



RESEARCH REPORT

Building citywide sanitation strategies from the bottom up

A situational analysis for Blantyre City, Malawi

Centre for Community Organisation and Development (CCODE)

Malawi Homeless People's Federation



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Acronyms

AWF	African Water Facility
BCC	Blantyre City Council
BWB	Blantyre Water Board
CBD	Central business district
CCODE	Centre for Community Organisation and Development
CDF	Constituency Development Fund
CICOD	Circle for Integrated Community Development
CLTS	Community-led total sanitation
DEWATS	Decentralised wastewater treatment system
DFID	Department for International Development, UK
Ecosan	Ecological sanitation
EIB	European Investment Bank
EU	European Union
FGD	Focus group discussion
GoM	Government of Malawi
GVH	Group village headperson
IWSS	Irrigation, water and sanitation sector
JMP	Joint Monitoring Programme
JSR	Joint Sector Review
LAN	Local area network
MASAF	Malawi Social Action Fund
MDG	Millennium Development Goal
MGDS	Malawi Growth and Development Strategy
MHPF	Malawi Homeless People's Federation
MIWD	Ministry of Irrigation and Water Development
MK	Malawi Kwacha
NGO	Non-governmental organisation
NSO	National Statistics Office
NSP	National Sanitation Policy
NSUP	National Slum Upgrading Project
NWDP	National Water Development Programme
NWP	National Water Policy
OD	Open defecation
OIBM	Opportunity International Bank of Malawi
SDI	Slum/Shack Dwellers International
SHARE	Sanitation and Hygiene Applied Research for Equity
SWA	Sectorwide approach
TA	Traditional Authority
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNICEF	United Nations Children's Fund
VH	Village headperson
VIP	Ventilated improved pit
WASH	Water Sanitation and Hygiene
WES	Water and Environmental Sanitation
WFP	Water for People
WHO	World Health Organisation
WMS	Welfare Monitoring Survey
WUA	Water Users' Association

Executive summary

The study presented here is part of a four-country initiative funded by DFID through the SHARE Consortium. The study compiles information from a situational analysis that was carried out in Blantyre City, Malawi's commercial centre, between March and December 2012 by the Centre for Community Organisation and Development (CCODE) and the Malawi Homeless People's Federation. The study targeted 15 of 21 informal settlements in Blantyre. These settlements were mobilised and supported with capacity building initiatives by the Federation, with the CCODE acting as backstop. The study concentrated on seven of the 15 settlements for two reasons: i) they expressed interest in taking part in the project, which is demand driven; and ii) the Malawi Alliance is implementing a slum upgrading programme in these settlements. The main objective of this study is to review the sanitation situation in informal settlements in Blantyre City to inform community-driven improvements and support a pro-poor citywide sanitation strategy.

Another objective is to facilitate understanding among the Malawian urban poor communities (slum dwellers) of obstacles that hinder their ability to access water and sanitation to enable them to identify and find solutions that suit their contexts. Thus the study employed community-centred processes of data collection and analysis. The people in the seven settlements identified the domain areas of the study, with water, sanitation and waste management as the main focus. The study used both qualitative and quantitative methods. For example, using an array of issues that the communities identified for investigation, the study further developed a questionnaire that was administered household-by-household by community enumerators as part of the enumeration survey. There were also 14 focus group discussions. These were used in both settlement profiling and validation of the results through feedback sessions. These approaches ensured that the study was not just action-oriented, but also involved communities so that they have better understanding of their circumstances, and what to do about them.

The slum dwellers in Blantyre City identified more than ten priority areas. These included access to water and sanitation; coverage; financing and financing options; cost of water and sanitation; as well as factors that hinder households in accessing sanitation. The study has revealed that access to water and sanitation is a huge challenge that the majority of the urban poor in the country are encountering. The nature of the housing supply in the country, where the majority are tenants, is also affecting access to sanitation. For example, up to four households (roughly 24 people) live on a single plot owned by a property owner, and have to share a single toilet and bathroom. Decisions to construct toilets are made solely by the property owner and the tenants have little say. This and many other examples show that there is need to rethink how the urban poor access water and sanitation.

Furthermore, the study has shown that there is very little investment in water and sanitation in peri-urban areas. Both the local authority and water utility providers lack clear plans and the capacity to reach out to these under-served areas. Even more critically, the study has noted that the Department of Health at the Blantyre City Council (BCC), which is responsible for water and sanitation, is constrained by a lack of resources to respond to the needs in the informal settlements. This is worsened by the fact that, on issues such as waste collection, the council prioritises planned settlements and not the informal and unplanned settlements where the majority of the city's dwellers live.

Most of the informal settlements are inaccessible to motorised transport. This makes it difficult for 'skipper' trucks to collect waste in these areas. Using one of the community planning studios – with which the Malawi Alliance is supporting the communities in replanning their settlements – would make the settlements accessible for waste collection. Although the council puts communal waste collection bins in public places, city officials bemoan the lack of awareness on proper usage and the fact that some people still do not use them at all. The study also notes land as a critical issue affecting waste management at household level. Unlike in the villages where land is available in abundance, high urbanisation in the cities means that most of the informal settlements are overcrowded and digging a waste pit is considered a luxury. This affects how people dispose of their waste.

Also related to land is an issue of geographical relief in Blantyre. Most of the city is hilly and rocky, which makes it difficult to dig pit latrines. When people do dig them, they are either inconveniently located (very far from the house) or they are shallow. People are therefore reluctant to dig new pit latrines when the old ones are full and some people resort to emptying theirs into neighbourhood streams – usually used for domestic purposes such as dishwashing.

This report proposes interventions based on peoples' aspirations and considering their contexts, which are needed to address obstacles that the urban poor face. It is thus expected that the results of this process will contribute towards the development of new people-centred citywide sanitation strategies. This will ensure improved access to water and sanitation as well as hygiene practices in the informal settlements of Malawi. Ultimately, the study will contribute to meeting Goal 7 of the Millennium Development Goals (MDGs) related to water and sanitation, in particular targets 10 and 11, which aspire by 2015 to reduce by half the population without access to safe water and sanitation, and to significantly improve the lives of slum dwellers by 2020.

Finally, this report will be shared with local authorities, politicians and other stakeholders. Already, initial meetings with selected MPs have been fruitful, and all communities are being encouraged to lobby their MPs to leverage resources from the likes of the Constituency Development Fund (CDF) for future interventions. Furthermore, the situational analysis results will inform critical engagement with stakeholders and will help the settlements in setting out the development priorities through their community plans, which they will use to negotiate with their local authority, politicians and any other development partners.

The study has revealed that most people living in the informal settlements do not have toilets. Most people do not have enough space to construct a toilet and those that do have the space, leave them in poor and unhygienic conditions. On the other hand, most households access their water from water selling points (kiosks) – some community owned, others privately owned. Water from kiosks is expensive, which forces people to use unsafe water from other sources (e.g. shallow wells and springs, while others take advantage of broken water pipes). Few houses in informal settlements are connected to water because of the high connection cost and delays by the water board. The study has also revealed that the sanitation situation is not helped by the development partners' lack of information and often non-cooperation.

Additionally, the situational analysis has looked into the different technologies that communities are adopting, the costs of the facilities, and the possible precedents that can inform the upscaling of Blantyre City's sanitation.

About CCODE and the Malawi Homeless People's Federation WASH delivery models

The Centre for Community Organisation and Development (CCODE) was established in 2003 as a support NGO for the Malawi Homeless People's Federation (MHPF), which was founded earlier in the same year. The Federation is an organised network of community savings and loan groups of the urban poor across Malawi. This network gives the urban poor a platform for addressing broader development challenges such as water and sanitation, land and housing. Besides that, the savings groups have provided an avenue for the urban poor to engage critically with resource-wielding authorities and demand responsive service delivery. CCODE provides capacity building and other forms of technical and financial support towards Federation initiatives, besides acting as a secretariat for the network. CCODE and the Federation are the Malawian affiliates to Slum/Shack Dwellers International (SDI).

The work of CCODE and the Federation in Malawi has had impact on a number of policy areas particularly on the inclusion of the urban poor in national policies and strategies. The advocacy route that the Federation has taken over the years, with support from CCODE, has led to responsiveness in service delivery. For example, to date, the Malawi Alliance – as CCODE and the Federation are collectively called – has received over 1,500 plots of land from both local and central government for construction of low-income houses. The work of the alliance has also featured in the draft National Housing Policy, the country's shelter profiles and other manuals.

In terms of delivery of the Water Sanitation and Hygiene (WASH) programme, the alliance has focused on the urban poor, who are cut off from traditional forms of access to water and sanitation. Through the programme, CCODE has supported communities in accessing improved sanitation and water; a revolving fund called Mchenga. This fund is the only finance instrument in Malawi that provides water and sanitation loans. CCODE's work has not only provided finance, it has also developed the capacities of communities to manage water and sanitation projects on their own. The Federation has been an entry point for community mobilisation in the informal settlements. Moreover, the CCODE–Federation alliance has trained and supported community groups in waste management and the processing of waste into compost manure for sale. CCODE has also collaborated with academic institutions to deepen understanding of ecological sanitation in Malawi.

The alliance's approach to the delivery of WASH has concentrated on helping the urban poor understand, appreciate and deliver sustainable water and sanitation solutions. In this regard, the Federation community teams that are responsible for community mobilisation manage and appraise loan applications for water and sanitation. These teams provide social capital in their communities by fostering mutual relationships among their fellow community members.

Recently, the alliance has intensified its work on slum upgrading, using enumeration surveys to appraise existing slum conditions and using such information to replan the settlements, engaging with relevant stakeholders for solutions. The slum upgrading initiative has unveiled important information about the gaps that exist in water, sanitation, space, housing, accessibility and drainage, among others. This situational analysis will inform WASH delivery models that will help fill some of the gaps identified.

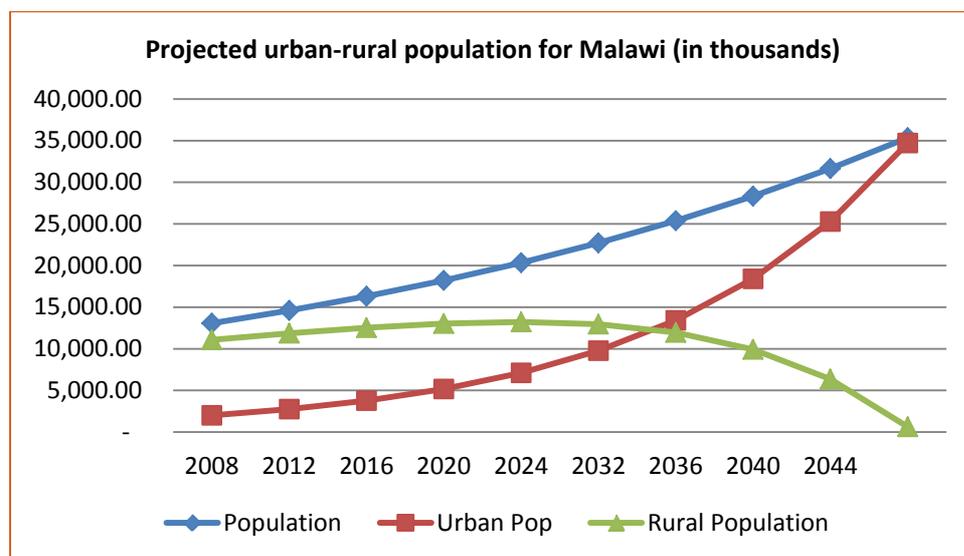
Introduction

Background

Malawi faces an urbanisation paradox. Only about 20 per cent of the national population lives in the urban areas, with 80 per cent living in the rural areas. However, Malawi's urbanisation rate, estimated at 5.3 per cent (2010-15 estimate), is among the world's fastest growing. Between 1987 and 1998, the urban population increased by 63 per cent (Manda, 2009). The high urbanisation rate has resulted in the expansion of informal settlements in its towns and cities, which are characterised by lack of access to basic services – and documents project that the urban population is likely to overtake the rural population by 2030.

The graph below at Figure 1 illustrates the magnitude of urbanisation in Malawi and its associated challenges over the next three decades. The projected urban growth up to the year 2044 from a calculated base population of 13,077,160 (as indicated in the National Statistics Office's Population and Housing Census), considers the growth rate at 2.8 per cent (NSO, 2008)¹, and assumes that urbanisation is constant at 5.3 per cent for the next 32 years (UN Habitat, 2010).

Figure 1. Projected urban-rural population for Malawi



Source: CCODE Projections (2012)

The majority of people who migrate into the cities in the next decade or so will live in the informal settlements, which according to current figures house about 70 per cent of the entire urban population (UN-Habitat, 2010). Though the informal settlements dwellers constitute the majority of city populations and make a significant contribution to the cities' economies, their presence is ignored and they are often last on local authorities' list of

¹ www.nsomalawi.mw/index.php/2008-population-and-housing-census.html

service delivery (UN-Habitat, 2010). The poor conditions in the informal settlements are the outcome of poor planning, lack of political will and lack of capacity by the grassroots to organise themselves and influence change. A recent study on peri-urban governance and delivery of public goods in Malawi shows that the lack of capacity and organisation among the poor themselves is inhibiting delivery of services such as water (Cammack, 2012).

Politically, an absence of local councillors at ward level in the last eight years has affected service delivery. According to the Local Government Act of 1998, councillors are the conduits for local development activities including but not limited to issues of water and sanitation. However, since the disestablishment of councils following the expiry of councillors tenure in 2005, there have not been any local government elections. The current situation is that parliament has passed on the duties of the councillors to Members of Parliament, who have been criticised for favouring certain parts of their constituencies at the expense of others. In addition, the mixture of legislative and development implementation roles of MPs and this extra work has meant that many constituents do not have their needs addressed. This too has affected delivery of water and sanitation.

Blantyre is Malawi's commercial city with a day population of over 1 million and a growth rate of 2.8 per cent.² This figure is low compared to the reality on the ground – under-estimation is often a problem with official figures. Over 65 per cent of the city lives in 21 informal settlements, which occupy about 23 per cent of the land in Blantyre (UN-Habitat, 2011). Most informal settlements have poor infrastructure and little or no access to the basic urban services like sanitation, access to clean water or solid waste. The planned areas, however, which are occupied by the middle- and high-income groups, have adequate access to these.

Given the current situation and the foreseeable challenges that urbanisation poses for the city, it would be expected that up-to-date data are available on the informal settlements to help both the city council and the central government in planning for the future. But data on informal settlements are not readily available. In addition, the current situation already demands that people in the informal settlements, who dominate the city's population, are part of the planning processes for sustainable and inclusive development. Yet this element is wanting in both the council and third sector planning. It is against this background that CCODE, in collaboration with the Malawi Homeless People's Federation (MHPF) is implementing Sanitation and Hygiene Applied Research for Equity (SHARE) – an action research initiative – for the informal settlements of Blantyre.

This study aims to find lasting solutions that can help address the sanitary challenges that poor people living in informal settlements are facing. This situational analysis is a demand-driven process and settlements were invited to present their interest in participating in it. Initially, 15 of the 21 informal settlements in Blantyre City were sampled for the study, based on areas in which the Malawi Alliance has had some interaction. The communities were appraised about the project and their leadership and given up to a month to report on their communities' reaction. By the end of that time, only seven settlements had conducted meetings and had resolved to be part of the project. The study therefore focuses mainly on these seven settlements.

² The night-time population can be as low as 600,000.

The overarching aim of the research is to establish the practices that hinder access by informal settlement dwellers to good quality services, and at the same time find solutions that can be upscaled. A range of research methodologies was used to investigate current practices and to capture data at household level. A review of water and sanitation documentation for the city of Blantyre, as well as information gathered through questionnaires, was given to every household. Other information was collected through focus group discussions. Regulatory and policy aspects, institutional frameworks, sanitation technical options and financial and economic aspects were also considered. Information at institutional level, for example at BCC and Blantyre Water Board (BWB), was collected through interviews with key officials and from official documents such as annual plans and reports.

The study found that the sanitation situation in the informal settlements is dire: 26 per cent of the households interviewed did not have access to improved sanitation facilities. This contrasts sharply with national figures that show access to improved sanitation in urban areas to be 51 per cent.³ The discrepancy clearly indicates the need for the slum dwellers themselves to collect their own data and use them to engage with stakeholders to improve their existing conditions.

Area of study

This section focuses on the settlements that have been studied in this situational analysis.

Blantyre City

The population of Blantyre reached 502,053 in 1998 and 661,444 in 2008, with an annual growth rate of 2.8 per cent, over a land area of 329 square kilometres. The Malawi Alliance has a strong relationship with the city council and service providers such as the BWB, and the intended study was seen as strengthening that relationship.

The study was conducted in seven of Blantyre City's informal settlements. Initially, the Federation conducted community mobilisation in all 21 of the city's informal settlements, before narrowing it to 15, based on where it had some footprint. All 15 settlements were appraised about the project through meetings with their community leaders and other community members. These meetings culminated in a collective meeting at Blantyre City Council where community leaders agreed to discuss the issues with their individual communities – an eligibility criterion for a settlement to qualify as a study area – and to report back to the alliance on the outcome within a month. In the event, only seven settlements did so; these are the settlements that have been studied.

The settlements that the study covered are described below:

Chilomoni-Chibwana informal settlement, whose leader is Village Headman Maxwell Chibwana, is in the west constituency of Blantyre City. The Traditional Authority (TA) responsible for this location is TA Kumtaja. It is in Michiru, commonly known as Chilomoni. The settlement is 8 km away from the city centre. The entire

³ www.indexmundi.com/malawi/demographics_profile.html

community has 10,567⁴ people of whom 1,787 were sampled. The location is generally hilly and rocky.

Manase informal settlement in Blantyre City south constituency is 10 km from the city. The area falls within the chieftaincy of Group Village Headman Sumani, who is under TA Somba. The community had 2,884 people, all sampled during the numbering and enumeration survey. Manase is generally rocky.

Misesa-Chiwembe informal settlement is 3 km south-east of Limbe Township. The area falls within Blantyre south-east constituency. The settlement is still growing especially in the eastern direction. The settlement forms boundaries with Thyolo-limbe road to the south, Manje-Angelo Goveya road to the north and Limbe-Soche road to the east. The area is under the leadership of TA Kapeni. The settlement had 2,530 people sampled during the enumeration survey and 574 houses were counted and given numbers. The numbering process involves assigning each structure in the settlement a unique identification number. A special numbering technique is used whereby each structure in a compound is identified using letters of the alphabet and the whole compound is denoted by a numeral.

Mtambo settlement is 2.9 km east of Limbe Township in Blantyre City. This settlement is situated along the Limbe-Muloza road. The settlement of Group Village Headman Mtambo falls under TA Kapeni. GVH Mtambo has 11 Village Headmen under him, who assist in governing the area. 547 houses of the area were numbered and 2,247 people were enumerated.

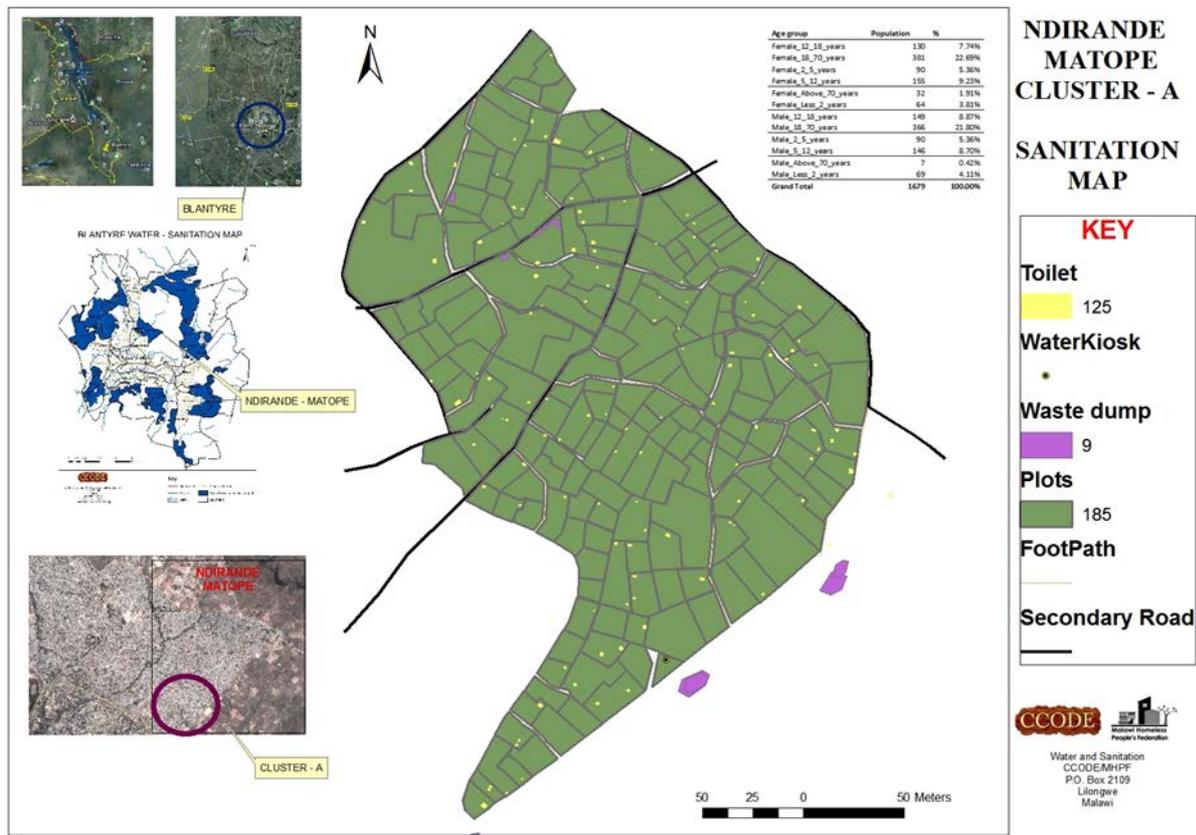
Nancholi-Chiimire informal settlement is under Group Village Headwoman Chiimire, under the authority of TA Somba. The community is located 8 km towards the south of Blantyre central business district (CBD). 505 houses were numbered and 2,481 people sampled. Nancholi is generally hilly, rocky and compacted.

Ndirande-Matope informal settlement is 7 km from the business district, within Blantyre City constituency, and is one of the most populous and congested in the city. The settlement forms boundaries with Nasolo River to the north; different roads networks surround the rest of the settlement. The area is within the chieftaincy of GVH Matope, who is under TA Kapeni. From Ndirande, 3,476 people were sampled in the enumeration survey and 815 homes numbered. One cluster was mapped and a planning studio for the cluster conducted. See Figure 2 below.

Matenje settlement is located in the north of Limbe in Blantyre City. Limbe to Matenje Township is 2.4 km. The town is divided into two parts by the Nkolokoti Park Way road from Limbe through Machinjiri. Matenje is almost 6.3 km at its greatest width. West of Matenje informal settlement is Ndirande Hill and in the south an industrial area. Many people are living close to these factories. 1,900 people were enumerated and 335 houses numbered.

⁴ At the time of documentation, most of the settlements did not know what their population figure was. However, the GoM has embarked on a project that will see all people registering with their leaders and this will help the communities ascertain how many people are living in each settlement.

Figure 2. Community map of sanitation facilities in Ndirande Matope Cluster A



Methodology

The objective of the situational analysis was to provide a review of the sanitary conditions that could inform community-driven improvements and support a pro-poor citywide sanitation strategy. This was done by assessing the status of water and sanitation at household level and reviewing the institutional arrangement affecting the scaling up of sanitation in peri-urban informal areas. The results will contribute towards meeting Millennium Development Goals related to water and sanitation. MDG 7, targets 10 and 11, aspire to reduce by half the population without access to safe water and sanitation by 2015 and to improve significantly the lives of people in slums by 2020.

Specific objectives

- To undertake a situational analysis of sanitation provision in the informal settlements of Blantyre
- To determine the obstacles including the costs that can affect access to water and sanitation facilities
- To develop a better understanding of the principal obstacles to citywide sanitary improvement, and how they can be overcome
- To determine precedents that can be upscaled in the informal settlements.

The following areas were analysed:

1. Access to sanitation
2. Financing and financing options
3. Access to water and coverage
4. Sources of water
5. Distance to a water point
6. Cost of water
7. Players in the sector
8. Households' access to toilets
9. Sanitation technologies
10. Costs of toilets
11. Governance and participation
12. Drainage and wastewater management
13. Solid waste management
14. Hygiene practices.

The methodology consisted of desk studies of policy documents, city by-laws, community profiling and enumeration surveys. The study gathered and analysed relevant documents and study reports for the sector. A list of some of the literature reviewed is outlined in the References. Secondary information about conditions in the city was collected from a variety of agencies including key professionals, donor agencies and individual sources.

The information was gathered through a community-driven process using both qualitative and quantitative methodologies. Quantitatively, a survey questionnaire was used to gather data from households. Before the questionnaire was administered, the settlements were divided into clusters – smaller neighbourhoods that were introduced to manage the processes of data collection. Each of the clusters had a minimum of two sub-clusters. This process was followed by the numbering of houses and structures, such as toilets – numbering was important because it helped to establish how many households and other facilities are in the settlements. This not only made economic sense when estimating the number of questionnaires to be printed, but also helped in preparing the households for the actual enumeration survey.

A total of 4,687 questionnaires, developed by the communities with support from partners, mainly Blantyre City Council and CCODE, were printed and given to household heads in all the targeted settlements. Especially trained enumerators, mainly young people from the settlements, delivered the questionnaires and collected them. That the enumerators were from the settlements gave respondents confidence in the process and ensured a high response rate of about 98 per cent.

Qualitatively, focus group discussions (FGDs) and community consultative meetings were used. There were seven FGDs, one with representatives from each of the settlements studied, which helped establish profiles of each settlement that recorded governance issues and documented the baseline conditions of the existing infrastructure and institutions. Each group discussion had between 10 and 12 people, with at least 40 per cent women. There were also five main consultative meetings, three of which took place at the city council. These were periodically documented and reported on during community meetings.

Photo 1. Federation meeting during the enumeration and survey



Photo: CCODE

The data were entered using tailor-made software developed using Microsoft Access as user interface, Microsoft SQL Server 2008 as a data storage tool, and Microsoft Excel as a reporting and analysis tool. All data from laptops were saved into the server station through a local area network (LAN).

National context

This chapter outlines the relevant institutional arrangements, the actors in WASH, national policies, city by-laws and sector investments.

Institutional arrangements

In Malawi, the main bodies responsible for provision of water supply are the Ministry of Irrigation and Water Development (MIWD), the water boards and local councils. The MIWD, local councils and the Ministry of Health are responsible for sanitation. However, civil society organisations and international donors also set up and fund their own water and sanitation projects. The Local Government Act mandates councils to be responsible for water and sanitation while the Water Works Act, and now the sanitation policy, mandates the water boards.

The roles and interrelationships of the various players are not well coordinated with regard to investment planning, project implementation and operation. Each of the entities in water and sanitation sets its own plans and targets and manages its own implementation processes. This is a cause of conflict between the boards and local government. According to the Water Department in the Ministry of Irrigation and Water Development, local government needs to understand that any service carried out by the water boards is essentially on its behalf and there is need for effectiveness and efficiency in service delivery. Within local government itself, onsite sanitation (pit latrines and septic tanks) are within the remit of public health departments while sewerage sanitation falls under engineering departments. These departments tend to work independently (Manda, 2009).

The mandated roles of the state players are outlined in the following section, followed by an outline of the roles of the non-state players.

State players in water and sanitation

Before the National Water Policy (NWP), approved in 2005, local government did not have a mandate to supply water to communities, but was responsible for sanitation through its mandate over waste collection and disposal, and sewerage development. However, post-NWP, the cities began to provide water to low-income communities through communal water points (kiosks), where people pay a charge. The major engagement of cities with sanitation services is the provision of health education and the training of health and water committees to obtain maximum socio-economic benefits from water supply. Due to limited resources and their 'illegal' status, squatter settlements receive no waste collection service. The water policy makes local government responsible for planning and coordination of the implementation of water and sanitation programmes at local assembly level.

The Ministry of Health is mandated to promote health and hygiene education in water and sanitation services, provide guidance concerning the quality of drinking water, intervene to prevent the prevalence of water-related diseases, undertake research in water-related health issues, and carry out activities to prevent transmission of HIV in the water and sanitation sector. The Ministry of Health also has a department that handles environmental health and hygiene.

Non-state players

UNICEF supports the Ministry of Irrigation and Water Development, other line ministries, district authorities and international NGOs to improve water supply and sanitation in communities and schools – part of its efforts to make schools more child-friendly and promote girls' education – and promote safe hygiene practices. The geographic focus is on the 14 districts in Malawi that have the lowest coverage which are primarily rural areas.

Water for People (WFP) signed and launched a commercial partnership agreement with the Opportunity International Bank of Malawi (OIBM), linking peri-urban households to access sanitation loans from the bank. WFP works in partnership with Hygiene Village Project (a local NGO), Association of Rural Community Development (another local NGO), Blantyre City Council and Water Board, Opportunity Bank (a financial institution) and Tools for Education and Enterprise Consultants (a business development service provider).

WaterAid has been working in Malawi since 1999, working in, partnership with district governments, local NGOs such as TSP, MATAMA and Circle for Integrated Community Development (CICOD). *WaterAid* concentrates on regenerating existing water systems rather than constructing new ones. It also supports communities in setting up water and sanitation committees, which have responsibility for the overall management of water projects. *WaterAid* uses social marketing programmes on sanitation uptake.

As a non-state actor, CCODE has been working with the Federation in the delivery of water and sanitation in Malawi. The focus of its work has been on the urban poor, who are cut off from traditional forms of access. Through its water and sanitation programme, CCODE has supported communities to access improved sanitation and water via an urban poor revolving fund called Mchenga. Mchenga is the only finance instrument in Malawi that provides water and sanitation loans. CCODE's work has not only provided finance, it has also developed the communities' capacity to manage water and sanitation projects on their own. Throughout this work, the Federation has been an entry point for community mobilisation in the informal settlements. Additionally, the CCODE/Federation have trained and supported community groups in waste management and processing of waste into compost manure for sale. CCODE has also collaborated with academic institutions to deepen understanding of ecological sanitation, which it is promoting in Malawi.

Overall, the non-state actors have played an extremely beneficial role as they deal directly with the people. However, as with the state actors, there is a lack of coordination among them, meaning a duplication of roles and a lack of a synergistic approach that would ensure that each of the players dedicates resources to what it does best. There is also the challenge that non-state actors do not share information, which makes it hard to sufficiently consider the baseline conditions before interventions to measure and adapt results.

Sectorwide approach

The irrigation, water and sanitation sector introduced a sector-wide approach (SWA) across the country. The broad objective of the Joint Sector Review (JSR), introduced in 2008, was to increase common understanding among the various stakeholders of the role of the water and sanitation sector in Malawi within the national context of poverty reduction. There has been progress towards meeting the objective and sector adjustments in the form of policy-level undertakings have been made. The JSR has provided a forum for sector players to share what they are doing. CCODE and the Federation have participated in these reviews

and this work has informed the sector's approaches to issues such as gender, water and sanitation in the informal settlements. The financial, planning, and monitoring and evaluation frameworks for the sector remain fragmented. But a big step forward in strengthening the mechanisms for sector dialogue and adjustment was taken in 2010 with the setting up of the Sector Performance Review (SPR) to provide a critical overview for the sector to identify key undertakings for improving performance (Ministry of Agriculture, Irrigation and Water Development, 2012).

It must be said that there are few extensive urban programmes like CCODE. The majority of programmes concentrate on rural areas, with their urban programmes, if any, focusing only on hygiene promotion.

Acts, by-laws, policies and other WASH-related legal instruments in Malawi

Local Government Act, 1998

In accordance with the Local Government Act, the local council can establish and maintain public toilets and washing facilities, and perform functions that include environmental sanitation and health education.

Environment Management Act, 1996

The Environment Management Act says that every person shall have a right to a clean and healthy environment. It gives the minister the powers to prescribe environmental quality standards generally and, in particular, for noise, air, water, soil, effluent and solid waste.

Water Works Act, 1995

The Water Works Act states that the water boards shall, except for rural water supply areas, have *the control and administration of all waterworks* and all the water in such waterworks, and the management of the supply and distribution of such water.

Impact of policies

The National Sanitation Policy (NSP) highlighted the importance of forming a Department of Sanitation and a national sanitation and hygiene coordination unit, which were duly set up. The department has supported the development of a national ten-year sanitation investment plan.

The NSP highlights the coordination of work by stakeholders in the sub-sector but significant challenges remain as many stakeholders lack experience, which results in substandard work, duplication of efforts and conflicting approaches, e.g. to sanitation marketing and subsidy. Enforcement by the department can better be achieved once the Sanitation Bill is enacted; however, other acts are being used in a fragmented manner, e.g. the Environmental Act, Local Government Act and the Town and Planning Act, which all have clauses that can somehow support the sub-sector in the meantime.

The Sanitation Act will seek to address the challenges of the current lack of clear sub-sector leadership, ambiguity over the roles and responsibilities, low prioritisation of sanitation and

hygiene promotion, poor management and indiscriminate disposal of liquid, solid and other forms of waste (Ministry of Agriculture, Irrigation and Water Development, 2011).

Since the adoption of the National Land Policy in 2002, several projects are being implemented under the land reform programme. However, most of these projects have concentrated on rural tenure reforms and capacity building. This is largely because government considers that urbanisation can be controlled through rural development – an approach that has proved futile worldwide. Meanwhile, current official statistics show the approach is continually backfiring, with the urban population estimated to overtake the rural population by 2030. The lack of attention to urban areas has resulted in a deterioration of already poor basic services in the informal settlements. Even worse, attempts to upgrade urban slums are viewed cautiously as being politically sensitive. The land policy advocates tenure regularisation and provision of basic services, including water and sanitation. However, unlike in the rural sector, the only initiative for urban areas is a funding proposal to Cities Alliance for the National Slum Upgrading Project (NSUP). Though a nationwide project, the NSUP has focused on acquisition of equipment and maps to facilitate the upgrading process – there has been little investment on actual upgrading projects in informal settlements. Meanwhile, failure to access land formally and apparent congestion in existing areas force the urban poor to invade land indiscriminately (Manda, 2004).

Blantyre City Assembly Public/Environmental Health By-Laws, 1998

The by-laws empower Blantyre City Council to make provision for the supply of potable water via standpipes, boreholes or other means and to make reasonable charges. Enforcing the by-laws, which are old, is a challenge to a council that does not generate enough income and does not prioritise the provision of services in the informal settlements.

National sector financing

Sector financing mainly consists of public funding through the national budget and support from development partners. Non-governmental organisations and private companies play a complementary role in the overall financing. WASH NGO invested US\$ 19,109,670 between 2010 and 2012 (WES Network Performance Report, 2012). Getting disaggregated data on the contribution made by the NGOs and the private sector is problematic, meaning that the available data can be questionable. Table 1 below shows the trend of resource allocation to the Irrigation, Water and Sanitation sector (IWSS) for the period between 2010/2011 and 2014/15 fiscal years.

The government's recurrent expenditure shows a significant planned increase of almost 16 per cent over the 2010/11 base. The development budget from local resources is also projected to increase by 21.1 per cent. The trend line in the sector's total budget funding falls sharply from fiscal years 2012/13 to 2014/15 because of the drop in development partner capital expenditure. This is mainly because many projects managed by the National Water Development Programme (NWDP) will wind up in the 2014/15 fiscal year.

The trend line of the total budget reflects progressive funding from fiscal year 2010/2011, sharply increasing to the highest projected funding level of MK million 7,270, representing 4.6 per cent of the overall national budget in fiscal year 2011/2012. The influencing trend line is the foreign development budget, largely being donor funding of water resources

development projects managed through the NWDP. Future funding to the sector requires attention by sector players since there are no donor support commitments beyond the fiscal year 2014/15 (Ministry of Agriculture, Irrigation and Water Development, 2012).

Table 1. Trends in Ministry of Finance budget estimates for the IWSS (MK million)⁵

	MK 000,000s					Percentage change over 4 years
	2010-11 approved	2011-12 revised	2012-13 estimate	2013-14 projection	2014-15 projection	
Recurrent budget	483.60	525.70	601.32	578.09	579.69	16.6
Development budget (local)	1,142.57	1,374.56	1,396.87	2,077.35	1,448.1	21.1
Development budget (foreign)	3,320.03	5,369.68	2,832.35	1,766.98	0	-100
Total budget	4,946.20	7,270.42	4,830.54	4,422.42	2,028.02	

Source: Ministry of Finance approved estimates of expenditure on recurrent and capital budget for the Financial Year 2012/2013 (output based)

WASH financing for informal settlements

Blantyre City Council has to raise its own revenue to finance its activities. The income streams come from ground charges, rental fees, market revenues and provision of special services. The Department of Health and Sanitation is responsible for sanitation in the city. Like other departments it also must generate its own revenue to meet its obligations. According to officials in the department, their focus is on waste management through waste collection, prioritising planned settlements, and there are no specific budgets for informal settlements. A city official said that unplanned settlements are difficult for the skipper trucks to access due to poor roads. As the department has few funding sources, and its services are not widely sought by private companies, its capacity is so constrained that on its own it cannot meet the needs of the city's residents.

⁵ At the time of the situational analysis, the US dollar to Kwacha conversion rate was 1 US\$ = MK 320.

Defining water, sanitation and hygiene in Malawi: some facts and figures

Defining water and sanitation

Definition of a basic sanitation facility

According to the National Sanitation Policy (NSP) of 2008, a basic sanitation facility is without hygienic features such as a tight-fitting drop hole cover, keyhole shaped drop hole or footrests that guide the appropriate positioning on the drop hole (Ministry of Irrigation and Water Development, 2008). However the facility should:

- allow for the safe disposal of faeces into a pit or other receptacle where it may be safely stored, composted or removed and disposed of safely elsewhere;
- offer privacy for the user;
- be safe to use, for example not in a dangerous state, liable to imminent collapse or dangerously unhygienic;
- have a functional latrine pit or receptacle, i.e. not be full or overflowing, and
- be at least 30 metres from a ground water source or surface watercourse.

Definition of an improved sanitation facility

According to the NSP, an improved sanitation facility is similar to basic sanitation with the addition that there should be an impermeable floor and a tight-fitting lid to the latrine. However, in the case of ecological sanitation where no lid is needed, the ecosan latrine should be properly looked after, with the regular addition of soil, ash and other organic material.

According to the 2012 WHO/UNICEF Joint Monitoring Programme Report, access to improved sanitation in Malawi is currently at 51 per cent in rural areas and 49 per cent in urban areas. Open defecation (OD) was 11 per cent in 2011 and 8 per cent in 2012. The 2012 World Progress Report is broadly in line, showing that over the period 1990 to 2012 Malawi's urban access to improved sanitation rose to 48-49 per cent – with urban access to improved water over the same period rising to 91-95 per cent.

Increasing the percentage of the population with access to improved sanitation in both urban and rural areas is another indicator of the Millennium Development Goals. For MDG monitoring, improved sanitation technologies are defined as follows: connection to a public sewer, connection to a septic system, pour flush latrine, simple pit latrine with a slab, or ventilated improved pit latrine.

The findings of the enumeration surveys conducted by the Malawi Homeless People's Federation in the seven settlements agree with the WHO/UNICEF and the Joint Monitoring Programme (JMP) data.

Water supply coverage

Definition of access to water

According to the WHO/UNICEF JMP, an improved drinking water source is defined as one that by nature of its construction or through active intervention is protected from outside contamination, in particular from contamination by faecal matter.

One of the Millennium Development Goals (MDGs), that Malawi and other countries have adopted, is to increase the percentage of the population with sustainable access to improved water sources in both urban and rural areas. Improved water sources refer to a household connection (piped), public standpipe, tube well or borehole, protected dug well, and protected spring or rainwater. The Malawi Homeless People's Federation also uses this definition of an improved water source. However, water that must be fetched from an improved source that is not immediately accessible to the household may be contaminated during transportation or storage. Long distances to an improved source of water and a disproportionate burden on female members of the household to collect water may limit the quantity of suitable drinking water. Home water treatment can improve the quality, but most homes do not do this as the chemicals are expensive and the process is tedious. One of the objectives of water boards is to ensure that water is easily accessible to everyone within their supply areas.

Access to improved water supply services is one of the government's priorities and, reportedly, access to such services in the country is currently 83 per cent, surpassing the targets set in both the MDGs (67 per cent), and the Malawi Growth and Development Strategy (MGDS) (75 per cent). However, these figures are not in phase with the reality in the informal settlements where many people use unsafe water sources like shallow wells and women have to spend hours waiting at water kiosks, while some have to walk for an hour or more to get there.

Access to improved sanitation, encouraged by the 2008 National Sanitation Policy, has continued to increase over the period 2006-2011 (see Table 2 below) but basic sanitation fluctuates. On a positive note, the figures show a decline in open defecation, which can be attributed to various measures that the government and its stakeholders have put in place (e.g CLTS).

Table 2. Access to urban sanitation (percentage of households)

		2006	2007	2008	2009	2010	2011
Urban	Improved	45	79	61	50	51	49
	Unimproved	51	21	38	47	46	47
	No toilet	4	0.4	1	3	3	2

The trend in levels of access in urban areas is different to that in rural areas (see Table 3 below); access to improved sanitation has decreased from 50 per cent in 1990 to 49 per cent (WHO/UNICEF, 2012) or 33.2 per cent, as reported in the Welfare Monitoring Survey (WMS) (NSO, 2012a). The JMP and WMS reports also give conflicting data on the percentage of the population sharing sanitation facilities; according to the JMP, the figure decreased from 41 per cent in 1990 to 33 per cent in 2010, whereas the WMS indicates an increase to 47 per cent.

Our study suggests that the number of people sharing sanitation units has increased in urban areas like Blantyre, where most people have to rent houses, and three to five tenant households have to share a single latrine.

Table 3. Access to improved sanitation in urban areas (percentage of households)

Year	Improved	Shared	Unimproved	Open defecation (OD)
1990	50	41	5	4
1995	50	41	6	3
2000	51	42	4	3
2005	51	42	5	2
2008	51	42	5	2
2010 (WHO/UNICEF 2012 report)	49	44	58	2
2012 (WMS)	33.2	47		
2015 (MDG target)	75	-	-	-
2016 (MGDS II target)	75		-	-

Source: WHO/UNICEF 2012

A slum dweller's perspective on national data

The slum dwellers in Blantyre share the conventional definitions. But they contest the national figures when they are put to them. For example, the national figures indicate that at least 65 per cent of people in Blantyre City live in informal settlements and the 2010 National Economic Report for Malawi shows that this number is on the decline. The slum dwellers, however, think that the number of people living in the informal settlements is above 75 per cent and is rising.

In terms of access to water and sanitation, the slum dwellers think that the national figures are misleading. A woman in Blantyre says:

'I think the government is not being honest and is painting a very wrong picture about how we live... Maybe this is why it is doing nothing to improve our plight in the informal settlements. Let the people that compile this data come to our community and see how we live not just guess the figures from their offices...'

A government official says this of the level of financing, almost agreeing with the slum dweller:

'The fact that the government and the non-state actors are increasing funding to water and sanitation does not mean that all these monies will go to the people. Most of this goes to people's salaries and very little trickles down to the poor people on the ground...'

Investigating the uninvestigated: facts and figures from the slums

This chapter presents results of the situational analysis from the informal settlements. Due to the interrelatedness of population, housing, and water and sanitation in the informal settlements, the results include these other variables, as well as income levels. The income levels are an important part of the investigation as they have a bearing on the ability to finance water and sanitation and improve hygiene.

Population

The seven surveyed settlements, selected on the basis of their expressed interest in being part of the project after community awareness meetings facilitated by the Federation in collaboration with the city council, had a total of 4,037 households with a total of 14,471 inhabitants.

Table 4. Population by gender in the settlements

Gender	Population	Per cent
Male	9,479	65.05
Female	5,092	34.95
Grand Total	14,571	100.00

The inhabitants identified their reasons for living in the settlements in Table 5 below.

Table 5. Reasons for relocation

Row labels	Household	Per cent
Cheap houses/plots	197	4.88
Evicted elsewhere	11	0.27
Home village	790	19.57
Low living cost	41	1.02
Work	2,992	74.11
Other	6	0.15
Grand total	4,037	100.00

Income and housing

The survey in the seven settlements showed that 54 per cent of households rent, 41 per cent are owners, and the rest live in the homes of relatives or others. The high prevalence of rental units in the settlements is because of rapid urbanisation due to migration from rural areas motivated by a search for jobs and other opportunities. In some cases, property owners live in one of the houses within the rental compound, but in other cases they live outside the settlements. The rental units range from bedsitters to three-bedroomed houses. Mostly, property owners have their own latrine and bathroom but the tenants have to share a separate unit. In terms of water, there is usually one stand-alone pipe that the households share. Either the property owner includes the water bill in the rent as a single sum, or the bill is split between the households, with each contributing equally or based on household size and water usage. Some property owners have set times for drawing water and tenants who don't comply may be denied access.

The communities set the following income thresholds for purposes of this enumeration survey: less than MK 4,000 between MK 4,000 and MK 8,000; between MK 8,000 and MK 12,000; between MK 12,000 and MK 16,000; and more than MK 16,000. The survey found the following income levels in relation to the whole population.

Table 6. Income levels

Income	Households	Per cent
Less than MK 4,000	355	8.34
MK 4,000-MK 8,000	1,288	30.27
MK 8,001-MK 12,000	184	4.32
MK 12,000-MK 16,000	29	0.68
More than MK 16,000	1,650	38.78
Not indicated	749	17.60
Grand total	4,255	100.00

The housing aspect of the survey looked at residential properties, specifically focusing on the relationships between occupants and owners. It also investigated the costs of rent, who property owners are, and their gender.

Homeowners, relatives or tenants occupy residential properties in the seven settlements. According to the survey, 2,211 (54.77 per cent) are lived in by tenants who pay monthly rent; 81 (2.01 per cent) are occupied by relatives of property owners; and 1,671 (41.39 per cent) are lived in by 26 people (0.64 per cent) who did not indicate their status. The high number of those who rent implies that sanitation is largely neglected as owners who, with no shortage of demand, lack the incentive to invest. The study almost tallies with the Integrated

Household Survey III (2010-2011), which found that 48.5 per cent of the urban population did not own the homes they occupied (either they rented or lived rent free) and that only 43.7 per cent of homes were owner-occupied. Over the years, the number of people renting has been increasing (NSO, 2012b).

Water supply and access

In this aspect of the survey, water sources, amount of water use per household per day, distance to a water point, household daily water costs and water treatment methods employed, were all examined.

Sources of water

People in the settlements indicated that they drew water for different purposes from different sources. These sources included water taps (mostly public water kiosks), boreholes, shallow wells, streams and rivers. Piped water is supplied by Blantyre Water Board and managed by the Water Users' Association (WUA). Table 7 shows water sources and number of households.

Table 7. Water sources and number of households

Source	Number	Per cent
Borehole	150	3.7
Water kiosk	2794	69.2
Communal well	365	9
Household/compound tap	579	14.3
Household/compound well	89	2.20
River/spring	60	1.51
Total	4,037	100.00

The data are consistent with the Sector Performance Report 2011, which highlights that the most common options for the urban low-income areas – water kiosks – are seen to work as a form of water rationing, since there is a limit to the amount of water people can carry to their homes (Ministry of Agriculture, Irrigation and Water Development, 2011).

Table 7 above shows that 3.7 per cent of households access water from boreholes. This is mainly because of erratic water supply to the settlements. According to information from the seven community profiles, the seven settlements have 24 boreholes in total. These were dug by different agencies such as the Constituency Development Funds of Members of Parliament, the Government of Malawi through the Malawi Social Action Fund (MASAF),

Blantyre City Council and some well-wishers. Each community manages the boreholes and each borehole has a committee of ten community members. Households accessing water from these points are asked to contribute a monthly fee of MK 50 for the maintenance. However, information on the ground shows that 65 per cent of these boreholes are not working – the committees are not effectively ensuring that the boreholes are serviced and when they break down find it hard to get the money to put things right. The survey also shows that the number of contributions is insufficient and that checks and balances are not put in place to ensure that the management committees do not embezzle the community's money.

Field observation also shows that, because of the limited water availability – for 29.07 per cent of households, water is available for less than 3 hours, for 22.7 per cent 3 to 9 hours and the rest 9 to 24 hours – the many shallow wells and streams in the seven settlements are accessed by most households, which use the water for washing clothes and bathing. Given the problems of interrupted supply of piped water and the apparent shift to using unprotected sources, which contributes to an increase in the prevalence rate of water-borne diseases as people also drink from what they draw from shallow wells, more emphasis must be placed on appropriate treatment methods at the point of use. There is need to provide urban slum dwellers with improved water sources (Ministry of Agriculture, Irrigation and Water Development, 2012).

Distance to a water point

The survey assessed time taken to walk to and from the various water points in the settlement. Time was preferred because it is difficult for people to be accurate about distances.

Table 8. Time taken to walk to a water point

Time taken	Number of households	Per cent
Less than 10 minutes	2,113	52.33
Between 10 and 15 minutes	654	16.2
Between 15 and 20 minutes	378	9.36
Over 20 minutes	810	20.06
Not indicated	82	2.06
Grand total	4,037	100.00

Table 8 above shows that 77.78 per cent of households have to walk up to 20 minutes to draw water. The BWB encourages those obtaining water from communal water points to have yard taps or in-house connections to save such journeys. In Blantyre 75 per cent of the people take an average of 30 minutes to collect water from the main source (Ministry of Agriculture, Irrigation and Water Development, 2012).

Cost of water

The BWB is mandated to supply potable water for commercial, industrial and domestic use to the city and surrounding districts. However, water connections to informal settlements are

often unaffordable due to poor accessibility and the high connection costs over long distances from the mains.

In the informal settlements, the price of water at a public standpipe (kiosk) varies between MK 4 and MK 8 per bucket of 20 litres depending on the residential area. There is often price differentiation between low-income urban areas because of costs imposed by the vendors. An average family uses about nine pails of water per day and the monthly expenditure on water per family can therefore be estimated at between MK 1,350 (US\$ 4.2) and MK 2,700 (US\$ 8.4).

The provision of safe and affordable water is one of the major challenges that the informal settlements face. But when households apply for water connections they find the water board's charges so high that they are beyond them. Furthermore, with the rate at which the city is growing the BWB is finding it difficult to meet all demands. With no running water in the settlements, much of the time households are forced to go to unreliable sources, which leads to water-borne diseases; diarrhoea is common in the slums.

Players

The Water Board is only one player in the provision of water supply in Blantyre. Other players including the city council, NGOs such as the Centre for Community Organisation and Development and Water for People, and community-based organisations like Kabula Development Association. Donor agencies are involved in planning, financing and improving services in the informal settlements but this is often done in an uncoordinated manner, without consideration of long-term sustainability.

NGOs sometimes serve as links between the informal settlements and the service providers especially in relation to preparation of project proposals, facilitation of community mobilisation and training of water project management committees. Unfortunately, this link dies a natural death once an NGO's project term expires.

Sanitation

The survey looked at general sanitation practices. The areas focused on included whether households had toilets, the type, and whether they shared with other families. It went further, to find out the solid waste treatment methods used and how households get rid of their wastewater.

Table 9 below shows that 73.72 per cent (2,976) of households indicated having access to a toilet while 26.28 per cent (1,061) did not.

Table 9. Households' access to toilets

Toilet access	Number	Per cent
No	1,061	26.28
Yes	2,976	73.72
Total	4,037	100.00

Of the 1,061 households without a toilet, 63.43 per cent (673) use their neighbours', 2.17 per cent (23) use the bush, 5.28 per cent (56) use the river, and 29.12 per cent (309) use public toilets.

Out of the total 2,976 households with access to a toilet in the settlement, 971 (32.65 per cent) indicated that they do not share their toilet; 448 (15.05 per cent) that they share a toilet with one other household; 1,009 (33.89 per cent) that they share a toilet with more than two families; and 309 (10.38 per cent) that they share with one other family. 239 (8.03 per cent) households gave no indication.

People sharing toilets inevitably dig new ones – even pits dug six metres deep are full within a few years. Most of the communities complained that the toilets collapse, especially during the rainy season – which means even more sharing or sometimes open defecation. For those people who have toilets linked to a septic tank, the city council truck empties the sewage – at a cost of MK 8,000 (whereas the cost of digging a pit latrine is between MK 4,000 and MK 7,000). In most of the settlements, people do not have a pit-emptying service because there is no road access for vehicles. In any event, there is a general perception that an emptying service is expensive and that it cannot be afforded. That most people opt to construct pit latrines poses a challenge because of the lack of space. From field observations, a typical compound in the settlements has 85 per cent of its plot taken up by living accommodation, with the central space functioning as a meeting area. Typically, the toilet and bathroom are located at the corner of the plot. Space for new pits eventually runs out. In that situation ecological sanitation is a viable option as new pits are unnecessary.

The types of toilets that people have were investigated in the survey, and it was revealed that 3,360 (90.64 per cent) use unimproved pit latrines while 377 (9.36 per cent) use improved toilets, which include ecosan toilets, flush toilets to septic tank, flush toilets linked to sewer lines, and ventilated pit latrines.

Table 10. Types of toilets accessed

Toilet types	Number	Per cent
Ecosan	9	0.22
Flush toilet with septic tank	68	1.68
Improved pit latrine	256	6.36
Unimproved pit latrine	3,660	90.64
Ventilated improved pit latrine	28	0.69
Flush toilet connected to sewer	16	0.40
Total	4,037	100.00

Ecological sanitation take-up is still low as it is a new technology. But ecological sanitation is particularly suitable in places where the water table is high, where there is no space to construct a pit latrine and where, in any case, the ground is rocky. Sewer coverage is very low as the areas where the sewer lines exist were constructed under donor-funded projects. Only 1.68 per cent has septic tanks linked to sewer lines because most of the poor cannot manage septic tanks. In any case, a septic tank costs over MK120,000, which is unaffordable for any but a few of the better-off.

Even in areas where there is a sewer-line network, people do not connect their toilets to it because of its poor state of repair by the local authority. (The sewer lines go to Zingwangwa treatment plant, which is managed by the Department of Engineering.) 0.69 per cent of the communities have ventilated pit latrines. There are some ventilated improved pit (VIP) latrines, which have a concrete slab, permanent superstructure and a pipe to remove odour and keep out flies. Ordinary dug-out pit latrines, with or without a concrete slab over the pit, with or without a privacy superstructure, are dominant in the settlements. A standard pit latrine may be 3m deep and is designed to last up to ten years.

Cost of toilets

Most of the households studied (42 per cent) used their own money to construct their toilet. The rest had theirs constructed by other means. The cost of a toilet varies depending on the type and the materials used. The majority cost below MK 10,000 (US\$ 32) and were for the basic traditional pit latrine. Other dwellers had installed toilets for anything up to MK 160,000 (US\$ 500) – the high figure possibly referring to construction of a septic tank. The cost of an ecological sanitation toilet (Skyloo) attached to a bathroom constructed by the Malawi Homeless People's Federation was MK 105,000 (US\$ 328), while an ecosan toilet constructed by the Hygiene Village Project was MK 80,000 (US\$ 250).

The additional advantage of the ecosan toilet is that a household can harvest its contents for fertiliser, as established in the mid-term review of the African Water Facility project being implemented in Blantyre. Water for People in collaboration with Hygiene Village Project is providing a latrine pit-emptying service at a cost of MK 8,000 (US\$ 25) in areas inaccessible to waste collection vehicles.

The Skyloo is more expensive than ordinary pit latrines and the cost of materials also varies by city and over time. UN-Habitat (2006) reports the costs of the toilets in different countries. While a single VIP latrine in India in 2004 was US\$ 49, in South Africa it was US\$ 52-261 in 2002; ecosan toilets without urine diversion in India were US\$ 96, while in South Africa they were US\$ 261-609 in 2002. These costs suggest that ecosan toilets, either with or without urine diversion, are 'too expensive for use in small urban centres' (UN-Habitat, 2006: 58, 62). In principle, although their initial cost is higher than alternatives (MK 83,000 versus MK 62,000 for an improved pit latrine and MK 25,000 for a simple pit latrine), their 20-year cost is lower, and if the faecal waste compost is sold then there is a small net surplus after 15 years.⁶ The Skyloo does, however, require significant changes in behaviour, and careful coaching in its use is required. It has been argued in the international WASH sector that the design of this toilet might make it difficult for Muslims and for men who only want to urinate.

This study has shown that due to the cost of proper toilets and people's attitudes to them, many prefer to have a water supply at their homes instead, despite both having the same value to the family's health.

⁶ CCODE Mid Term Evaluation report (2012).

Table 11. Comparison of CCODE and WFP sanitation and water programmes based on Etherington (2012)

	CCODE	WFP
Philosophy for sanitation	<ul style="list-style-type: none"> To build the capacity of the urban poor to meet their needs for sanitation services 	<ul style="list-style-type: none"> To strengthen sanitation markets – both supply and demand
Approach	<ul style="list-style-type: none"> MHPF members and non-Federation members are encouraged to borrow funds to build a permanent, hygienic toilet 	<ul style="list-style-type: none"> Prospective sanitation enterprises are trained by Tools Enterprise & Education Consultants (TEECs) Two local NGOs are used as community and household mobilisers to stimulate informed demand for sanitation, with choice based on household economic situation
Toilet designs offered	<ul style="list-style-type: none"> Skyloo – twin vault, above ground, urine-diverting, compost-producing ecosan toilet with attached bathroom 	<ul style="list-style-type: none"> A variety, brochure displays 5 options 90 per cent have chosen a VIP 10 per cent have chosen an ecosan
Hardware subsidy	<ul style="list-style-type: none"> Nil 	<ul style="list-style-type: none"> Nil
Approximate current costs of toilets (MK)	<ul style="list-style-type: none"> 90,000 Loan maximum is 90 per cent of total cost Average toilet loan to 31 May 2012 was 72,000 	<ul style="list-style-type: none"> Skyloo: 102,000 VIP with 3m depth pit: 92,000 Improved pit latrine: 48,000
Lender	<ul style="list-style-type: none"> CCODE Mchenga fund 	<ul style="list-style-type: none"> Opportunity Bank, Malawi
Loan period	<ul style="list-style-type: none"> 24 months though borrowers encouraged to repay early 	<ul style="list-style-type: none"> 12 months
Interest charged	<ul style="list-style-type: none"> 1 per cent per month on declining balance on first generation loans Likely to increase to 2 per cent per month for second generation loans and thereafter 	<ul style="list-style-type: none"> 2 per cent per month on declining balance
Default rate	<ul style="list-style-type: none"> Payments for toilet loans are 48 per cent of scheduled (to 31 May 2012) Has been hampered by members of loan groups being scattered 	<ul style="list-style-type: none"> 18 per cent of borrowers are behind schedule
Social arrangements	<ul style="list-style-type: none"> Toilet loan groups, supported by MHPF technical teams 	<ul style="list-style-type: none"> Borrower groups
Maintenance	<ul style="list-style-type: none"> One vault emptied every 6 months or so by household and compost used or sold 	<ul style="list-style-type: none"> Pits are emptied by contractors using gulper equipment at a cost of MK 3,500 per drum (200l) 405 emptyings to date
Project targets	<ul style="list-style-type: none"> 1,000 toilets installed and in use by December 2013 	<ul style="list-style-type: none"> No specific latrine targets; focus is on building a strong sanitation market
Numbers of toilets built to date	<ul style="list-style-type: none"> 152 in 18 months (8/month) 	<ul style="list-style-type: none"> 4,755 in 18 months (264/month)
External funding arrangement	<ul style="list-style-type: none"> CCODE has a 3-year grant from AWF for a total of 611, 000 euros to support all aspects of the water and sanitation intervention 	<ul style="list-style-type: none"> WFP is a subcontractor to BWB, which has an EIB loan and EU grant to support: 1) extending the water sewer network into all areas of Blantyre and constructing kiosks and 2) increasing sanitation coverage WFP contract is 1.064 million euros over 4 years
Water component	<ul style="list-style-type: none"> 1,000 households to have a yard connection; 500 connections in the new Machinjiri settlement, where houses will be built by contractors with Mchenga loans, for MHPF members Another 500 connections in various Low Income Areas (LIAs) Total water loan repayments 48 ahead of schedule 	<ul style="list-style-type: none"> WFP establishes water user associations to manage water kiosks by entering into a contractual agreement with Blantyre Water Board To achieve universal coverage will require 363 kiosks 240 kiosks built by end of 2012 123 kiosks to be built in 2013 As a pilot, one area to be completely managed by a private operator who will manage 500 existing yard connections and 33 kiosks

Governance and participation

The local leadership starts at the Traditional Authority (TA), then Group Village Headperson (GVH), then Village Headpersons (VH). The set-up allows community members to participate in the development activities of their communities. The local leaders support the government's agenda in various ways, overseeing land issues and administering justice through the traditional courts.

Each district is divided into constituencies. Members of Parliament represent the constituencies, which, again, are further broken down into wards. The wards are represented by councillors, who oversee community development. However, there has been a lack of councillors for the past six years and this has affected the implementation of different development initiatives in the communities.⁷

Drainage and waste

Almost all the informal settlements have no proper drainage systems. Generally, footpaths tend to be used as drains; running water results in soil erosion and some of the water is left to spread on the ground. Wastewater from homes is disposed of together with solid waste at the waste pits. Table 12 below shows how wastewater is drained.

Table 12. Waste water drainage

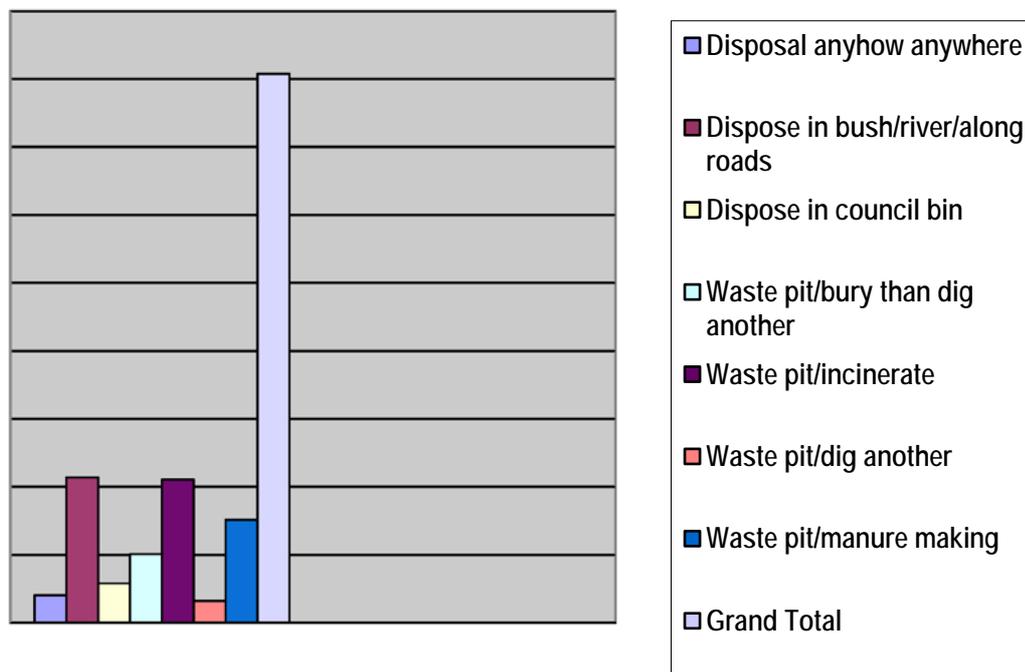
Waste water	Number	Per cent
Constructed drainage	552	13.67
Natural drainage	1,338	33.14
Other ways	173	4.28
Seepage	1,314	32.54
Dumped anywhere	660	16.37
Grand total	4,037	100.00

Solid waste

Refuse collection services by the city council or by private institutions are erratic in the informal areas. Rubbish from homes is collected in bins and heaped on the roads, in open spaces, in council bins and along the river banks. This is based on the findings of the study, see analysis in Table 13 below.

⁷ The communities are represented by the Member of Parliament.

Table 13. Disposal of refuse



The majority of the slum dwellers dispose of domestic waste in public places like markets. Most markets do not have designated areas for waste disposal. As the city council does not collect waste from the informal settlements, this results in most markets having heaps of it. The lack of collection by the city council, because of an inadequate number of vehicles – which also spill waste when they do collect as they are filled to overflowing – results in more illegal dumping throughout the city. In Blantyre, an estimated 70 per cent of waste is not collected because of lack of vehicles and the inaccessibility of the congested low-income areas (Vazquez, 2009). The survey profiles indicate that some people in the informal communities process their solid waste into compost manure, but lack of outlets for the manure affects the process. Most households burn their waste.

Hygiene practices

The Federation survey looked at whether households had a hand washing facility; 2,177 (53.94 per cent) did not, while 1,860 (46.06 per cent) did. A small study was commissioned by UNICEF in 2012 to examine baseline hand washing rates and proxy indicators for hand washing after toilet use and the findings were shared with CCODE staff. UNICEF staff explained some of the difficulties in measuring hygiene. Of the household members interviewed, 2,291 (56.74 per cent) claimed to wash their hands with soap often or always. However, these claims are an unreliable predictor for hand washing practice, as this proxy indicator was not found to have significant agreement with whether households were *observed* to wash their hands. In their study, 811 people (20.08 per cent) indicated that they do not wash hands after using the toilet (at the risk of the transmission of disease); 572 (14.17 per cent) use water only; 95 (2.35 per cent) use ash; and 268 (6.7 per cent) gave no

indication. However what is notable for the surveyed households is the absolute lack of facilities.

A lot of effort has been exerted to promote hygiene and sanitary activities. The government, through the Ministry of Health, has formed community health teams to provide civic education on the importance of both, working with a health official from the ministry. Each community is divided into clusters and each cluster has a committee of ten members. Furthermore, Blantyre City Council, through the health department, has a team promoting the same issues in the settlements. Yet the research shows that the two bodies are working separately rather than together.

Conclusions

This chapter summarises the findings of the situational analysis in the informal settlements of Blantyre, highlights the constraints of the study, and makes recommendations on how WASH delivery can be improved.

Importantly, the study has shown that, though government and non-state actors have made huge investments in WASH in Malawi, the benefits have not effectively translated into improvements in the informal settlements – and there is a big discrepancy with the national figures on water and sanitation. For instance, while the national figures show that the number of people with access to improved sanitation in the country is slightly above 50 per cent in the urban areas, almost 91 per cent of the households studied in the informal settlements have unimproved sanitation. Considering that at least 70 per cent of the urban population live here, the finding not only paints a gloomy picture on the reliability of national statistics as a tool for decision making, but it also calls for a rethink on the ways used to collate these data, if they are to serve good purpose.

Among the barriers that hamper access to water and sanitation in Blantyre is housing, and housing rents in particular. The study found that over half of the informal settlement dwellers are tenants (54.8 per cent). The fact that they are tenants limits their level of decision making on the issues of water and sanitation – such decisions are made by the owners of the properties. Most homeowners with tenants want to maximise rentals at the expense of sanitation, evident from the fact that so many households have to share a single toilet. The focus group discussions and the profiles also reveal that sometimes other homeowners raise their rents for maintaining a latrine or constructing a new one. The anticipation of a rental increase usually inhibits tenants from demanding improved sanitation. There is a need to ensure that efforts to scale up access to improved sanitation involve these homeowners.

Many households in the informal settlements depend on communal water kiosks: almost 70 per cent get their water from these. This puts considerable pressure on the water points that are working – the profiles show that settlements have as many as seven kiosks but sometimes only one tap is working at one kiosk, the rest having broken down. The situation compels some people to use unsafe sources such as shallow and unprotected wells, though more and more households are getting yard water connections. Through its water and sanitation programme, CCODE has provided loans so that over 400 households have become connected. To date, CCODE has received more than 1,000 water loan applications and cannot satisfy this demand. It is important to provide more financing mechanisms for yard connections in the informal settlements.

The study has reinforced the generally accepted fact that most of those living in the informal settlements are in the low-income bracket; almost 40 per cent of the respondents indicated a monthly income of less than MK 16,000. One of the barriers to sanitation and access to safe water is income level. At the time of the study, an ecosan toilet cost MK 120,000, which is plainly beyond almost every urban poor household's ability to buy outright. The two-year repayable loan scheme now in place has helped many people to change their lives, but it is still important to develop alternative models. As an outcome of the situational analysis, the study proposes the setting up of a decentralised waste treatment system (DEWATS) project to consider alternatives.

Where waste management is concerned, the study shows that the local authority collects only about 30 per cent of what the city produces and this is mostly from the planned areas. Waste management in the informal settlements is generally very poor, leaving people to find their own ways of dealing with their waste. The BCC clearly lacks resources but it, and the people in the informal settlements, must find effective community-centred ways of managing waste. The setting up of compost-making groups would seem to offer promise, not only dealing with the waste but creating an income stream from selling manure, although a market for this must be created.

Where hygiene is concerned, the study considered what hand-washing facilities exist in the informal settlements, finding that at least 53.5 per cent of the poor have none. That so few people do practice handwashing, challenges the WASH sector to reflect on how its campaigns are conducted and to question if the billboards, radio jingles and the array of social marketing advertisements are working. According to WHO figures, handwashing reduces diarrhoeal diseases by over 50 per cent.

Finally, the study has shown that there is little or no investment of human or financial resources from central government to improve the growing slum situation in Malawi and in Blantyre in particular. It is therefore imperative for non-state actors such as CCODE to continuously engage with the government on these issues – together with the slum dwellers.

Recommendations

The following recommendations were made by the communities in collaboration with BCC to improve the delivery of improved sanitation services and of potable water in the settlements of Blantyre:

- Refuse collection should be extended to the informal settlements
- Promotion of recycling of both organic and inorganic waste in the informal settlements, as the local authority may simply not be able to collect the waste in all of them
- Promote and market improved sanitation and hygiene options and technologies that are affordable
- Encourage the provision of improved sanitation facilities at household level that are affordable
- Look for other sanitation options
- Provide and increase the number of improved latrines and toilets with handwashing facilities including soap or other detergents in all public places
- Provide and maintain improved sanitation facilities catering for people with special needs in all public places
- Promote improved sanitation facilities in all community-based water supply programmes/projects including handwashing with soap or any other detergent
- Provide adequate wastewater treatment and disposal services in either on-site septic tanks or off-site sewage treatment works for all new water supply programmes and projects
- Encourage private sector investment and management of improved sanitation facilities in public places at affordable rates
- Encourage reuse of ecosan products, i.e. urine and 'humanure'

- Provide a platform where the communities discuss their challenges and solutions with service providers like BCC and BWB.

Ways forward

Considering the poverty levels in the informal settlements, it is important to look for other sanitation models that are within reach of the majority of the poor. Finance is critical in breaking the barriers to improved sanitation, but technological models are equally important. During the situational analysis in Blantyre City it was concluded that more options needed to be investigated that are suitable to needs on the ground. It is suggested that the decentralised wastewater treatment system (DEWATS), already implemented in Tanzania, Germany and South Africa, among other countries, should be a serious consideration.

DEWATS is suitable for diverse local conditions, including those in Malawi, requires only short planning and implementation phases, and requires little maintenance. The technology has a primary treatment (septic tank), secondary treatment (anaerobic filters), secondary aerobic treatment (in horizontal gravel filters) and post-treatment. The final discharge of water and sludge is re-used. If DEWATS were adopted, it is expected that small clusters of perhaps 10 to 50 households would be connected to a shared septic tank. With households sharing the costs of construction, these would be low.

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Sanitation and Hygiene Applied Research for Equity (SHARE) is a consortium of five organisations that have come together to generate rigorous and relevant research for use in the field of sanitation and hygiene. SHARE is a five-year initiative (2010-2015) funded by the UK Department for International Development.

The SHARE consortium is led by the London School of Hygiene and Tropical Medicine and includes the following partners: the International Centre for Diarrhoeal Disease Control, Bangladesh; the International Institute for Environment and Development; Slum/Shack Dwellers International; and WaterAid.

The purpose of SHARE is to join together the energy and resources of the five partners in order to make a real difference to the lives of people all over the world who struggle with the realities of poor sanitation and hygiene. SHARE seeks to empower the individuals, agencies and organisations that are tasked with transforming the living conditions of these people.

