Type of source	Year constructed	Functional	Non-functional	
		Stand tap				
		Borehole				
		Protected well				
c)	Which organization assisted the village with funds for the implementation of the water supply	1 [] COMWASH 2 [] MASAF 3 [] Other (Specify) 4 [] Don't know				
d)	Who initiated the implementation of the water supply?	1 [] Community 2 [] MASAF 3 [] COMWASH 4 [] District assembly 5 [] Other (Specify) 6 [] Don't know				
e)	Was water supply the priority need in the village?	1 [] Yes 2 [] No				
f)	If No to D (e), which project	1 [] Food security 2 [] School				

	would you preferred instead of water supply?	3 [] Road 4 [] Health facility 5 [] Other (Specify)	
g)	Did you participate in the identification of the project?	1 [] Yes 2 [] No	
h)	Does the project initiative in D e), satisfy your need for safe water supply?	1 [] Yes (Explain) 2 [] No (Explain)	
i)	Did you participate in deciding on how to much the project should:		
	i. Cost?	1 [] Yes 2 [] No	
	ii. Siting of water points?	1 [] Yes 2 [] No	
	iii. The type of water supply?	1 [] Yes 2 [] No	
	iv. The design of ancillary works?	1 [] Yes 2 [] No	

	v. The design of maintenance system?	1 [] Yes 2 [] No	
j)	Did the water management committees have any influence in making decisions in the project?	1 [] Yes 2 [] No 3 [] Don't know	
k)	If Yes to D j), which decisions did water management committees influence?	1 [] Siting of water points 2 [] Planning of project activities 3 [] Selection of members of the committee 4 [] Costing of project activities 5 [] Other (Specify)	
l)	Did the villagers have any influence in making decisions in the project?	1 [] Yes 2 [] No 3 [] Don't know	
m)	If Yes to D l), how do the villagers influence decisions in the project?	1 [] Siting of water points 2 [] Planning of project activities 3 [] Selection of members of the committee 4 [] Costing of project activities 5 [] Other (Specify)	
n)	Who had final decision on type of water supply	1 [] Community 2 [] Water committee and community leaders 3 [] Community leaders only	

	for the village?	4 [] Funding agency and district assembly 5 [] Other (Specify) 6 [] Don't know	
o)	Did you contribute anything towards the construction of the water supply?	1 [] Yes 2 [] No	
p)	If Yes to D o), what did you contribute?	1 [] Labour 2 [] Construction materials (sand, bricks, stones) 3 [] Money (Specify amount your household contributed in MK) 4 [] Other (Specify)	
q)	Were you aware that you will be responsible for operation and maintenance costs once construction of the water supply was completed?	1 [] Yes 2 [] No	

E. PROJECT SUSTAINABILITY

NO.	QUESTION	ANSWER	CODE
a)	Has the construction of the water supply the amount of water you use	1 [] Yes 2 [] No	
b)	If Yes to E a), how has the water supply affected the amount of	1 [] Use more water 2 [] Use less water	

	water you use?		
c)	Has the facility ever failed in the past 12 months?	1 [] Yes 2 [] No	
d)	If Yes to E c), how many times has it failed?	1 [] Once 2 [] Twice 3 [] Three times 4 [] Four times 5 [] Five times 6 [] More than five times	
e)	How long did it take to repair the water supply when it failed?	1 [] Less than a week 2 [] About 1 to less than 2 weeks 3 [] About 2 to less than 3 weeks 4 [] About 3 to less than 4 weeks 5 [] About 4 weeks and over	
f)	When the water supply breaks down, where do you get your drinking water?	1 [] Borehole / tap in same village 2 [] Borehole / tap in another village 3 [] River/ stream 4 [] Open hand dug wells 5 [] Other (Specify)	
g)	Are you satisfied with the established water supply?	1 [] Satisfied 2 [] Indifferent 3 [] Dissatisfied	
h)	Explain your answer in E g) above		
i)	Is the new water supply situation better than before?	1 [] Better than before 2 [] same as before 3 [] Worse than before	
j)	What is your opinion about the following:		
	i. Is the facility reliable?	1 [] Yes 2 [] No	

	ii. Is the distance now covered shorter than before?	1 [] Shorter 2 [] The same 3 [] longer	
	iii. Is the water cleaner than before?	1 [] Cleaner 2 [] The same 3 [] More dirty	
	iv. Has the facility helped to reduce waterborne diseases	1 [] Yes 2 [] No 3 [] Don't know	
k)	How do you rate water from the new water supply in terms of:		
	i. Colour?	1 [] Good 2 [] Fair 3 [] Poor 4 [] Depends on season (Explain Your answer)	
	ii. Taste?	1 [] Good 2 [] Fair 3 [] Poor 4 [] Depends on season (Explain Your answer)	
	iii. Quantity?	1 [] Adequate 2 [] Fairly adequate 3 [] Inadequate 4 [] Depends on season (Explain Your answer)	
	iv. Time you/ members of your household spend on queue?	1 [] Short 2 [] Fair 3 [] Long 4 [] Depends on season (Explain your answer)	

	v. Overall service?	1 [] Good 2 [] Fair 3 [] Poor 4 [] Other (Specify)	
l)	What do you use the water from the newly established water supply for?	1 [] Drinking 2 [] Cooking 3 [] Washing 4 [] Agricultural production 5 [] Other (Specify)	

F. OPERATION AND MAINTENANCE

NO.	QUESTION	ANSWER		CODE
a)	Do you have any water management committee in this village; for example, village health and water committee or water-point committee?	1 [] Yes 2 [] No 3 [] Don't know		
b)	If Yes to F a), when were the committees established?	1 [] Before the implementation of the project 2 [] During the implementation of the project 3 [] After the implementation of the project 4 [] Don't know		
c)	Are you a member of the water management committee?	1 [] Yes 2 [] No		
d)	What is the composition of the water management committee in the village?	Position	Number	
			Male	female
		Chairperson		
		Vice		
		Secretary		
		Treasurer		

		Committee members			
		Total			
e)	Do you have any local level water-point attendants to oversee the use of the water facilities?	1 [] Yes 2 [] No 3 [] Don't know			
f)	If Yes to F d), how do you choose the water-point attendant?	1 [] Democratic elections 2 [] Appointments 3 [] Other (Specify)			
g)	What are the duties of the water-point attendant?	1 [] To identify problems on the facility 2 [] Mobilize community during repairs on facility 3 [] Report problems on the facility to water management committee 4 [] Carry out repairs on facility 5 [] Other (Specify)			
h)	Did the water attendant (s) receive any training?	1 [] Yes 2 [] No 3 [] Don't know			
i)	If Yes to g), what kind of training did the water-point attendant(s) receive?	1 [] How to identify faults on facility 2 [] Reporting of faults to management committee 3 [] Community mobilization 4 [] How to do repairs 5 [] Other (Specify)			
j)	Does the community have any water-point maintenance fund for facility operation and maintenance?	1 [] Yes 2 [] No 3 [] Don't know			

k)	If Yes to F i), how do you raise the funds?	1 [] Monthly household contributions 2 [] Post-harvest household contributions 3 [] Household contributions when facility breaks down 4 [] Other	
l)	Where does the committee keep the money?	1 [] With management committee treasurer 2 [] In a bank account 3 [] Other (Specify) 4 [] Don't know	
m)	Do most of the users of the facility contribute towards the maintenance fund?	1 [] Yes 2 [] No 3 [] Don't know	
n)	If No to F l), what some of the reasons for most members failure to contribute?	1 [] Old age 2 [] Orphaned 3 [] Ignorance 4 [] Poverty 5 [] Other (Specify) 6 [] Don't know	
o)	How much does each household contribute towards the maintenance fund?	Amount in MK per month	
p)	Are the funds adequate to pay for major repairs?	1 [] Yes 2 [] Some what 3 [] No	
q)	How much did you pay the last time you contributed to the fund?	Amount in MK	
r)	Are the contributions fair	1 [] Yes 2 [] Some what 3 [] No (Explain why)	

s)	Would you be willing to pay more to the maintenance fund?	1 [] Yes 2 [] No	
t)	Do you think the community has the capacity to sustain the water supply?	1 [] Yes 2 [] No 3 [] Don't know	
u)	Who owns the water supply?	1 [] Community 2 [] District Assembly 3 [] MASAF 4 [] COMWASH 5 [] Ministry of Water Development 6 [] Other (Specify) 7 [] Don't know	
v)	What should be done to improve the water supply situation in the village?	1 [] Improve on O&M contribution 2 [] Reorganize water committees 3 [] Construct more water facilities 4 [] Encourage water users to improve their hygiene practices 5 [] Other	

APPENDIX 2: FOCUS GROUP DISCUSSION GUIDE

Prospects of Sustainability in Demand-Driven Projects: A Case of COMWASH and MASAF Water Projects in Thyolo District

NAME OF VILLAGE:

NAME OF TA:

PROFILES OF FGD PARTICIPANTS

NO	NAME	SEX	AGE	MARITAL STATUS	EDUCATION	OCCUPATION

1. How did you identify the water project in this area?
2. Would you briefly explain the project's design and implementation?
3. Where did you get funds for implementing the project?
4. How much did the project cost?
5. Before the initiation of this project, did you have other priorities besides water?
6. What did the project require for its implementation?
7. What role did the community play in the choice of:
 - (a) Water source?
 - (b) Level of technology?
8. Who had the final decision on the level of technology or type of water supply facility to construct in the area?
9. What was the responsibility of the community after construction of the water supply was completed?
10. Did you have any local committees at the time of initiating the project?
11. What were the responsibilities of the committees?
12. How were the committees elected?
13. Did the committees receive any training?
14. If Yes to (12), what type of training did they receive?
15. What factors do you take into account when electing people into the committees?

16. During project implementation, who was responsible for:
 - (a) Control of project funds
 - (b) Procurement and supervision of contractor
 - (c) Payment of contractor
17. Who owns the water supply?
18. How do you raise funds for operation and maintenance of the water supply?
19. How do you keep the money for operating the water supply?
20. Is the community able to repair the water supply when it has a major breakdown?
21. Who is responsible for operating and maintaining the water supply in this area?
22. Since the completion of the water supply, how many times has the system broken within one year?
23. Does the community have the capability to do all repairs when the water supply fails?
24. How many days does it take to repair the water supply whenever it breaks down?
25. Briefly, how do the water users become aware of the activities of the water management committees' activities like running of operation and maintenance funds and repairs?
26. What needs to be done to improve water supply in this village?

END OF QUESTIONS

APPENDIX 3: KEY INFORMANTS INTERVIEW GUIDE

Prospects of Sustainability in Demand-Driven Projects: A Case of COMWASH and MASAF Water Projects in Thyolo District

A) LOCAL LEADERS (CHIEFS/ WATER-POINT COMMITTEES)

PROFILES OF KEY INFORMANTS

NO.	NAME	SEX	POSITION	ORGANIZATION

1. Who initiated the implementation of the water supply project in the village?
2. What other priority needs did the village have before implementing the water supply?
3. Which procedure did you follow to identify water supply as a priority?
4. Approximately, how much did the water supply project cost?
5. What role did you play in the project?
6. How do you perceive the project's requirement of requesting water users/ or communities to make initial capital contribution before construction of the water supply begins?
7. Briefly, how has people's involvement in the project influenced their sense of ownership of the water supply?
8. What financial mechanisms have you put in place/ or established to manage the water supply successfully?
9. How do you intend to operate and maintain the water supply system?
10. Which factors do you feel have affected the successful functioning of the water supply system?
11. What are your expectations about the future of the water supply system?

B) FUNDING AGENCY/ GOVERNMENT PERSONNEL

PROFILES OF KEY INFORMANTS

NO.	NAME	SEX	POSITION	ORGANIZATION

1. Explain the standard procedure for initiating a water supply project in Thyolo District?
2. How do you communicate with the project beneficiaries about the implementation of a new project?
3. What is your understanding of the concept the demand-responsive approach (DRA)?
4. Do project beneficiaries in the areas you are working in appreciate the DRA principles? (Explain)
5. In your opinion, what has been the impact of the DRA on the sustainability of the water supply interventions you have undertaken with communities in Thyolo District so far?
6. Approximately, how much does a single water supply for a village cost?
7. How much does a:
 - a) Funding agency provide to a new water supply?
 - b) Community contribute to a new water supply?
8. What is the role of
 - a) the district assembly
 - b) the funding agency
 - c) the community
9. Whose responsibility is the operation and maintenance of the water supply in the village? (Explain)

END OF QUESTIONS

APPENDIX 4: LIST OF KEY INFORMANTS

Kazombo Joseph, Chief Sanitation Engineer, Ministry of Irrigation and Water Development: Lilongwe, *Personal Communication*, July 2006.

Shawa Khanyiwe, Monitoring and Evaluation Officer, COMWASH Project: Thyolo, *Personal Communication*, July 2006.

Mataya Yohane, Village Development Committee Chairperson: Dzungu Village, *Personal Communication*, July 2006.

Mselera James, Hydrological Officer, Thyolo District Water Office: Thyolo, *Personal Communication*, July 2006.

Uzeni Simon, Group Village Headman Chinkwende, *Personal Communication*, July 2006.

Mambulu James, Water and Environment Specialist, Canadian International Development Agency (CIDA): Lilongwe, *Personal Communication*, July 2006.

Gabriel Rodrick, Group Village Headman Chikunkhu, *Personal Communication*, July 2006.

Chiliko James, PRA/IEC Officer, Malawi Social Action Fund (MASAF): Blantyre Zone, *Personal Communication*, July 2006.

Belita Saindi, Village Headman Mphera, *Personal Communication*, July 2006.

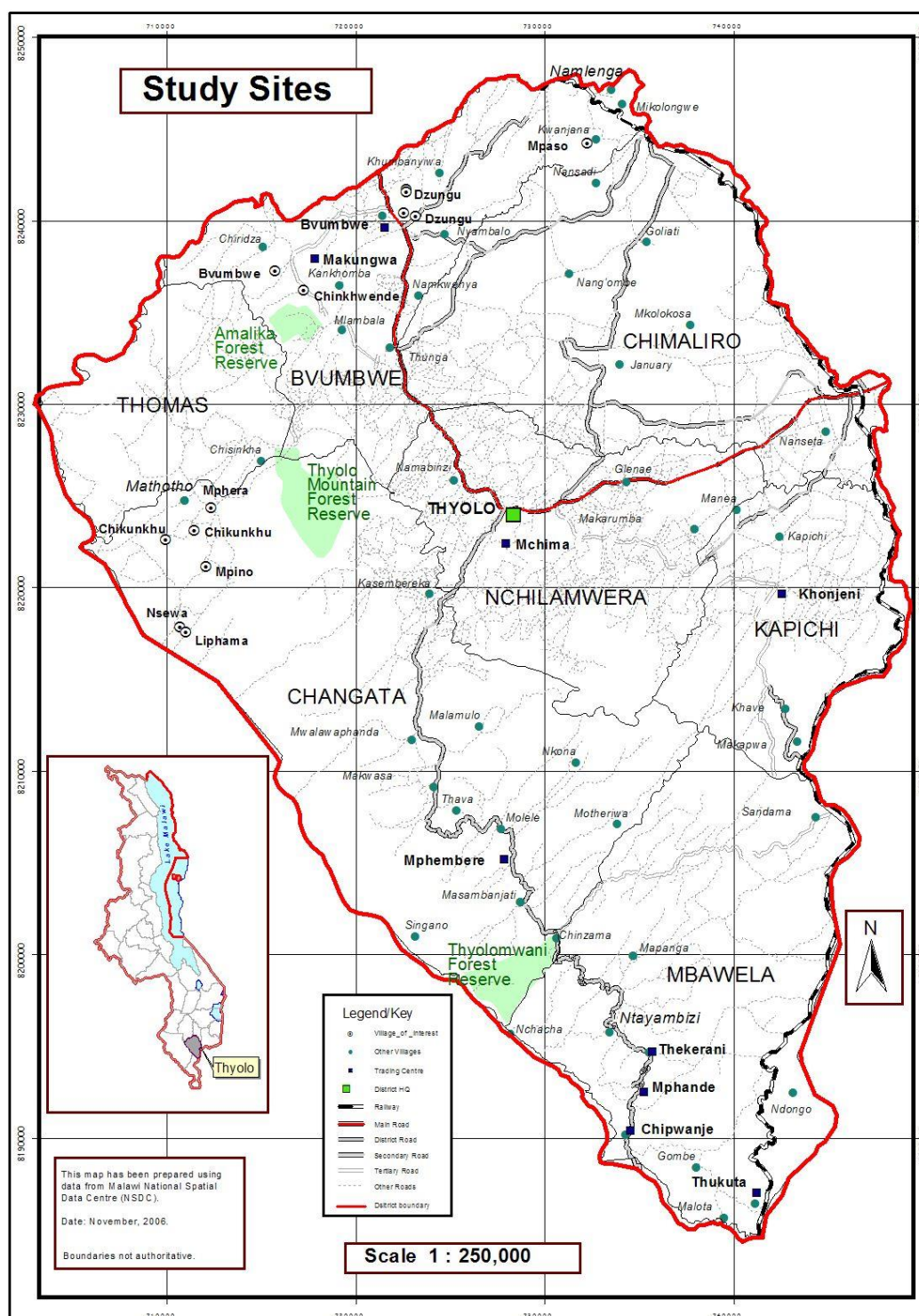
Fulosita Muhito, Didi Scheme Committee Member, Liphama Village, *Personal Communication*, July 2006.

Kaphuka E., Director of Planning and Development, Thyolo District Assembly: Thyolo, *Personal Communication*, July 2006.

Chisamba A., Water-point Committee Secretary, Dzungu 3 Village, *Personal Communication*, July 2006.

Songola C., District Water Development Officer, Ministry of Water Development, Phalombe, *Personal Communication*, December 2005.

APPENDIX 5: MAP OF THYOLO DISTRICT SHOWING STUDY SITES³



³ Boundaries for TAs are not authoritative because data used in this study were collected before the creation of the new TAs in 1998. For instance, areas that the Thyolo District Assembly currently considers as comprising STA Mphuka are in TA Changata according to information at the Malawi National Spatial Data Centre (NSDC).