



RESEARCH REPORT

Building citywide sanitation strategies from the bottom up

A situational analysis for Dar es Salaam City, Tanzania

Mwanakombo Mkanga

Timothy P. Ndezi



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Acronyms

AfDB	African Development Bank
AFTU1	Africa Technical Unit 1 (World Bank)
AIDs	Acquired Immuno Deficiency Syndrome
AICD	Africa Infrastructure Country Diagnostic
CCI	Centre for Community Initiatives
DAWASA	Dar es Salaam Water Supply and Sewerage Authority
DAWASCO	Dar es Salaam Water and Sewerage Company
DCC	Dar es Salaam City Council
DEWATS	Decentralised Wastewater Treatment Systems
DSM	Dar es Salaam
DSSD	Dar es Salaam Sewerage Department
EEPCO	Environmental Engineering & Pollution Control Organisation
EWURA	Energy and Water Utility Regulatory Authority
FGDs	Focus Group Discussions
GPS	Geographical Positioning System
GoT	Government of Tanzania
HH	Household
HIV	Human Immunodeficiency Virus
IMC	Ilala Municipal Council
JMP	Joint Monitoring Programme
KFW	Kreditanstalt für Wiederaufbau (German Development Bank)
KII	Key Informant Interview
LGA	Local Government Authority
MDG	Millennium Development Goal
MKUKUTA	MkakatiwaKukuzaUchuminaKupunguzaUmasikini
MoEFA	Ministry of Finance and Economic Affairs
MoHSW	Ministry of Health and Social Welfare
MoU	Memorandum of Understanding
MoWI	Ministry of Water and Irrigation
MTEF	Mid Term Expenditure Framework
NGO	Non-government Organisation
PHAST	Participatory Hygiene and Sanitation Transformation Teams
PMO RALG	Prime Minister's Office Regional Administration and Local Government
RNE	Royal Netherlands Embassy
RWSS	Rural Water Supply and Sanitation
SSA	Sub Saharan Africa
SPSS	Statistical Package for Social Scientist
TAWASANET	Tanzania Water and Sanitation Network
TZS	Tanzania Shilling
UN	United Nations
UNICEF	United Nations Children Fund
UN-HABITAT	United Nations Human Settlement Programme
UNFPA	United Nations Population Fund
URT	United Republic of Tanzania
UWSS	Urban Water Supply and Sewerage
WAHECO	Water, Health, Community Development and Education Teams
WB	World Bank
WEPMO	Water and Environmental Sanitation Projects Maintenance Organisation
WHO	World Health Organisation
WSDP	Water Sector Development Programme
WSP	Water and Sanitation Programme

Introduction

Background to the research

The aim of this situational analysis is to develop a better understanding of the principal obstacles to citywide sanitation improvement in Dar es Salaam, Tanzania and explore ways they can be addressed. This action research initiative further aims to secure a model for the development and realisation of pro-poor citywide sanitation through scalable projects.

One of the four targets of the Millennium Development Goal 7 is to reduce the proportion of the population living without basic sanitation to half of its 1990 level by 2015. In the WHO/UNICEF of 2012 it is reported that 2.5 billion people lack access to adequate sanitation. In 2008, an estimated 584 million people in Africa did not have access to an improved sanitation facility, of which 231 million practiced open defecation (WSP *et al.*, 2011)¹. There are significant disparities between wealth quintiles, with the richest 20 per cent of the population in sub-Saharan Africa (SSA) being five times more likely to use an improved sanitation facility than the poorest 20 per cent, who are in turn 18 times more likely to practice open defecation (WSP *et al.*, 2011).

Progress has been made at a global level, with 63 per cent of the world's population using improved sanitation facilities (WHO/UNICEF, 2012). A particularly notable increase in the use of improved sanitation has been recorded in Southeastern Asia and East Asia. Only a slight increase in the share of households with improved sanitation has been recorded in Sub Saharan Africa (SSA), with the share rising from 26 per cent in 1990 to 30 per cent in 2010 (WHO/UNICEF, 2012, Figure 18). Much of SSA, including Tanzania, is reported to be off track in meeting the MDG sanitation targets by 2015. As illustrated in Table 1, coverage with improved sanitation in urban Tanzania has actually been increasing significantly, while it has general remained stagnant in much of SSA, but Tanzania started in 1990 from a particularly low base.

Tanzania shares with other countries the MDG targets of ensuring adequate sanitation, whereby national level targets were set in the National Strategy for Growth and Reduction of Poverty (popularly known as MKUKUTA) to achieve the goal. The MKUKUTA targets aim at 'Increased Access to Clean, Affordable and Safer Water, Sanitation, Decent Shelter and a Safe and Sustainable Environment' by reducing vulnerability from environmental risks.

¹According to WHO/UNICEF (2012), a household is classified as having improved sanitation if it has one of the following types of toilets and does not share this toilet with other households: flush or pour-flush to a sewer, septic tank or pit; a ventilated improved pit (VIP) latrine; a pit latrine with a slab.

Table 1. Summary statistics on urban sanitation coverage in Tanzania and sub-Saharan Africa

United Republic of Tanzania	Year	Population (000)	Per cent urban	Urban			
				Improved	Unimproved		
				Per cent improved	Per cent shared	Per cent other unimproved	Per cent open defecation
	1990	25,479	19	10	10	78	2
	2000	34,038	22	15	15	68	2
	2010	44,841	26	20	20	58	2
Sub-Saharan Africa							
	1990	515,588	28	43	28	19	10
	2000	669,118	33	43	29	19	9
	2010	856,323	37	43	31	18	8

Source: WHO/UNICEF (2012)

The targets shown in Box 1 are maintained in The National Development Vision 2025 which targeted access to improved sanitation by 100 per cent. These targets were set in a situation where about 80 per cent of the population was living in informal settlements where the service conditions were inadequate or nonexistent. In 2010, the government reviewed MKUKUTA targets and MKUKUTA II is currently striving to attain 45 per cent and 42 per cent access to improved sanitation in urban and rural areas respectively by 2015.

Box 1. MKUKUTA I - Operational targets on sanitation and waste management

- Increased access to improved sanitation facilities from 17 per cent in 2003 to 30 per cent in 2010
- Reduced households living in slums without adequate basic essential utilities
- 100 per cent of schools to have adequate sanitary facilities by 2010
- 95 per cent of people with access to basic sanitation by 2010
- Cholera outbreaks cut by 50 per cent of 2005 level by 2010

Source: URT (2005) *National Strategy for Growth and Reduction of Poverty*

The government implemented the *Mtuni Afiya* ('Man is Health') campaign in the 1970s which, among its objectives, introduced latrine use in the majority of Tanzanian homes. This

campaign helped establish latrine use behaviour amongst Tanzanian households. Very high sanitation coverage has been observed countrywide, as overall 82 per cent of rural and 98 per cent of urban households respectively have latrines (NBS Tanzania and ICF Macro, 2011). Regardless of the high sanitation coverage, simple (traditional) pit latrines are the predominant sanitation facility used by 50 per cent of urban households countrywide. Only 22 per cent of urban households in mainland Tanzania use improved, non-shared sanitation facilities. Pour flush toilets are the most common improved facilities used by households and 57.2 per cent of urban households use shared sanitation facilities (*ibid*). Traditional pit latrines hardly serve the primary objective of safely sealing off excreta, especially in highly congested areas, and may be regarded as only somewhat more effective than open defecation (UNICEF, 2012).

Limited sewerage coverage is found in Tanzanian cities, where only 0.3 per cent of households are connected to the central sewer network (NBS Tanzania and ICF Macro, 2011). Informal settlement dwellers are denied the advantages of improved sanitary facilities and are also living in a situation associated with a lack of other facilities including health benefits, social benefits and economic benefits.

The context of urban sanitation in Dar es Salaam City

Dar es Salaam is the largest city in Tanzania and is located along the Indian Ocean. It has an area of 1,800 km² with 1,350 km² of land mass and 450 km² of water. Upward of 80 per cent of the urban area is unplanned (UN-Habitat, 2010a). Dar es Salaam's population has grown from 1.4 million in 1988 to an estimated 4.0 million (as at 2010), of which 80 per cent (3.2 million) live in unplanned/informal settlements (UN-Habitat, 2010a). The primary source of employment is elementary occupations (unskilled or those requiring low levels of skills), which have employed 40 per cent of the population, followed by service workers (27 per cent). 16.4 per cent of Dar es Salaam's population lives below the poverty line (NBS, 2009). High population growth rate and limited resources have constrained the city government's ability to cope with the timely delivery of infrastructure services.

During the last 40 years, the city's growth has been primarily concentrated along the coastline and four arterial roads. Between the arterial roads, there are areas that are not serviced and have developed into unplanned settlements. Many of these areas are located in hazardous areas such as river valleys, flood prone areas and hill slopes. Servicing these areas is difficult due to the nature of the terrain and the density and layout of the settlements. 54 major unplanned and unserviced settlements exist in Dar es Salaam City, the number increases to 100 if peri-urban villages are included (UN-Habitat, 2008). All of the unplanned settlements rely largely on unimproved or traditional pit latrines for their sanitation needs. Over the past decade, these informal settlements have become increasingly dense as people have continued to move to the city and have tried to settle in those areas closer to job opportunities and other informal trading options. This growing density has made the traditional pit latrines increasingly unsuitable and unsanitary.

Administratively the city is split into four authorities – the Dar es Salaam City Council and the three municipal councils of Temeke, Ilala and Kinondoni. The three municipalities are divided into a total of 73 wards, a local structure that builds on the previous socialist leanings of the country and goes down to street (settlement) level.

Kinondoni municipality is located in the northern part of Dar es Salaam City. It is bordered by the Indian Ocean to the east and the coast region to the northwest. Based on the 2002 population and housing census, the population of Kinondoni was 1,083,913 and has an area of 531 km². Administratively the municipality has 27 official wards and 113 sub wards. **Ilala** has an area of 210 km² bordered by the Indian Ocean on the east, Kisarawe district in the west, Temeke municipality in the south and Kinondoni municipality in the north. A large part of the municipality is lowland with a small upland zone. The lowland area forms the urban part of the municipality and the upland area is predominantly agricultural and rural in character. **Temeke** has an area of 786.5 km², is the largest municipality and is located in the southern part of Dar es Salaam City. The 2002 population census reported 768,451 inhabitants growing at 6.6 per cent per year, with 187.609 households.

Despite increasing efforts on the part of the municipal and city governments to address informal settlement expansion, the speed of the city's growth and the inability to invest adequately in housing and infrastructure have led to the growth of existing settlements and to the development of new ones. As a result, Dar es Salaam now has one of the highest proportions of informal settlement households in East Africa.

During the 1980s and early 1990s, the institutional landscape of onsite sanitation was dominated by the Dar es Salaam Sewerage and Sanitation Department (DSSD), a public body. However the municipal and national reforms in the mid-1990s that created the city government and the three municipalities, dissolved DSSD, with the sewerage component folded into a private contract for water and sewerage. DAWASA, the Dar es Salaam Water and Sewerage Authority, was created. A management contract was signed with a private firm, City Water, but was terminated several years ago and the public water company, DAWASCO, now runs the water and sewerage system. Both of these actors are first and foremost concerned with the formal sewerage system, which reaches less than 10 per cent of the residents of Dar es Salaam. The other 90 per cent use onsite sanitation facilities, consisting predominantly of pit latrines and less than 10 per cent use septic tanks (Penrose *et al.*, 2010).

The lack of drainage channels for pit latrines increases the risk of serious health problems (UN-HABITAT, 2008). While only 10 per cent of Dar es Salaam residents are connected to sewer networks, only three per cent of the wastewater collected through the networks is treated through stabilisation ponds and the remaining seven per cent is discharged directly into the sea outlet (WaterAid/SHARE, 2013).

A study conducted in 45 wards in Dar es Salaam revealed that 71.7 per cent to 97.3 per cent of informal settlement dwellers lack access to improved sanitation with a mean of 92.4 per cent (Penrose *et al.*, 2010). Although coverage of pit latrines in urban Tanzania is high, pit latrines in urban areas, particularly in Dar es Salaam, are prone to collapse due to the geological sandy soil, flooding, and the high water table. In addition, emptying pits is challenging. This results in the majority of the city's population using substandard and unhygienic sanitation facilities which expose users to high risks of contracting diseases and provide insufficient privacy.

The high usage of pit latrines, combined with problems of pit emptying, results in the flooding of faeces openly. Emptying the pit latrines relies largely on informal ways organised by households themselves. The most common pit emptying methods practiced in informal settlements in Dar es Salaam include pit diversion (draining sludge into another pit), manual bucket emptying and flooding out the waste (WSP, 2009). During heavy rains, pit latrines tend to fill up and human excreta overflow into settlements; in addition some residents empty their pit latrines when it rains by discharging waste into rainwater.

The WSP (2009) study to assess demand for sanitation in Dar es Salaam found that residents do not like many of the pit emptying methods practiced by the communities, but they find themselves continuing to use them due to a lack of alternatives. Although many community members favour vacuum emptying, pit diversion and flooding out waste remain the most common methods of pit emptying in informal settlements. This is despite their disapproval because many houses have no road access, and flooding out waste is cheap especially for those who cannot afford other methods. The government is also lax to curb this behaviour (*ibid*).

Limited space and resources for sanitation improvement are among the key challenges affecting informal settlement residents. Households may not afford the construction of improved sanitation facilities and often makeshift unsanitary toilets are undermined by inadequate design and construction, which pose a major challenge to a considerable proportion of the community; in particular children, the elderly and persons with disabilities (UNICEF, 2012). These challenges, coupled with the poor quality of existing latrines, lead to the deplorable environmental conditions that characterise a typical low income setting (*ibid*).

Provision of sanitation to informal urban settlements

For the first time in human history, the majority of the world's population live in cities and towns. Across middle and low income countries, the population flow is doubling the size of cities every 15 years, and by 2030 the world will see two thirds of the estimated global population of eight billion people living in urban areas. Much of the future growth in urban areas is expected to take place in developing countries, with Africa and Asia predicted to have nearly seven out of every ten urban inhabitants in the world by 2030 (UNFPA, 2007). Cities and towns are national engines of growth, yet inadequate provision of sanitation and clean water in rapidly growing, unplanned urban areas has huge consequences for public health and national development projects. Due to limited economic opportunities and an increasing shortage of affordable housing and infrastructure services, the majority of urban growth in many of the developing world's fastest growing cities is a result of the expansion of informal settlements, often referred to as slums (UN-Habitat, 2006).

UN-Habitat defines slums or informal urban settlements as urban areas where households lack one or more of the following: access to an improved drinking water source, access to improved sanitation facilities, sufficient living area, durable housing in a non-hazardous location, and security of tenure (UN-Habitat, 2006). As one might expect, a lack of these conditions can have severe consequences for human health and this is of particular concern when considering the potential impact on the spread and burden of infectious diseases (UN-

Habitat, 2006). For example, tuberculosis, influenza, meningitis, typhus, plague, typhoid and cholera are among many infectious diseases historically associated with conditions now common in urban informal settlements. High levels of poverty exist in informal settlements, which develop without any control by the government authorities, in contrast to the formal urban planning and development processes.

In many cities of the developing world, the growth of informal settlements has been largely influenced by high urban population growth. Likewise in Tanzania, high urban population growth rates have been compounded by weak institutional frameworks in terms of local government sources of revenue, poor quality of trained personnel, lack of equipment and working tools, bureaucracy and lack of transparency in land allocation, as well as unrealistic building standards and regulations in formally planned areas, amongst others. These have all contributed to the proliferation and densification of informal settlements (UN-Habitat, 2010b).

High prices of accessing land in formal areas, insufficiency of surveyed plots, high building standards and bureaucracy involved in acquiring surveyed plots in planned areas in Dar es Salaam City have contributed to the escalation of informal settlements, since the majority of the population have lower incomes and cannot afford the higher land prices put forward by government, nor can they manage the high bureaucracy involved in plot acquisition and development. Therefore, buying land in informal settlements has become the easiest way to access land ownership for many residents, especially for poor households.

Urban sanitation refers to all activities involved in the management of human waste in urban areas. In urban informal settlements, the collection, treatment and disposal of human waste are critical issues mainly because the settlements are overcrowded, and there is a lack of infrastructure, especially water, drainage and sewerage. This is a situation which contributes to frequent outbreaks of disease and threatens the health of residents, as well as having negative economic effects on both informal settlements residents and on the government. In many cases, informal settlements lack arrangements for waste disposal, and latrines are poorly designed and maintained (Hogrewe *et al.*, 1993). Few people within the settlements have pour flush or septic tank toilets and the predominant sanitation system adopted in informal settlements is traditional pit latrines (UNICEF, 2012).

In informal settlements in Tanzania, the common sanitation practice is the use of traditional pit latrines, many of which are poorly designed, poorly constructed, poorly maintained and lack formal arrangements for waste disposal. Consequently many of them are not functioning properly; waste water is left spilled outside without shelter where it soaks into the ground or forms stagnant pools in poorly drained areas (Hogrewe *et al.*, 1993).

It has been reported that 25 per cent of the population in Africa lives in informal settlements (World Bank, 2002). Based on the 2002 population and housing census report, from Tanzania's total population of about 34.6 million, some 23 per cent live in urban areas (NBS, 2003). Up to 80 per cent of the total population living in urban areas in Tanzania is living in informal settlements and 60 per cent of urban housing stock is found there (URT, 2000). While worldwide residents in informal settlements lack tenure security, the situation is different in Tanzania where informal settlements are regularised and residents can own land on a lease basis through a short term contract of two to four years (UN-Habitat, 2010b). However, those considered to be living on dangerous and/or hazardous land including steep

slopes, valley sides and along streams and canals are not eligible for regularisation and formalisation. This population segment forms more than 50 per cent of the total population of informal settlements.

History of the Federation and its development in Tanzania

The history of the Tanzania Federation started in 2001 when a team from Tanzania, which included WaterAid and communities and representatives from the municipality, were invited by Shack/Slum Dwellers International (SDI) to Nairobi to participate in conducting enumerations in Korogocho. Upon their return, they facilitated the formation of four savings groups in Tanzania. Further exchanges were organised involving Zimbabwean and South African teams to Tanzania in 2001, followed by two WaterAid staff, together with two officials from the Temeke District and DAWASA travelling to India with the purpose of exposing more of the Tanzania team to urban development processes, in particular the savings schemes model, as well as the Federation networks.

When the team returned to Tanzania, they tried to support the savings groups, but because of the end of contracts of the two staff within WaterAid, such initiatives failed to grow due to the lack of institutional support. In 2003, one of the NGO staff went to the UK to study which subsequently led him to Malawi for field data collection. During that time that he facilitated exchange visits by the Malawi Federation to Tanzania to provide more insight into the groups that had initially formed. During their visit in November 2004, the Malawi Federation spent their time mobilising communities around savings schemes, which inspired the groups to get moving. Soon after the departure of the Malawi Federation, the four team members who went to India decided to institutionalise a support NGO - the Centre for Community Initiatives (CCI) - to provide support to the savings schemes and the Federation in Tanzania.

In 2005, SDI, in collaboration with UN-Habitat Cities Without Slums Project (CWS), held a meeting in Dar es Salaam. This meeting was attended by Federation members from Uganda and Malawi, as well as other community representatives and municipal officials from Uganda, Kenya (Kisumu) and Arusha who were implementing CWS projects. A Malawi support NGO, UN-Habitat representatives and SDI coordinators from India and South Africa also attended this meeting.

During this meeting, the Tanzania Federation and its affiliate NGO were officially welcomed into the SDI network. In the same year, the Federation extended into Arusha municipality, following a request from the Arusha municipal council, which was by then implementing CWS projects under UN-Habitat financing, which among its components was the mobilisation of communities to form savings and loan groups. In 2006, the Federation expanded to Dodoma and to date the Federation is working in eight regions including Dar es Salaam, Arusha, Dodoma, Mwanza, Mara, Tanga and Zanzibar. The Federation has been involved in savings and loan activities, conducting enumerations and settlement profiles, negotiating with government and undertaking advocacy activities, focusing particularly on land issues and improving services in informal settlements. The Federation is also implementing various projects aimed at settlement improvement, enhancing livelihoods and in generally improving the wellbeing of low income people living in informal settlements. The projects include income generation projects, water, sanitation and housing projects and facilitating access to tenure security for low income households in informal settlements, especially those who have been involuntarily displaced.

Overview of the Tanzania Urban Poor Federation and its sanitation programme

The Tanzania Urban Poor Federation is a network of savings schemes. The Federation process is demand led, and involves the mobilisation of poor communities around the rituals of daily savings, exchange visits and enumerations as a means of organising and prioritising their own development process.

Federation members are people from informal settlements, who currently have no alternative but to live in these overcrowded conditions, which have poor quality housing, little or no access to adequate water and sanitation, and are marginalised in urban development plans. The formation of community savings and credit groups creates the basis not only for collecting money, but also for gathering people and information together, resulting in collective strength and organisational capacity. Although Federation savings groups are membership based (predominantly made up of women with families), the settlement development activities they carry out aim to benefit the entire community, including the elderly, youth, people living with disabilities, and people living with HIV/AIDS.

The Tanzania Federation has established regional and national leadership structures. Regional leadership is elected by savings groups and is usually drawn from active committee members. The savings groups have committees to deal with various issues such as savings and loans; enumeration and advocacy; auditing; project design and mobilisation. Currently regional networks have been institutionalised in Dar es Salaam, Arusha, Dodoma, Morogoro, Mwanza and Mara, with a total membership of more than 9,500 members and a total saving of around TZS 159 million (US \$100,000).

Since 2007, the Tanzania Federation has initiated sanitation programmes in all regions where the Federation is active. The need for supporting sanitation was established through various enumerations which the Federation has conducted. In most slums and informal settlements there are critical problems of water and sanitation which the Federation needed to address. Key challenges which affect the uptake of effective latrines in these areas include technological challenges due to the high water table, collapsible soil, and lack of space to bring lorries to carry out cesspit emptying. Others include financial limitations, since addressing those technological challenges will mean expensive solutions. Others include attitude challenges, such as the laxity of landlords to improve latrines within their houses, and tensions in relationships between tenants and landlords. Most houses in informal settlements in Tanzania are owned by individual landlords and rented to people within the settlements. On average about 50-70 per cent of households within the informal settlements are tenants, where one house can constitute three to six households with a shared latrine.

In this context, the Tanzania Federation has worked with landlords and tenants within the informal settlements to improve their shared sanitation options by offering loans (financial support) and technological support. The loans provided through the Federation's *Jenga* Fund were initially provided only to Federation members, but recently these loans are also extended to non-Federation members, providing an opportunity to scale up the sanitation work. In addressing the technological challenges on sanitation, the Tanzania Federation has trained community Federation sanitation *fundis* (technicians) in Dar es Salaam, Dodoma, Arusha, Morogoro, Mwanza and Mara, and these are now providing technological support to the community. These technicians were trained with support from CCI, and were equipped

with working tools. One of the major types of technological options for sanitation that was accepted and promoted is the pour flush toilet, with its pit lined by trapezoidal blocks and ecological sanitation (with urine diversion devices) systems. The Federation has also initiated sanitation wetland systems for community housing schemes at Chamazi (Dar es Salaam) and Miyuji (Dodoma) respectively, where sewerage from households is treated communally at the sites. The Federation in Dar es Salaam has started a pit emptying programme using gulper pit emptying devices with support from WaterAid.

Overall the Tanzania Federation has constructed 701 shared toilets in Dar es Salaam, Arusha, Dodoma, Morogoro, Mwanza and Mara; one public toilet has been built at Keko Machungwa market in Dar es Salaam; and 91 community based sanitation *fundis* have been trained, who are now providing support in the construction of latrines. These Federation sanitation *fundis* have a central leadership and are coordinated within a sanitation centre in each region. The sanitation centres provide technical support and promote the mobilisation of communities regarding sanitation improvement.

Assessment of the Tanzania National Sanitation and Hygiene policy

It is an indisputable fact that the quality of health of a community is influenced by the quality of the environment and sanitation services in that particular community. Poor environmental health and sanitation result in increased transmission of disease and the poor health of the community. The Ministry of Health and Social Welfare understands that the availability of clean, safe and affordable water services accompanied with environmental health awareness, proper hygiene practices and improved sanitation facilities are very important in all aspects of life. They contribute to poverty reduction efforts and a reduction of disease outbreaks such as cholera, diarrhoea, trachoma, scabies and worm infections. Furthermore, the availability of sanitation services reduces the vulnerability of HIV/AIDS victims to opportunistic infections such as tuberculosis, malaria, worm infections, and diarrhoea.

In Tanzania, it has been found that sanitation and hygiene issues are embedded in a number of policies; there is no clear common vision and guidance in the sectors involved in sanitation and hygiene, which guide action in the other relevant sectors. The lack of an independent policy which addresses sanitation and hygiene in the country in its full context is a missing link in this regard. The current status of hygiene and sanitation in Tanzania is characterised as one suffering from chronic neglect. Insufficient emphasis is placed on sanitation and hygiene at national and local levels, there is inadequate funding, poor documentation, competing approaches, and conflicting institutional arrangements. As a result, national stakeholders have initiated the development of a sanitation and hygiene policy which is currently in a draft form. This draft policy aims to provide guidance across the different sectors and bring together guidelines which are scattered in various policy documents and legislation. It is anticipated that the policy will provide the basis for the management and coordination of sanitation and hygiene services in conjunction with the health policy.

Key directions in the sanitation and hygiene policy statements relevant to urban sanitation include the following:

- The government, in collaboration with stakeholders, will increase awareness of improved sanitation and good hygiene practices in communities.
- The government will review, develop and enforce laws, regulations, standards and guidelines governing allocation for settlements to ensure they incorporate consideration of the requirements for sanitation and hygiene.
- The government will facilitate the participation of the private sector in investing in sewerage facilities.
- The government will enhance collaboration and cooperation on sanitation and hygiene matters in urban areas between relevant ministries.
- The government will raise sanitation and hygiene on the political agenda as a priority area of concern and encourage community engagement.
- The government will declare a day every quarter/week during which communities in both urban and rural settlements will collectively engage in cleaning up their areas.
- The government will increase budget allocations for sanitation and hygiene issues to its ministries and Local Government Authorities.

- The government will encourage the involvement of the small scale private sector to make affordable products available locally.
- The government, in collaboration with other stakeholders, shall ensure that the design and construction of sewerage systems meet the standards and requirements.

The above sanitation and hygiene policy statements, however, do not specifically address the challenge of urbanisation and the lack of sanitation facilities for the urban poor in the growing cities of Tanzania. There is a need for further advocacy to ensure that the sanitation needs of the urban poor are taken on board.

Financing for sanitation in Dar es Salaam City

The sanitation sector in Tanzania is cofinanced by the Government of Tanzania (GoT) as a contribution from general budget support and its own revenue collection; and external funding agencies through a sector-based basket funding system with a holding account at the Bank of Tanzania (BoT). In 2006, the government established coordinated financing mechanisms for the water and sanitation sector in the form of a sector-wide approach, whereby the Ministry of Finance and Economic Affairs (MoFEA) is the recipient of the bulk of donor funding (except earmarked funds going directly to projects), as well as the government's own resources, and as such allocates available funds to the various ministries. 85 per cent of the fund comes from development partners and the remaining 15 per cent comes from the government's own resources.

The Water Sector Development Programme (WSDP), which became effective in 2007, was designed as a coordinated funding framework that integrates government funds allocated to water and sanitation, together with funds from development partners. The initial budget of the WSDP is US\$951 million which is funded by the GoT and the sector-based basket funding system with a holding account at BoT. Funds from the World Bank, the African Development Bank (AfDB), KfW (German Development Bank) and the RNE (Royal Netherlands Embassy) are released and allocated to sector programme activities. Sanitation and sewerage activities fall under components 2 and 3 of the WSDP respectively, i.e. Rural Water Supply and Sanitation. In addition, funds to the sector are allocated via the Ministry of Health and Social Welfare (MoHSW) through the Health Basket Fund, where funds are then allocated to districts in all regions and the Prime Minister's Office Regional Administration and Local Government (PMO RALG) for supervision and the balancing in the Mid Term Expenditure Framework (MTEF) for MoHSW. In addition, government and development partners allocated some funding with the WSDP to municipalities to finance 'soft' activities, such as sanitation marketing. In 2007/08 each municipality in the city received TZS 2 million to finance sanitation marketing, but the way in which these funds have actually been spent was not clear. There have also been operational subsidies of TZS 255 million for non-infrastructure support for the municipalities themselves, but still these remain very low compared to amounts spent for capital expenditure on sewerage.

Although funds are being allocated for water and sanitation improvement, public financing is largely concentrated on sewerage and waste water treatment as opposed to onsite sanitation; no public financing is allocated to hardware for onsite sanitation solutions (WaterAid/SHARE, 2013). Only 10 per cent of the population is served by the sewer network and the waste water treatment benefits a mere three per cent of the population, yet 99 per cent of public investment on sanitation goes on sewerage, with very limited funding available

for demand promotion and hygiene awareness. Overall, only 0.9 per cent of public funding on capital investments goes to onsite sanitation services, which is the sanitation solution for 83 per cent of the population, likewise wealthier households who have access to sewerage and treatment services effectively benefit from 99.1 per cent of public funds invested in sanitation infrastructure (WaterAid, 2013). There is a need for the community Federation to be empowered with skills to conduct budget tracking and advocacy so that they can follow up with these institutions.

Box 2. Financing sources for sanitation in DSM

Sewerage services: financing from tariff revenues and other sources is allocated via the two publicly owned entities in charge of overseeing and delivering the services - DAWASA and DAWASCO.

Financing sources for DAWASCO: DAWASCO gets the majority of its revenues from tariffs and for sewerage. It only charges customers that are connected to the sewerage system. Charges for water and sewerage are set by EWURA, the regulator of water, sewerage and electricity services at national level. DAWASCO is in charge of preparing the tariff application, which is then submitted to EWURA by DAWASA.

Financing sources for DAWASA: the lease fee is intended to cover DAWASA's operational costs and service debt. The monthly lease fee is TZS 100m/month. This amount has not been paid consistently by DAWASCO in the past but this has been rectified since March 2009. Negotiations are underway for DAWASCO to repay that debt in the near future.

In addition, capital investments are funded by donor partners and matched by the GoT under the WSDP. DAWASA therefore implicitly gets a subsidy from the GoT.

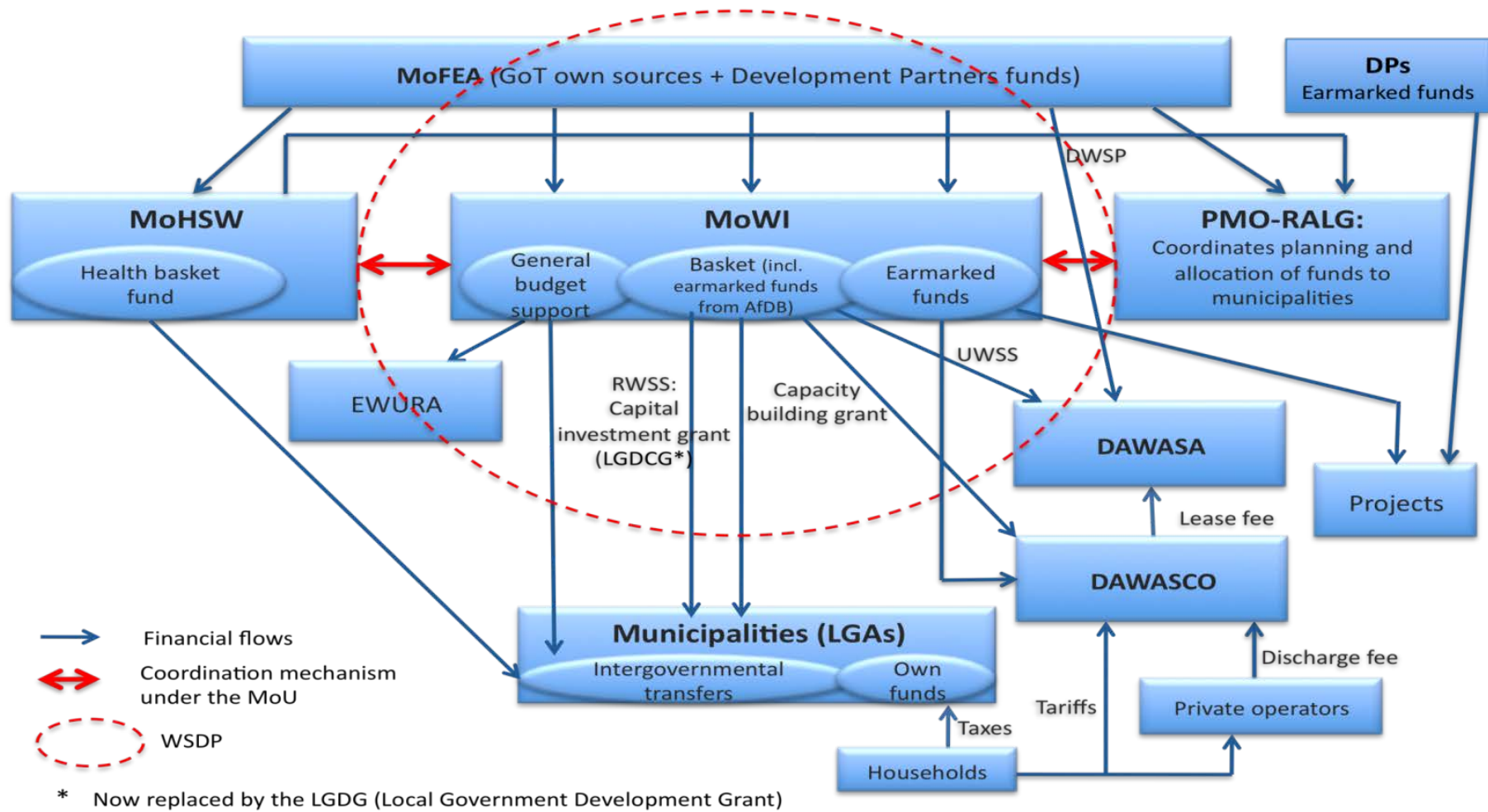
Financing source for onsite sanitation: households are the main investors as latrines are seen as a private responsibility. Municipalities have limited funding available mostly to finance software activities including demand, promotion and inspections.

Municipalities: receive funds from a variety of sources. Funding for sanitation is extremely fragmented, and management of those resources is complicated by the fact that several of these financing sources come with precise guidelines on the way in which the funds can be used, although there may be a time lag between the disbursement of funds and the diffusion of guidelines.

Under the WSDP, DSM municipalities have each been assigned up to TZS 20 million to conduct software promotion activities. In practice, only TZS 2 million in 2007/08 and TZS 13 million in the following year have been effectively disbursed to each of the three municipalities. Although the allocation is said to be related to performance in sanitation marketing and hygiene, the disbursements seem in reality to be erratic and unpredictable.

In addition, off-budget resources for sanitation and hygiene promotion, although limited, are relatively significant compared to government allocation. Although sanitation was a low priority within the community component of DWSSP (communities themselves chose to finance an improved water supply rather than upgrading latrines), NGO-led projects, both prior to and under the WSDP, have carried out substantial work in sanitation, including demonstration budgets for latrines and training artisans. This suggests that local and international NGOs and the UN have placed greater value on sanitation and hygiene promotion activities than the local municipalities and government.

Figure 1. Institutional mapping and financial flows for household sanitation in Dar es Salaam



Source: WaterAid/SHARE (2013)

Sanitation for people living with disability

Improving the lives of disabled people, including their access to sanitation and hygienic services, is not currently a priority locally or internationally. People with physical impairments across the developing world face problems of access, and water and sanitation facilities have not been designed with their needs in mind. This reality has severe and widespread consequences for the health, dignity, education and employment of disabled people and their caregivers. Many disabled people face numerous physical and attitudinal barriers, which contribute to their isolation and impoverishment. The United Nations 'Standard Rules on the Equalisation of Opportunities for Persons with Disabilities' (1993) has been adopted by most countries, but issues of access are still largely being ignored by planners and development practitioners. The UN rules aim to secure government commitment to granting equal rights and opportunities to people with disabilities (IDS, 2005).

The drive to meet targets, such as halving the projection of the world's population without sanitation (MDG 7) should, however, not occur at the expense of equitable progress. According to the United Nations Development Programme, four to six per cent of the world's population is disabled. The prevalence of disability in many developing countries is exacerbated by poor nutrition, diseases, conflict and accidents.

Accessibility is a key target area for guaranteeing equal participation. Improving access to the physical environment results in greater social equity: it enables disabled people to participate in social and economic activities on the same level as non-disabled people, resulting in a more inclusive society. Dismantling barriers reduces disabled people's vulnerability and dependence on others (IDS, 2005).

Aim and methodology of the research

Aims and objectives

The main aim of this action research is to contribute to the realisation of pro-poor citywide sanitation in Dar es Salaam through community organisation, scalable projects, and the support of public agencies. To achieve this, the research aims to develop a thorough understanding of the principal obstacles to citywide sanitary improvement and develop the basis for addressing these obstacles. Based on the research findings, recommended measures for scaling up sanitation demand in informal settlements will be set out.

Within this overall aim, the action research for the situational analysis had the following objectives:

- To assess the demographic data of the urban poor in relation to latrines and sanitation within the selected settlements.
- To identify existing latrines coverage, and challenges affecting latrine construction and improvement.
- To make a rapid assessment of the pit emptying approaches practiced within the informal settlements.
- To assess challenges which affect latrine improvements and pit emptying in the informal settlements.
- To identify opportunities of mainstreaming the Federation approach in sanitation programmes.
- To assess the use of sanitary facilities for disabled and children.
- To investigate factors that can unlock demand for sanitation in urban informal settlements in Tanzania.

The overall purpose of this research is to make a contribution towards the development of citywide strategies that can be adopted and driven by the Federation of community organisations, supported by local government and the private sector.

Study approaches

Based on the research objectives, an action research methodology was selected. Collection of field data was carried out using a mixture of qualitative, quantitative and participatory approaches. While the quantitative approach was useful to determine the socio-economic status and sanitation needs and preferences within the settlements, the descriptive aspects of the research were collected using the qualitative approach. Participatory approaches were used as a tool for empowering the communities to participate in the whole cycle of the action research implementation. Implementation of this research was conducted using various techniques including documentary sources, direct observation, interviews, questionnaires, and focus group discussion.

Photos 1 and 2. Maps used in sampling



Source: Field data, 2012

Implementation of the research was associated with high involvement of the communities, in particular the Federation. The aim was to ensure that communities' demands were raised through a community-based approach. It was considered that involving the communities would help them to be able to identify their sanitation needs, recommend solutions and be able to promote the recommended solutions to enable change.

A team of community representatives was selected to take part in the research. Training on methodologies was given and the team was involved in developing the questionnaire. Prior to the start of data collection the team went from house to house to inform the community about the study that would be conducted in their settlement. They also held meetings with ward officials and street leaders to introduce the research. Meeting and talking to residents about sanitation challenges triggered discussions amongst community members regarding sanitation issues. The research team involved members from the community (36 Federation), street government (12 officials), CCI staff (2) and the municipal council (2).

Selection of the informal settlement for the study

The study was conducted in Dar es Salaam City in densely populated informal settlements, with an assumption that high density informal settlements have critical sanitation challenges which need to be addressed in order to improve sanitation standards and coverage. Primary data were collected from all three municipalities of Dar es Salaam City - Temeke, Ilala and Kinondoni. Two wards were selected in each municipality and in each ward one settlement was chosen for data collection. The sample for the household survey was randomly selected using a community map developed during the training.

In Temeke municipality, the study was conducted in Miburani and Keko wards in KekoMachungwa and KekoMwanga B sub wards respectively. In Kinondoni municipality, the study was conducted in Tandale and Msasani wards in KwaMkunduge and Bonde la Mpunga sub wards respectively, while in Ilala municipality the study was conducted in Karakata and Vingungti ward at Kipawa and Kombo sub wards. In each sub ward (cluster), 200 households were randomly selected.

Sampling and sample size

To ensure representativeness of the sample, a map of the community was drawn by the research team in collaboration with Mtaa government officials. Prominent segments in the respective settlements were identified on the map and then the number of questionnaires to be administered was divided against the number of segments in the settlement as identified in the map. Households to be interviewed were randomly selected from all identified segments to make sure that the communities were well represented to capture the sanitation situation in the whole area. Purposive sampling was used to identify participants for focus group discussions (FGDs) and key informant interviews (KIIs). During the process, the team also had the opportunity to talk with community members and leaders about sanitation, its related challenges and possible solutions within the respective communities.

Data collection and analysis techniques

In order to reach a large number of respondents, a structured questionnaire was administered by the research team to conduct household surveys in the respective communities. In total, 1180 households were surveyed by May 2012. Qualitative data were collected using FGDs, KIIs, and field observations in the respective communities. FGDs were used to generate information from different groups in the communities, including landlords, tenants, children, technicians, pit emptiers and the disabled. In total 287 respondents participated in FGDs. KIIs were used for individual interviews especially with government officials and toilet construction technicians, which totalled 14 respondents. These included Mtaa government officials, ward officials, municipal and Ministry of Health officials and sanitation practitioners from NGOs. Both quantitative and qualitative data analysis methods were used to analyse the information collected. Statistical Packages for Social Scientists (SPSS) were used to analyse the quantitative data, while data from FGDs were qualitatively analysed.

Unit of analysis

The unit of analysis for this study was the housing structure, which normally houses more than a single household. This is due to the fact that in informal settlements, a sanitary facility is shared by a number of different households living within the same housing structure. The sampling focused on the house owners or, in the case of absence, a tenant who has stayed in the same structure for five years or more. This was due to the assumption that owners are the ones who know the background of the sanitation facilities and are the decision makers regarding sanitation improvements in their structure.

Results and discussions

The case study settlements

Research was conducted in all three municipalities of Temeke, Ilala and Kinondoni. The basic descriptions of the study areas are summarised in Table 2 below.

Table 2. Description of the study areas

Name of the settlement	Basic description
KekoMwanga B	KekoMwanga B settlement is located at Keko ward in Temeke municipality. It is located near Kariakoo for general needs and business. The area was initially planned for industrial development but those who were working at nearby industries encroached on the land. Due to its proximity to the city centre, the majority of residents in KekoMwanga B are involved in petty trading. Based on the information collected from Mtaa office, the area has 13,930 residents and 3,158 households respectively. Part of the settlement is bordered by a water canal which causes frequent flooding during rainy seasons.
KekoMachungwa	KekoMachungwa is one of the settlements in Miburani ward in Temeke municipality. According to the information collected at the Mtaa offices, the population of KekoMachungwa is 15,644 and 5,180 households respectively. Like Keko Mwanga B, KekoMachungwa is also located in the industrial zone. Part of the settlement is located along the water canal and is frequently affected by flooding.
KwaMkundugeTandale	Kwa Mkunduge is one of the settlements forming Tandale ward in Kinondoni municipality. According to the enumeration data from CCI, the area has 9,565 residents, 578 houses and 3,035 households. KwaMkunduge settlement is located in a wetland area and is frequently affected by floods.
Bonde la Mpunga	Bonde la Mpunga is in Msasani ward and is amongst the unplanned street in Kinondoni municipality. Based on information collected from the ward office, the Msasani ward has a population of 59,527 and 6,673 houses. Among them there are those with good toilets which are reported to be 5,990, while those with poor toilets are 523, and those without toilets are 160. According to Mtaa officials, Bonde la Mpunga settlement has 33,120 residents and 997 houses respectively.

Karakata	Karakata settlement is located in Kipawa ward which is one of the wards forming Ilala municipality. Kipawa is formed by three sub wards including Karakata, Mogo and Kipunguni. The ward has a population of 105,325 people. The ward has 34,228 households, out of which 34,200 are estimated to have access to some form of sanitation and 28 households have no access to sanitation. In Karakata, where the situational analysis was carried out, there are 34,228 people - 18,434 women and 15,794 men. In total there are 7,000 households in Karakata, out of which 6,972 are estimated to have access to some form of sanitation, and 28 households with no access to sanitation.
Kombo	Kombo settlement is one of the four settlements in Vingunguti ward, in Ilala municipality. Vingunguti ward has a population of 69,000 and 5,465 households. Based on information collected from the sub ward office, Kombo settlement has a population of 22,721, of which 8,531 are women, 8,673 are men and 5,517 are children. Kombo settlement has been built in a lowland area and is frequently flooded. Although within the settlement there are DAWASA waste stabilisation ponds, residents heavily use pit latrines as a main method of excreta disposal.

Community sanitation mapping process

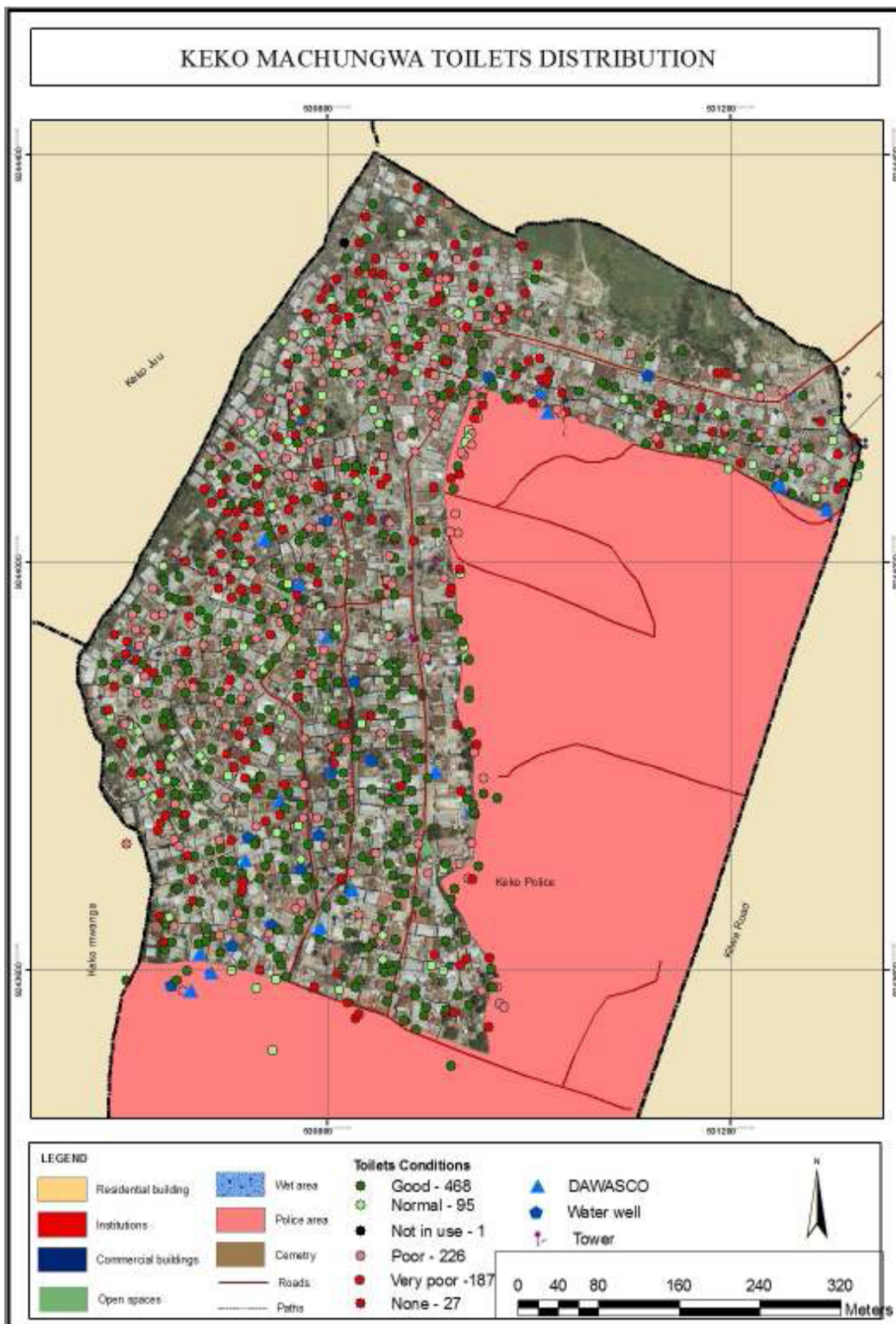
Community sanitation mapping involves the geographical representation of focal areas, collecting information on sanitation status within the settlement and then generating recommendations for sanitation improvement initiatives. The project started by training the Federation community members on what GPS is and how to use it to collect data for easy analysis.

Both the community and the facilitators (from CCI) went to the site for data collection, which involved both spatial and attribute data. The spatial data involved taking the coordinates of the points of interest, i.e. toilets and other features such as bars, water tanks, schools, shops, market, etc., and also the tracks drawn by the GPS automatically when the GPS operator passes along paths.

The focus was on toilet types and conditions, so each toilet was described, with a focus on what kind of toilet it was, the building materials, house number (number of house which uses that particular toilet), and the general condition of the toilet ranking from 'good' to 'very poor'. The data collection involved the community in all the activities, such as taking coordinates and writing the attribute information so that the community knew how to read coordinates from the GPS, how to take the tracks, and how to write the attribute information.

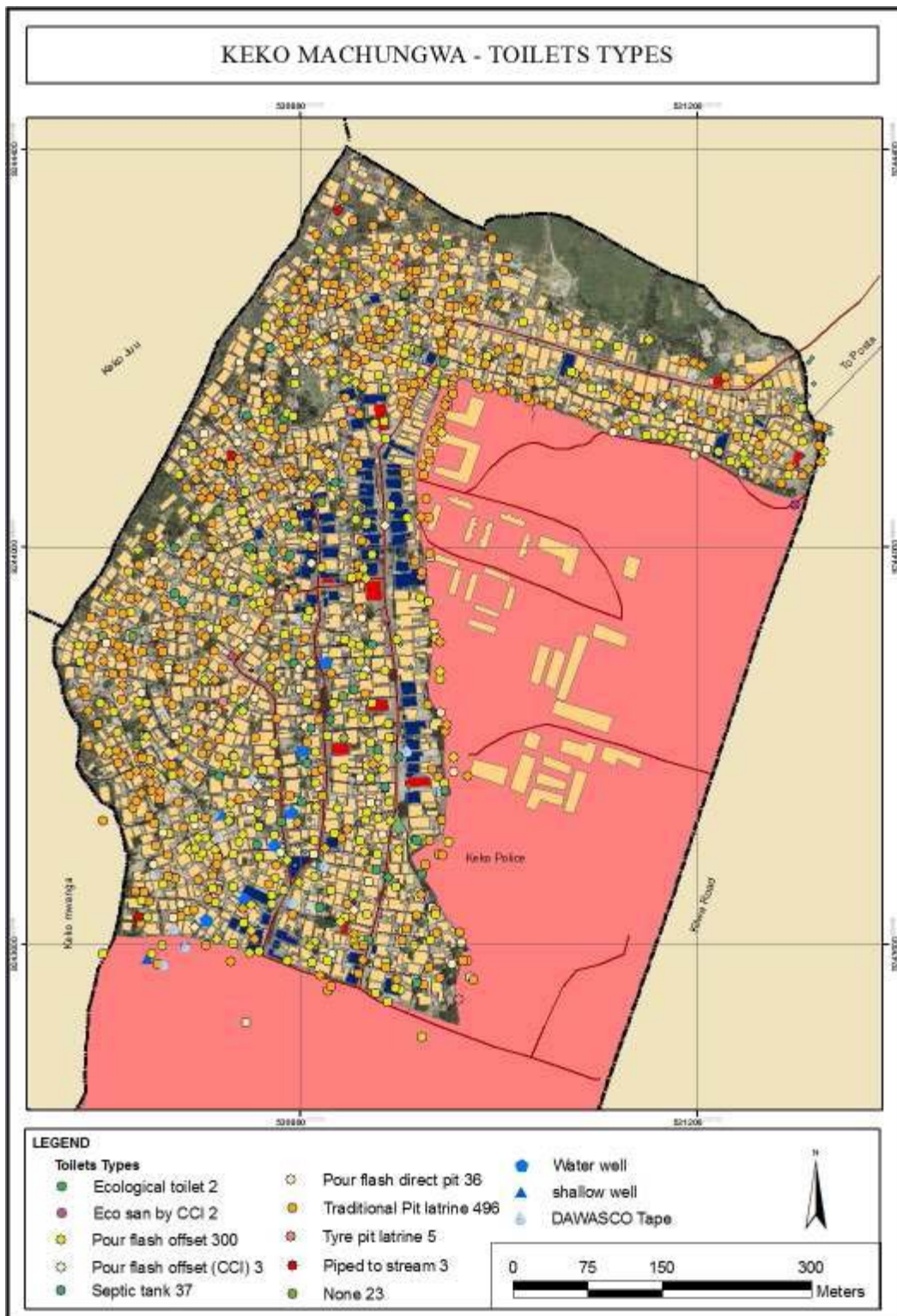
Data was downloaded from the GPS to the computer used the software GPS Babel. The tracing of data used JOSM software to trace features with symbols such as church, mosque, etc.

Figure 2. Toilet distribution at Keko Machungwa



Source: Fieldwork, 2012

Figure 3. Keko Machungwa – toilet types

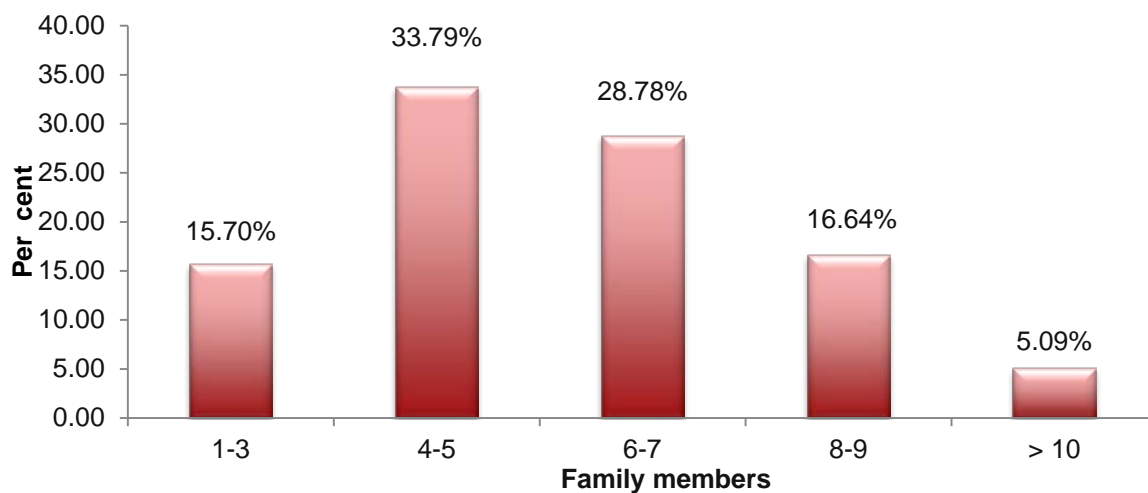


Source: Fieldwork, 2012

Table 3. Population and gender of respondents

Gender	Number of respondents	Per cent
Men	457	38.7
Women	723	61.3
Total	1,180	100.0

Figure 4. Number of people in a household



Findings from the study of the six informal settlements in Dar es Salaam show that 45.4 per cent of the households have an average of six to nine members, and that over 61 per cent of respondents were women.

Table 4. Education level

Level of education	Number of respondents	Per cent
Never attended formal education	146	12.4
Primary education	767	64.9
Secondary education	230	19.5
Vocational education	9	0.8
Diploma	14	1.2
Degree	9	0.8
Others mention	5	0.4
Total	1180	100

Results have shown that 64.9 per cent of respondents have attained only primary education, 19.5 per cent have attained secondary education while 12.4 per cent did not go to school at all. Only 2.0 per cent had a university degree or diploma. The rest of respondents have attended vocational or technical training or other types of lower level education.

Household occupation, income and livelihood strategies

The survey results indicated over half (53.6 per cent) of the households in the study settlements were self-employed and more than a quarter (27.7 per cent) were unemployed. Only 13 per cent of the households had permanent employment with government and or private sector and others were working as casual labourers. The FGDs conducted with residents revealed that the majority of those engaged in self-employment are mainly involved in petty trading, carpentry, masonry, tailoring and small groceries; while those employed by the government and/or private sector are mainly at the lower level, such as gardeners, security guards and messengers and other lower cadre jobs. Figure 5 below indicates the distribution of livelihood occupations of households living within the informal settlements.

Figure 5. Economic activities

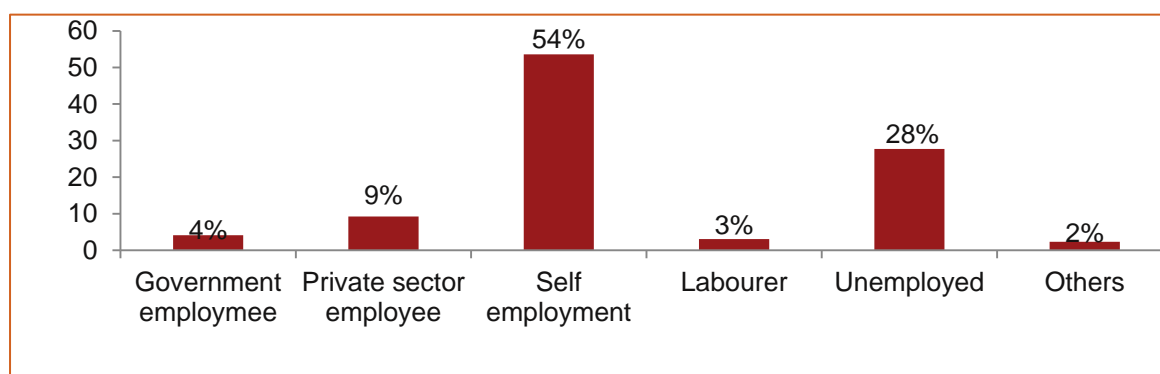


Table 5. Monthly income

Income	Number of respondents	Per cent
Below 50,000	314	27
50,001 - 100,000	273	23
100,001 - 150,000	240	20
150,001 - 200,000	146	12
200,001 - 250,000	55	5
250,001 - 300,000	78	7
300,001 - 350,000	38	3
350,001 - 400,000	22	2
more than 400,000	15	1
Total	1181	100

The assessment of household income levels has shown that 27 per cent of the population earns not more than TZS 50,000 per month and another 23 per cent earns not more than TZS 100,000². The remaining 50 per cent are those earning above TZS 150,000 per month. The tabulation of household income reveals over a quarter (27 per cent) of the population are those living in extreme poverty, earning less than one US dollar a day. Table 5 above indicates the distribution of income among the households.

²At the time of the study US\$1 was equivalent to TZS 1,600.

House ownership and tenure arrangements

Findings from the action research as indicated in Table 6 below show that 80.1 per cent of household respondents were the owners of households, 10.7 per cent were relatives of owners, while only 9.3 per cent were tenants. These findings were explored further to discover that in a house with many households, only the landlords were allowed to speak and not the tenants. It was in those houses where tenants were living alone that they were able to respond to the questionnaire. Observations from FGDs suggest that one house is occupied by three to six households. All these members and/or other neighbouring households together are sharing a single sanitary facility.

Table 6. Occupancy status

Respondents	Number of respondents	Per cent
Own	945	80
Tenants	110	9.3
Relative of the owner	124	10.7
Total	1,179	100.0

About 80 per cent of these households have no formal security for tenure but have acquired residential licensing as part of the regularisation of informal settlements. The lack of affordable surveyed plots and poor planning has been reported to encourage informal settlements dwellers to construct houses and latrines of poor designs. During the FGDs, it was reported that because many people living in informal settlements have lower incomes, they are not able to access land in formally planned areas which results in them going to informal settlements where they can construct houses without observing urban planning regulations and standards. It was further reported that since people in informal settlements are always living in fear of evictions they are not interested in investing resources for latrine construction.

Understanding the current latrines

Findings from the study established that the households surveyed in the six urban settlements use a wide array of latrines to meet their needs - including pit latrines, ecological sanitation, pour flush and septic tank toilets. The traditional pit latrine is the most predominant. Findings in Table 7 show that 65 per cent of households have traditional pit latrines and 26 per cent have poured flush toilets. Other types of latrines/toilets in use include car tyre and tin lined latrines (4.2 per cent), septic tank (2.2 per cent), and ventilated pit latrines (VIPs) (0.7 per cent).

Table 7. Major types of toilet used and coverage

Facility used	Number of respondents	Per cent
Septic tank	25	2.2
Pour flush	311	26.0
VIP toilet	8	0.7
Ecological sanitation	22	1.9
Traditional pit toilet	773	65.0
Tin toilet	23	2.0
Tyre toilet	26	2.2
Others	3	0.3
Total	1180	100.0

Among the respondents, there were no households that were connected to the sewer lines within the study settlements, which indicated the acute challenge of sewerage systems in Dar es Salaam City. As the findings indicate, the majority of households are using traditional pit latrines. This calls for innovations which can be used to assist large populations of communities in addressing their sanitation needs.

Latrine construction period

With regard to the condition of the toilet and its construction period, Table 8 below shows that 28.1 per cent of the respondents built their toilets in a period not exceeding five years' ago, 19.5 per cent built their toilets 6-10 years' ago and a further 13.9 per cent built their latrines 11-15 years' ago. The results further revealed that 38.5 per cent of the latrines in study locations existed for more than 15 years.

Table 8. Years in which latrines were built

Period	Number of respondents	Per cent
Don't know	73	6.2
Not more than 5 years	331	28.1
6 - 10 years	230	19.5
11 - 15 years	164	13.9
16 - 20 years	164	13.9
21 - 25 years	74	6.3
26 - 30 years	66	5.6
More than 30 years	76	6.5
Total	1,180	100.0

FGD observations revealed that `drum and old car tyre latrines are used as temporary latrines and produce a very bad smell and germs, and that when you defecate the water in the pit flushes back'. Field observations have further shown that most latrines in the settlements are incompletely built, poorly designed, dilapidated, unroofed, not well cleaned and maintained, unhygienic, do not provide enough privacy, lack water facilities and are not safe for the users. Some latrines are flooded and others have full pits.

These findings, however, show that the majority of respondents have struggled to build new latrines within the span of five years. This indicates the technological challenges and problems that the community is facing in establishing more permanent latrines.

Photos 2 and 3. Latrine slabs and superstructure

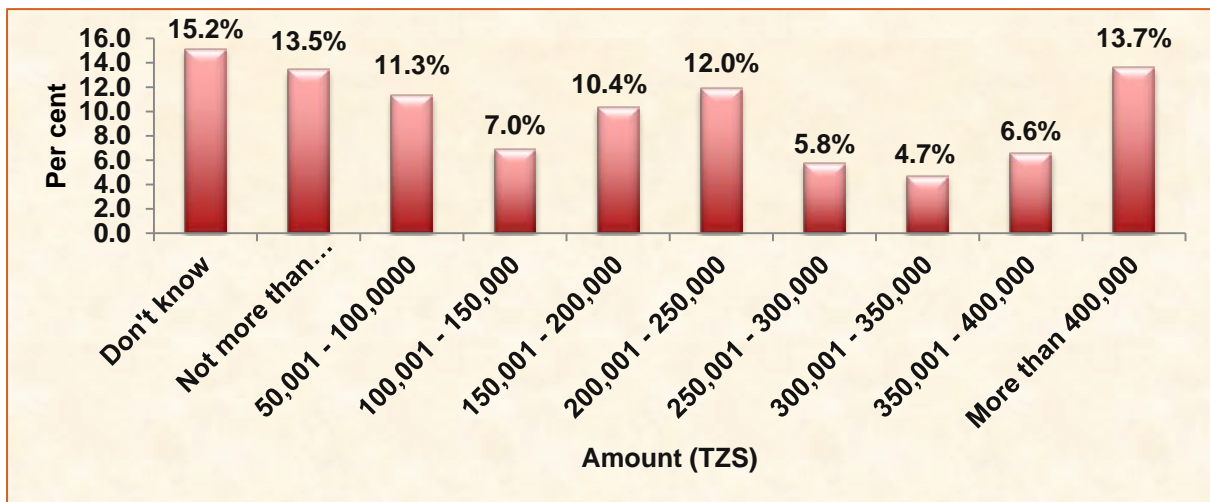


Source: Fieldwork, 2012

Latrine construction cost and affordability

The study investigated the cost of constructing the latrines. Findings in Figure 5 indicate that 13.7 per cent of respondents spent more than TZS 400,000 on toilet construction, while 13.5 per cent of the respondents spent less than TZS 50,000. Judging from focus group discussions, most latrines costing less than TZS 100,000 have either been built many years ago, are very dilapidated, the pits are lined by drums or old car tyres, they are not roofed, lack a cement floor or are covered by plastic materials. Hence they are difficult to clean and consequently become breeding places for germs and subject users to diseases and infections. There are also a good number of house owners (15.2 per cent) who do not remember latrine construction costs since they are built up in phases. With regard to latrine construction costs, the FGD findings suggest that currently these range between TZS 400,000 and TZS 1,500,000. These costs are quite expensive and unaffordable for the majority of communities.

Figure 5. Construction cost for toilets



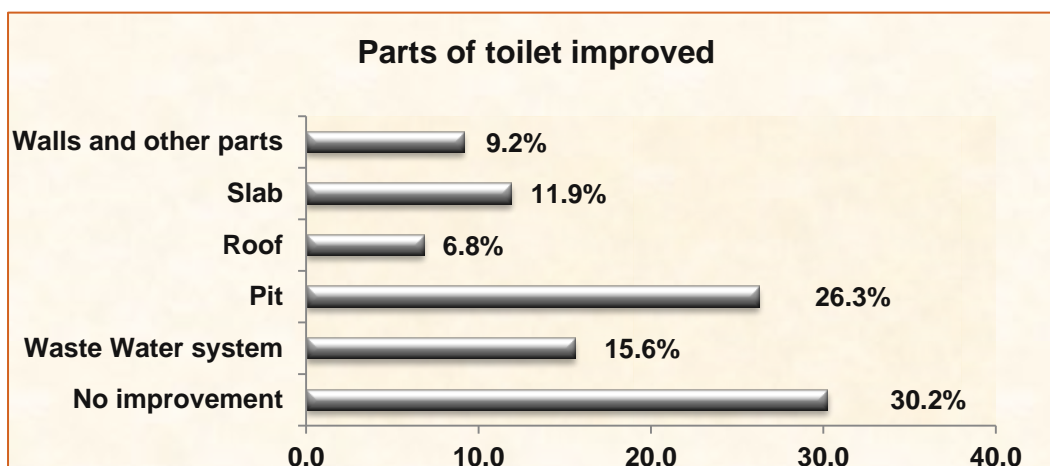
A number of factors determine the price of toilets, including the type of technology, construction materials, labour fee, location where the latrine has been constructed, and the construction stage reached (finished or semi-finished). Further discussions with the community during the FGDs show that most members of the community are not able to construct good toilets because of the increasing costs of building materials due to inflation, making the construction of toilets unaffordable for the majority of households.

Latrine improvement

The research investigates whether the community has ever taken time to improve its latrines. Figure 6 below shows that 30.2 per cent of respondents have not improved their latrines since they were built, while 26.3 per cent have improved the pit level. About 15.6 per cent of the respondents have improved the waste water system, while the remaining have improved their latrines walls, slab and roof.

When asked if they had the intention of improving their latrines, the FGD observations indicated that some respondents wanted to build new latrines and others wanted their toilets to be roofed.

Figure 6. Parts of latrine improved



Challenges in latrine emptying

The research also investigated different mechanisms for pit emptying, as pit latrines are the most common facilities used in informal settlements. Findings in Table 9 show that when the pit was full, about 31.4 per cent of families dug another pit, relocated or rebuilt the top structure and closed the old pit. 23.3 per cent hired a vacuum truck for emptying, while 9.6 per cent open drained the pit during the rainy season. As the settlement grows, pits fill faster, while in many areas there is no longer space to dig new pits and build a replacement latrine. The use of a vacuum truck is unaffordable and inappropriate in poor areas as most of the vacuum trucks cannot access households within the informal settlements. In such circumstances emptying is done manually by informal entrepreneurs relied upon to empty pits by hand.

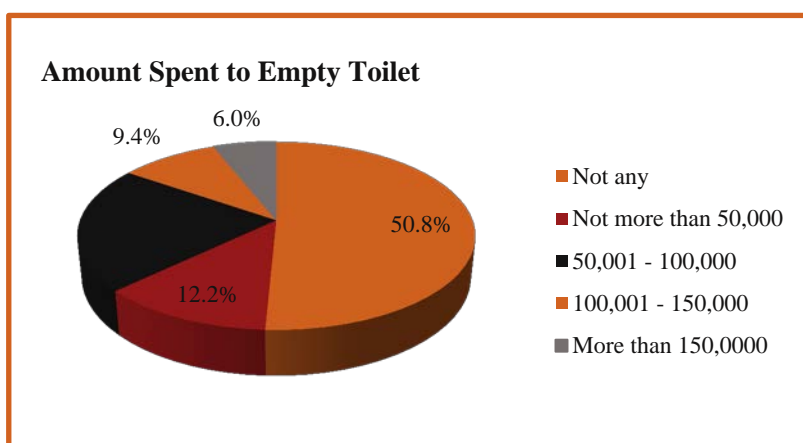
Table 9. Pit emptying methods

Emptying methods	Number of respondents	Per cent
Pit not full (N/A)	422	35.7
Hiring truck	275	23.3
Digging another pit and shift the sludge	371	31.4
Open drain the pit during rainy season	113	9.6
Total	1180	100.0

Findings from household surveys indicated in Figure 7 show that the cost for pit emptying used by the majority of community households is less than TZS 100,000. Survey results shows that latrine construction costs range between TZS 50, 0000 and 150,000. However 50.8 per cent of respondents did not spend anything while they wanted to empty their latrines. 21.6 per cent spent between TZS 50,000-100,000 and another 12.2 per cent spent between TZS 100,000-150,000 for emptying their latrines.

Further results from the FGDs suggest that pit emptying costs could be up to TZS 300,000, depending on how the emptying was done, including the cost of hiring an emptier truck or if manual emptying, this would involve labour, the cost of emptying materials, and costs of repairing or reconstructing a latrine, as in many cases manual emptying involves heavy repair or reconstruction of the facility.

Figure 7. Pit emptying costs



Photos 3 and 4. Preparation for manual pit emptying



Source: Fieldwork, 2012

Due to the challenges of pit emptying in the informal settlements, there is a need to consider the use of a gulper pump which sucks sludge out of pit latrines in small quantities. It uses a motorbike to transport the sludge to the waste stabilisation ponds.

Table 10. Challenges in emptying toilets

Challenges	Number of respondents	Per cent
Lack of funds	252	21
Lack of space for emptying	222	19
Lack of emptying technicians	49	4
Lack of emptying tools	47	4
Bad smell	303	26
Inconvenience of using neighbours' toilet	97	8
No challenges experienced	171	15
Others	38	3
Total	1180	100.0

49.9 per cent of households have built their latrines in an area of high water table affected by frequent flooding and 26.2 per cent of households experienced the collapsing of latrine pits. Other challenges experienced include a deficit of funds during construction, limited space for pit emptying or reconstructing a new toilet, lack of emptying tools, high costs involved in pit emptying, poor pit emptying mechanisms, difficulties in finding pit emptiers, bad smells during pit emptying and poor infrastructure.

Findings show that 26 per cent of the respondents reported that their key challenge was bad smells, for 21 per cent it was lack of funds, and 19 per cent responded it was a lack of space for emptying (as shown in Table 10).

Challenges affecting latrine construction and improvement

This study explored a number of challenges affecting latrine construction and improvement within the informal settlements. These include technological challenges, financial aspects, institutional and political aspects and attitudes, and landlord/tenant relationships. These are discussed below.

Technologies

As indicated above, the main type of latrine common to the majority of households is the traditional pit latrine. Most of these latrines are poorly constructed with poor substructure walling which affect stability.

The FGDs revealed that the latrine designs found in informal settlements are mainly based on local technological knowledge known by local latrine construction technicians. These technologies are based on rural practices and raise some challenges in design and construction. When asked about the quality of their latrines, respondents said that their latrines are of poor design, lack proper superstructure, do not provide enough privacy, are poorly constructed, and have cracked floors.

Further findings from the FGDs indicated the key challenges experienced include pit collapsing, filled up pits, lack of space for pit emptying, cracked walls and floors, latrines not roofed, lack of proper walls, poor emptying methods and poor cleanliness and maintenance. Pit collapsing was reported as one of the major challenges experienced by informal settlements dwellers, whereby during the FGDs four cases of pit collapsing were observed and in each case the latrine collapsed and people were drowned in the latrine pits. The latrines are also poorly cleaned and maintained.

Findings from interviews with government officials have also accepted that pit latrines are predominant in informal settlements in all municipalities of Dar es Salaam. However the type of technology used, particularly for substructures and superstructures, depends mainly on income levels and settlement location. Municipal officials from Kinondoni municipality reported that many latrines are of poor quality, that for those areas with high density population and low income earners, the popular latrine technologies include traditional pit latrines lined by used car tyres and drum latrines. The critical challenges of these traditional pit latrines include poor lining of the sub-structures leading to collapse. Also due to a high water table within the settlements, the communities face challenges in digging the pits. In most cases they adopt the technique of high rising of the sub-structure.

As a way to shift away from traditional pit latrines, the municipalities had once introduced Ventilated Improved Pit Latrines (VIPs), with little demonstration in few areas. However the VIP latrines were found to be expensive for the community, costing up to TZS 1,200,000 (US\$ 750). Other technologies which have been tested in the urban areas include ecological sanitation (ecosan) which cost TZS 807,000 (US\$ 504) and pour flush toilets using trapezoidal blocks for pit lining which cost TZS 450,000 (US\$ 281). Most of these have been promoted by WaterAid, the Tanzania Federation and CCI, EEPKO and WEPKO. Research has found few ecological sanitation facilities which were built and used, although there are questions regarding how to utilise the products from ecosan as well as acceptability of the technology since it is a dry latrine without water. Most urban dwellers in Dar es Salaam use water for anal cleansing hence this would require a change of behaviour. Moreover the initial capital for the construction of an ecosan toilet is very high.

The use of pour flush toilets was favoured by the majority of urban dwellers. However this option has some challenges including pollution of the ground water, as many household within the study areas lack a water supply from DAWASA and hence depend on the use of ground water.

Further discussions with DAWASA regarding the expansion of sewerage to the informal settlements gave mixed responses. While DAWASA recognises the challenges affecting low income communities residing in the informal settlements, they are also constrained by resources to enable them improve their water and sewerage infrastructure facilities to the informal settlements. Within their plans, they have indicated the gradual expansion of sewerage to include a few informal settlements such as Manzese and Uzuri, but that would also depend on the availability of funds from donors and financiers. Therefore the use of onsite sanitation will still be useful in many years to come in urban areas of Dar es Salaam.

The interviews also recognised the lack of innovative sanitation technicians as one of the challenges affecting the improvement of sanitation. Discussions with programmes to improve sanitation have shown that most of them train community technicians to construct latrines. However these are few, and some of them abandon the work to look for other construction work, citing that the construction of latrines does not pay enough.

Recognising the importance of capacity building in the innovation of latrines, the Ministry of Health and Social Welfare is currently implementing a project in Kitunda area in Ilala municipality which involves training toilet technicians in various toilet technologies. Similarly, the project will also involve health officers from Ilala municipality as a way of building their capacity. In Temeke, the municipal council has trained latrine technicians in each ward. The training involved both toilet construction skills as well as marketing and promotion skills, so that they could generate income through toilet construction. However, the initiative has not been very successful due to lack of municipal funds.

Finance

Findings from the study have indicated that a lack of finance is one of the major challenges affecting the community's ability to construct and improve their latrines. The FGDs observed that capital investment for latrine construction and improvement are provided by house owners. Therefore as in housing construction, house owners have to mobilise private financial resources for latrine construction or improvement. In some cases, depending on the

agreement between house owners and their tenants, tenants contribute to toilet construction or improvement and in other cases the cost is deducted from their rents.

Findings from household surveys in Table 11 show that most people in informal settlements are low income earners and thus lack resources to improve sanitation facilities. 58.6 per cent of respondents lack improved sanitary facilities due to limited financial resources, 14.0 per cent due to negligence, 12.8 per cent due to lack of both awareness and financial resources, and 7.3 per cent due to lack of space. Other limitations include lack of expertise, and lack of appropriate and affordable technology.

Table 11. Limitations that affect a household's ability to build toilets

Limitations	Number of respondents	Per cent
Not any (N/A)	14	1.2
Lack of financial resources	692	58.6
Lack of space	87	7.3
Negligence	165	14.0
Lack of appropriate technology	32	2.7
Lack of affordable technological options	13	1.1
Lack of expertise	21	1.8
Lack of financial resources and lack of awareness	151	12.8
Others	5	0.4
Total	1180	100.0

Given their financial constraints, the majority of respondents indicated that they were able to allocate between TZS 50,000-300,000 for the construction and improvement of their latrines. Examination of the costs of different types of latrines show that improved pit latrines cost TZS 400,000-500,000. A pour flush toilet costs TZS 500,000-700,000 and ecological sanitation costs TZS 750,000-1,000,000. Emptying latrines is also expensive and especially difficult where access is limited.

Further interviews with local municipalities revealed that there was no specific budget allocated at local or national government level for financing sanitation improvements by households. For example in Ilala municipality, 10 per cent of the budget is allocated to health, which covers food hygiene and environmental sanitation in general. In Temeke municipality only five per cent is allocated for all community activities including sanitation related activities, community based health care and awareness activities. The municipal council is only responsible for sanitation improvement in public areas such as in schools and in public toilets in open spaces. All municipalities reported that latrine improvement is not their priority since they have other priorities, including education and health. In addition, latrine improvement is a private issue.

The research also explored whether the government would be willing to contribute to a sanitation fund if established. This was to get the government's thoughts about a fund similar to the one that the Federation had set up – the Urban Poor Fund. The response was

somewhat shocking as all officials interviewed responded that the government would not be prepared to contribute towards the sanitation fund since it had no funding capacity. However, they supported the idea and agreed to provide technical and expertise support, such as supporting mobilisation activities, providing education to the community, training on various technologies and collaborating with stakeholders.

The research explored whether private sector finance was available to support household sanitation. With the exception of the World Bank, which funds large infrastructure projects such as water and sewerage within DAWASA, there is no financial institution available to provide finance for low income communities. Most of the formal banks and microfinance institutions are reluctant to fund low income communities particularly on housing and sanitation, due to lack of collateral. However a few institutions have shown an attempt to support improvements in the informal settlements. WaterAid, through the Kenya Commercial Bank, has signed a Memorandum of Understanding and provided credit for loans to community groups within the informal settlements to conduct pit emptying using gulper technology. Moreover, the Tanzania Federation, through the Urban Poor Fund, has managed to provide small loans to construct 701 individual/shared household toilets and one public toilet. There is a need to innovate financially workable models which can support sanitation improvements for the urban poor.

Institutional and policy framework

The institutional framework for sanitation in Tanzania faces a number of challenges. This is due to the lack of a single ministerial home. It was found that several ministries, including the Ministry of Water, the Ministry of Health, and the Ministry of Local Government, all have responsibilities for sanitation. The Ministry of Health would seem the best fit to lead the sanitation agenda. An institutional challenge also exists within the urban water and sewerage authorities in Dar es Salaam. While the Dar es Salaam Water and Sewerage Authority (DAWASA) has a full mandate for provision of water and sewerage to the city, its mandate on sewerage covers only 10 per cent of the total population of the urban dwellers, without any provision to the majority of the population by informal providers. As a result, the municipalities which make up the local government are responsible for supporting sanitation, but their roles and responsibilities are unclear.

Findings from the interviews with government officials at local level, as well as at ministerial level, indicated that the government is responsible for the implementation of policies and guidelines including MKUKUTA, which aims to increase access to clean, affordable and safer water, sanitation, decent shelter and a safe and sustainable environment. Thus the government is also responsible for providing education and raising awareness to households, so that they are able to construct and use safe, improved sanitary facilities. Government officials emphasised that the government is not responsible for the construction of individual household latrines, although it can be involved in the construction of latrines in public areas, such as bus stands or market places.

Other existing initiatives by the government include establishing the Public Health Act in 1999, the Environmental Act in 2006 and the Water and Sanitation Act in 2009. These legal documents provide guidelines to ensure communities are responsible for improved sanitation. The government, through the Ministry of Health and Social Welfare, has developed a sanitation policy, currently in draft, which will set up a framework for implementing sanitation. At local government and municipal level, all local authorities have

set by-laws which are used in dealing with sanitation problems within the municipalities' area of jurisdiction. Local authorities, through health officers and legal officers, are required to reinforce these laws. Furthermore, to ensure that awareness raising in communities is achieved, municipal councils have health extension workers at ward level, and street health committees at community level to make sure that communities have latrines and are observing environmental cleanliness. If they break existing laws related to latrines, such as draining sludge and grey water openly, legal action will be taken against them.

Government officials reported that they have programmes which focus on improving sanitation where they provide training in selected areas and build the capacities of latrine technicians. The key objective of the programme is to provide education so that people understand the importance of having an improved latrine. Hence, the most important thing is awareness raising in the communities so that community members can find the resources and make decisions to improve their sanitary facilities and health. The officials further reported that currently the government policy is geared toward providing education for people to construct improved latrines and use them appropriately, and allocate study areas as they have done in Kitunda, in Ilala municipality. Furthermore, the government has initiated programmes of survey plots and the upgrading of informal settlements in order to encourage communities to improve the sanitation facilities. In addition, government officials recommended that education curricula should include land and sanitation issues. They further recommended that political leaders should take a leading role and participate in implementing the national vision since they have influence in communities.

The current draft sanitation policy has clarified the roles of the government as an enabler and a policy formulator. Many roles on sanitation implementation have been stipulated to be conducted by the private sector, NGOs, CBOs and communities including individual households. Findings from the research show that small scale private sector service providers have a big involvement in enabling the construction of toilets in informal settlements at household level. All FGD participants from house owner groups reported that their latrines were constructed by private technicians from their neighbourhoods. They also reported that they purchased construction materials from private hardware shops in their respective settlements. Furthermore pit emptying was mainly conducted by small scale private sector agents.

An examination of the CCI's and the Federation's work in Dar es Salaam shows that there are 91 Federation technicians who have been trained on different sanitation improvements and are now constructing latrines in their neighbourhood. The Federation approach has been developed in a context of partnerships between the local government, communities and NGOs. It is an attempt to harness resources from all actors for development, which is important for addressing sanitation. Through their small savings schemes, the communities' Federation has managed to leverage financial resources from donors for improving water, sanitation and housing schemes in Tanzania.

Another partnership model for improving sanitation is the WAHECO model. This is a collaboration arrangement between WaterAid and Temeke local municipality to address water, hygiene and sanitation in Temeke municipality. These models have proved successful and should be promoted and scaled up. Also there is a need to develop collaboration among the different actors who have undertaken sanitation programmes so that they share their experiences and practices across the sector.

The research on institutions also asked whether there is a platform or forum for sanitation practitioners. Although there is TAWASANET, which is a general network on water and sanitation, there is no forum on sanitation which gives an opportunity for stakeholders to discuss sanitation issues. It was revealed that national events such as Toilet Day and Hand Washing Day happen occasionally, and are used for stakeholders to discuss issues related to sanitation improvement and continue providing education and awareness raising in communities. In addition, the municipal councils have set up Cleanliness Day on every first Saturday of the month. At all these events, discussions on sanitation issues are prioritised. Moreover, in order to meet the MKUKUTA and MDG sanitation targets, a national sanitation campaign with funding from the World Bank has been organised.

Landlords and tenants relationships and security for tenure

This action research also explored landlord/tenant relationships in order to determine the roles of both regarding latrine construction and improvement. On average, one house within the informal settlement has between three to six households which share one latrine. Findings from the FGD with tenants show that most landlords are not available to support improvement to their latrines. It was found that decisions regarding the choice of latrine and their improvement are made by landlords who are also responsible for investment costs. Despite these responsibilities however, most landlords have not paid much attention to the improvement and construction of good toilets within their houses. Upon receiving rent which is normally paid in accrual of between six months to one year, the landlords may decide not to improve the house latrines, leaving tenants with no option.

The research also noted the problem of inherited houses within the informal settlements where one structure is owned by various people (such as children of the deceased who have inherited rooms), and have leased their individual rooms to tenants living in the same structure, meaning that one structure has different landlords. The challenge then is the lack of clear responsibilities among the child landlords for who is responsible for what and when. In most cases these child landlords are not responsible for latrine improvement, leaving the responsibilities to tenants.

Implications of security of tenure on sanitation improvement were also examined to determine whether they influence latrine construction and improvement. Findings show that slum dwellers that live in informal settlements have poor latrines compared to other settlements, mainly due to their low income status and the lack of priority from the government to provide surveyed plots and proper planning in these areas. According to government officials, lack of tenure security to the informal settlements dwellers negatively affects communities regarding latrine construction or improvement, as residents do not like to construct permanent structures and normally use temporary materials, because of the temporary nature of their residency. Municipal officials from Temeke cited an example from the Kigamboni area where residents could not construct permanent latrines - even though their houses are very beautiful and more permanent - because of eviction notices.

FGD participants said that poverty and life difficulties were the cause of poor latrines, since people were not able to improve latrines at the expense of other households needs. Participants, especially tenants, said that in many cases landlords prioritise adding more rooms in their houses to generate more income over improving sanitation facilities. The tenants group said that the fact that they were tenants was a problem since they had no choice and could not make decisions regarding latrine improvement, since investment in

sanitation improvement was the responsibility of the owner. In addition, it was also reported that negligence and lack of awareness of house owners regarding the need for improved latrines significantly contributes to the fact that they are poor latrines in the study locations. The costs of emptying the latrine is shared amongst the users, and in the case of absentee or negligent landlords, tenants have to make financial arrangements for emptying it, especially when forced by local government officials.

Challenges affecting children and the disabled on the use of sanitary facilities

Challenges found by children

This research is all about equity hence we interviewed children and the disabled to obtain their views regarding sanitation challenges. Findings from 60 children who were consulted in this study revealed that all latrines within households were not constructed to assist them to use them effectively.

Some children mentioned that some toilets were raised high to avoid the high water table, but this meant that they could not reach them. Some were afraid that they would fall down the pit because the slab hole was too big for them to squat over. Some of the children did not have latrines in their homes. As a result of this, children reported that open defecation was widely practiced in their communities using tins, bottles or plastic bags, in valleys or drainage canals, especially at night. Three children reported that they did not have a toilet at home and another five reported that their latrines were full and so they either practiced open defecation or used the school or their neighbour's latrines in the afternoon. They further reported that using their neighbour's latrine had many inconveniences, since the children were sometimes abused, beaten or chased away.

It was further revealed that many latrines in informal settlements were not roofed and that children were not comfortable in using them because they lack privacy. Half (30) of the children involved in FGDs said that when it was raining it was not comfortable to use the latrines. It was also reported that many latrines in their homes were dilapidated, cracked, dirty, not maintained and had worms, so were unsafe and unhygienic for children to use, as well as uncomfortable. About a quarter (15) of children who participated in the FGDs reported that they normally escorted their younger siblings when they want to visit a latrine because they were afraid to go alone.

During the FGDs, children reported that there were some latrines in their settlements which openly drained grey water and sludge and contaminated the environment, making the surrounding area unsafe for them to play in, since they could easily contract diseases.

The school toilets were also challenging for children. According to the FGDs, outsiders sometimes defecated in corridors and/or inside class rooms at school, particularly at night, and teachers forced the children to clean up before starting their lessons. This affected them both physically and psychologically and eventually had an impact on their performance. Furthermore, it was observed that there were no water facilities in most latrines and thus it was difficult for children to observe personal hygiene, this was especially the case for girls.

Box 3. Voices from children during the interviews

- `Others urinate in tins and bottles and when children come into contact with those items they become affected'
- `Our latrine at home was cracked and the wall fell down and injured my uncle'
- `Our latrine has no door, when you defecate if another person comes you have to cough so that s/he understands that the latrine is engaged'
- `Others defecate in the school corridor and class rooms (passers-by) especially at night and we are forced by teachers to clean' (a child from Mtakuja Vingunguti)
- `At home we do not have a latrine we defecate in plastic bags and throw them away. In the afternoon sometimes we use the neighbour's latrine or the school latrine'
- `Our latrine is not roofed, when it rains I normally take an umbrella while using a toilet'
- `My younger brother is normally afraid to go alone, he is afraid of cockroaches and worms, I always escort him when he wants to use a toilet'
- `When our latrine pit was full, daddy punctured it and the faeces are drained out during rainfall'
- `The old toilet has a hole which drains both water and grey water'
- `Ours is half roofed - when I go to the latrine they peep at me'
- `The sludge in the pit flushes back while you use a toilet'
- `Children are afraid of ants, cockroaches, worms as they are intimidating'
- `Children are afraid of big key holes'

In order to address the sanitation challenges experienced by children, it was recommended that awareness amongst adults should be raised at household level so that improved sanitation facilities included a wash basin, and that disinfectants were used. Parents should ensure water facilities were available for cleanliness and personal hygiene. School teachers should buy soap and ensure the availability of water and other facilities in the toilets. The children noted the following advantages of having a good toilet, particularly a self-contained one:

- Gets rid of diseases
- Increases safety for children
- Avoids neighbours' inconveniences
- Avoids bad smells
- Avoids open defecation.

The challenges raised by children on the importance of sanitation mean that households at family level need to be more vigilant and sensitive about latrine improvement. The issues raised by the children indicate that they have obtained substantial hygiene knowledge at school, which needs to be supported with physical facilities at household level. Hygiene promotion for children at schools and homes is essential.

Challenges found by the disabled

Findings from interviews with the disabled about sanitation practices and the physical barriers to access and use in six informal settlements of Dar es Salaam indicated that there is a lack of inclusive facilities, meaning that disabled people are often engaged in unhygienic and dangerous practices. Key findings noted included:

- Poor construction of all latrines, which does not consider the needs of disabled. A number of toilets are raised due to a high water table which means the disabled have difficulty getting inside the toilet.
- Disabled people who use wheelchairs are forced to crawl on the dirty floor of latrines due to difficulty of access, which affects their health.
- All toilets had no supports to aid the disabled to get into position and use the latrines.
- There is stigma for the disabled in using the latrines resulting in others defecating in the open to avoid the discrimination associated with using the household's toilets.
- Other findings include dangers of falling down the pit when the disabled crawl among cracked slabs, which creates fear in using the latrines.
- Finally, some disabled people stated that they restrict their intake of food and water on some occasions to avoid needing to go to the toilet.

Assessment of Federation approaches and opportunities for scaling up sanitation

Collective action and community organisation within the Tanzania federation

Findings on the essence of community action for addressing development needs were explored, with the aim of exploring whether collective demand for sanitation was more advantageous than individual demand for sanitation. It was revealed that, in all the settlements where the study was carried out, there had been a number of development schemes using the private sector to address the infrastructure, such as the water supply and solid waste management. Despite these schemes being implemented, not all communities had been involved and the projects were mainly focused on specific interventions such as road, drainage, public toilets, street lights and water services.

However, the Tanzania Federation in these settlements has begun to demonstrate that they are able to mobilise more community members towards a savings and development agenda through the saving schemes. In this way the Federation is using the schemes as a way to organise communities to become active in wider development issues. Currently the Federation in Tanzania has pioneered various development initiatives, such as community-based housing schemes and community solid waste schemes.

The role of collective action in sanitation within the Tanzania Federation was noted through the conduction of enumeration and data collection. In this process, whole community data are collected and analysed with the intention of mobilising the whole community for wider development. Findings have indicated that the process of obtaining a viable sanitation option and overcome the technological and financial challenges of the community would require much more collective community organisation.

The experience of the Tanzania Federation in supporting and leading collective action in infrastructure activities include the development of a community-based housing scheme at Chamazi resettlement, development of sanitation programme in informal settlements,

improvement of water supply through borehole development, and improvement of water services through water connections. For the Chamazi housing scheme, the community Federation were able to save their finances and purchase 30 acres of land. Through a collective action plan they are now constructing incremental houses using affordable materials. The Tanzania Federation plans to influence the government through advocacy and lobbying on resettlement policy at the national and municipal level. Furthermore in Chamazi, the Federation is currently working in a collective way to design and implement a sanitation wetland for the Chamazi houses. Another example of collective action for infrastructure development in which the Tanzania Federation has engaged is solid waste management within various informal settlements. Before the Federation was engaged, private business was given the tenders to conduct solid waste management within the informal settlements, which proved a failure and so municipal officials realised the importance of using Federation teams to collect solid wastes within the neighbourhood. The Federation teams have critical mass, knowledge and are more effective because they reside in the same settlements as they operate.

In sanitation issues, experience from the Federation work indicates that, although sanitation technical issues are being regarded as personal and individual, they need collective community action to plan, implement and manage it. Examples from the Tanzania Federation on sanitation technologies where community action has been implemented include the construction of public toilets, shared toilets between families and within households, shared septic tanks and wetland development. All these technologies require the joint efforts of the community working together rather than as individual households. The Federation approach thus provides a great opportunity for organising the community to address sanitation problems.

Programmes to support poor communities' access to improved sanitation facilities that are designed, managed and supervised by the Federation entail engagement of the Federation groups to conduct enumeration and sanitation mapping assessments within the settlement to determine the needs of the communities. Addressing the technological challenges of sanitation also requires a community action plan, where local Federation sanitation groups are organised and supported with training on affordable construction materials. Through their action plan, the Federation sanitation technicians are able to promote sanitation construction. By addressing the financial challenges through the saving schemes, the Federation has designed an approach to provide micro credit loans for sanitation. In this way the Federation model becomes the hub for sanitation development in the community. The programme started by providing sanitation to individual members of the Federation, but the programme is now being replicated, incorporating other community members who are not Federation members.

It is clear that the collective action of the Federation has more impact when addressing the needs of the informal settlements. This is because the Federation has a critical mass of community members who can voice their demands. The Federation has money collected in the saving schemes, knowledge collected from enumeration, and local presence within the informal settlements; hence its operations can be more cost effective. Further findings indicate that the SHARE sanitation research has enhanced solidarity among members, and examples at KekoMachungwa indicated that during the period of the research, more community members indicated their commitment to join the Federation movement as they

became aware that without joining the Federation movement it would be difficult for them to obtain sustainable results.

The above experiences on collective action will be adopted for scaling up sanitation to informal settlements in Dar es Salaam. However, despite these findings, questions emerged from the situational analysis regarding collective action and community. These include

- The ability and capacity of the Federation to rapidly expand to reach all settlements need to be examined, because this is fundamentally critical for scaling up to the wider city.
- The aspects of individual household toilets and public toilets within the informal settlements need further examination. Culturally, coastal slum dwellers and Tanzanians prefer individual household toilets than the communal toilets which are being promoted within the study. Shared toilets within a house for a number of household tenants are common to those houses which have more tenants. The research will continue to examine the opportunity for public and communal toilets similar to those in India, Uganda and South Africa. Opportunities for public toilets exist in public areas such as markets and bus stands, although management of these facilities also needs to be structured.

Coproduction opportunity within the Tanzania Federation

A thorough examination of the Federation activities and discussions of the team has revealed that the Tanzania Federation experienced a number of coproduction opportunities which can be capitalised for scaling up sanitation. These include a pit emptying scheme in informal settlements, where the Federation will be engaged in emptying the pit using gulper technology. The gulper operators will undertake the primary collection while the government water and sanitation utility (DAWASA) will undertake the secondary collection at the sewer ponds. The challenge of pit emptying has demonstrated how the Tanzania Federation could partner with water and sewerage utilities for improving sanitation.

The study has also noted the Chamazi and Dodoma community housing schemes as examples of coproduction, engaging the Federation and government. In both projects, the community Federation and government agencies worked together to develop technical designs, plans, house modelling and now the construction of the schemes. These opportunities of engagement provided a space for the Federation and the government to learn from each other and also influence each other, for example the Federation teams were able to influence reduction of the design of plot size from 400m² to 150m².

The above coproduction experience of the Tanzania Federation will provide a valuable lesson for scaling up sanitation interventions in Tanzania. However, there is a need to document all coproduction experiences from which the Tanzania Federation has learnt, and use them for future interventions. A few highlights which the Federation will need to be supported include:

- Capacity enhancement of the Federation to implement precedents (by means of projects) which can engage the government.

- Continuous engagement of government officials into the processes through the formalisation of partnerships arrangements which allow collaboration to shift away from individual officials but remain within the system.

Sectoral and technical approach

A critical assessment of the Tanzania Federation experience applying shelter poverty and urban development and multi-sectoral approaches shows that the Federation has positioned itself to address the wider poverty agenda as one of its priority areas. The savings schemes established by the Federation are useful for the community as they help them obtain small loans to initiate small scale trading and thereby address poverty. Most of the Federation members who were given loans for infrastructure development, including household toilets and household water connections, were able to obtain these loans after demonstrating that they could repay back livelihood loans they obtained from their respective savings schemes.

For infrastructure development, the Tanzania Federation has developed relationships and interventions with various sectors and technical agencies. The key sectors in which the Federation has worked include land, housing and human settlements, water supply and water utilities agencies, sanitation and health. The technical agencies which the Federation has worked with include the Building Research Agencies which promotes affordable housing materials, drilling departments for water supply and academic institutions.

This multi-sector approach is very useful when addressing sanitation and will be adopted. Sanitation and latrine improvement should involve a variety of actors and sectors if scaling is to be achieved. The Tanzania Federation will utilise its long experience of supporting community-based housing schemes to implement sanitation improvements.

Despite this approach which is working well holistically, there is a need to build the capacities of the Federation in networking and advocacy, so that they can interact and build relationships with a number of actors effectively. Likewise, there is a need to orient officials on a community driven approach so that they are able to work with poor communities and informal networks.

Affordable technologies and payment systems

An assessment of affordable technologies and payment systems within the Tanzania Federation was conducted and found that there are a number of projects and schemes supported by the Tanzania Federation which address affordability. These include housing schemes at Chamazi and Dodoma, and household toilet and water improvements in various settlements in Tanzania. The housing projects at Chamazi and Dodoma are utilising interlocking bricks which are made from a mix of sand and cement, and also using roofing tiles made from sisal fibre, cement and sand. As regards sanitation, the Tanzania Federation has adopted a technology using trapezoidal blocks for pit lining as well as ecological sanitation. All these are cost effective and can be scaled up. Furthermore, a sanitation wetland system for the Chamazi community housing scheme is currently being developed and will provide a sanitation solution to the Fede-land estate being developed.

Through the *Jenga* fund scheme, the Tanzania Federation has shown that it is possible to provide affordable loans and low interest rates for financing infrastructure development for the low income community. Currently the *Jenga* fund is offering loans for housing, water and

sanitation needs of the urban poor .It is anticipated that the vast experience of the Tanzania Federation in addressing these needs will be capitalised in scaling up sanitation needs. The following challenges need to be addressed on affordability and repayment:

- How to respond to the needs of the poor?
- How to deal with those who are not repaying loans?

Community-government relations

This research also examines community-government relationships which are important for scaling up the sanitation programme. It was found that since its inception, the Tanzania Federation has developed good working relationships with the government at all levels. All savings groups are recognised by local government at the level of the settlements, which provides guidance and support particularly during conflicts and negotiations. In each ward level, there are Community Development Officers whose role is to provide support to all community groups. In this regard, the Federation groups are also known at the ward level and are supported by these officials.

The Tanzania Federation has strived to develop relationships at municipal level. Dar es Salaam and Dodoma municipalities provide examples of how the Tanzania Federation has developed formal forums with municipalities to address housing and land issues. Key mechanisms which are used by the Federation in developing relationships include holding joint meetings and exchange visits which include the Federation. The visits in particular have helped to enhance the skills and knowledge of government officials and to increase interest in supporting the Federation.

The Tanzania Federation intends to strengthen these relationships and use the experience in developing sound partnerships for scaling sanitations. Moreover it will utilise opportunities within the Federation of the East African hub to involve more local government officials.

Factors that can unlock the demand for sanitation

The research also aimed to determine key factors that can unlock and progress the demand for toilets. The findings indicated a number of factors that were examined using the household surveys and interviews as key for enabling the uptake of sanitation facilities. These factors are summarised in Table 12.

Table 12. Factors for unlocking demand for sanitation

Factors	Number of respondents	Per cent
Not any (N/A)	12	1
Capacity building programmes for toilet construction technicians	323	27
Awareness creation for informal settlement communities	395	33
Financial and providing low interest loans to individuals and groups	301	26
Marketing various types of affordable sanitation technologies	75	6
Reinforcing laws	43	4
Health incentives	31	3
Total	1180	100

Enhancing capacity building and training for toilet construction technicians

Findings from the household surveys and interviews noted that one of the challenges in improving sanitation is the lack of technicians and of technology which can fit well within the informal settlements. Most technicians lack the motivation to work on sanitation and latrine construction. Moreover private sector contractors have not prioritised the construction of latrines in the urban areas. In addition, academic institutions, such as universities and technical colleges, have not developed designs and guidelines which suit informal settlements. A few development organisations and community Federation members have initiated trainings for sanitation and are indicating what needs to be scaled up and examined.

Develop awareness and promotion campaigns

Changing household behaviour through hygiene promotion campaigns may provide sustainable solutions. However, the research noted that most households are not improving their latrines due to lack of sensitisation and awareness. It was revealed that, although each municipality has developed health campaigns to sensitise communities on health issues, the programme is insufficient and needs to be strengthened. Most of these campaigns are organised once a year in each settlement and do not have much impact on households beyond attending general meetings.

Participants were asked to give recommendations on how to unlock the demand for sanitation. All agreed that more education should be provided to communities with regard to the importance of improved toilets. Health officers should hold frequent inspections and identify those with poor latrines and legal action should be taken once they have been identified. Awareness raising campaigns should be arranged and conducted frequently. The awareness campaigns could include community meetings and education campaigns focusing on sanitation improvement. The awareness campaigns could start at household level and the main target should be the landlords as they are the ones who are responsible for installing new facilities in their houses, rather than the tenants. The Federation model of established PHAST teams which are community mobilisers should be examined and scaled up in many other informal settlement areas.

Establish financing mechanisms to target low income communities

The aspect of finance has been discussed earlier. Due to inflation, the cost of building materials has been continuously increasing and this affects the ability of low income communities to construct and improve new latrines. Current formal and microfinance institutions do not provide finance to the informal settlements due to the lack of security of tenure and collateral issues. Innovation in this regard is required by stakeholders including private sector and governments to initiate funding mechanisms which support sanitation to informal settlements. It was realised that arrangements for latrine improvement loans with low interest should be established; the credit arrangement could involve giving loans for construction materials and paying the labour fee or construction of the full structure against cash loans. The loans could be provided in phases and the borrowers made to repay the loans so that the funds could revolve. The Federation Urban Poor Fund which has begun to provide small loans for latrine construction and improvements should be encouraged and scaled up.

Establish sanitation centres to promote sanitation

The use of sanitation centres approaches in sanitation was explored and considered to be one of the factors that can unlock the demand for sanitation. This would require establishing a community resource centre which will be equipped with sanitation products, prices and information. The centre would also have community technicians who could establish different technological options available for the specific settlement. Currently the Federation has developed such centres in Dodoma where the community can easily access sanitation products. Such sanitation centres need to be improved and supported.

Enforcement of by-laws and legislations

During the study, it was reported by government officials that the use of by-laws and the enforcement of legislation is being practiced by government officials as a way of influencing behavioural change for those who are difficult in character. Community respondents gave the opinion that current laws and legislation are good but enforcing by-laws and legislations without giving proper solutions to poor people is likely to negatively affect those who do not abide by these laws and legislations. Use of by-laws and legislation has not yet managed to minimise sanitation challenges in communities.

Improve communication channels

The importance of communication and the sharing of news in any campaign is clear. Participants were asked about communication channels and the majority of respondents said that awareness raising and adverts about latrines need improving and could be channelled through local theatre groups, local comedians, radios, televisions and newspapers. They also proposed that NGOs and CBOs educate communities, as well as community leaders and politicians.

Understanding community incentives to improve latrines

In order to find out the motivations for improving sanitation, respondents were also asked about the reasons for improving sanitation. Various reasons were given by respondents including an increasing social status, an improved latrine image, repairs carried out after pit emptying, facilitating latrine cleaning and increasing privacy. Few people wanted to improve their latrines for health reasons. The information is presented in Table 13 below.

Table 13. Assessing incentives for latrine improvement

Incentives	Number of respondents	Per cent
Improve health	12	1.0
Improve latrine image	323	27.4
Social status	395	33.4
Repairs after emptying	301	25.5
For easier cleaning	75	6.3
Increasing privacy	41	3.5
Reduce health risks	31	2.7
Reduce bad smell	2	0.2
Total	1180	100.0

From the assessment, the majority of households were motivated to construct and improve their sanitation in order to improve their social status and to improve the image of the latrines. There is a need to capitalise on this during the development of hygiene messages and campaigns.

Sanitation precedents for the Tanzania case study

This situational analysis, based on the secondary data information, semi-structured interviews, surveys and focus group discussions between various groups of respondents, has outlined the critical challenges and obstacles facing urban sanitation. An assessment of the Federation approaches in scaling up sanitation has revealed opportunities for improving the situation, which can be adopted in collaboration with other stakeholders, both public and private.

This research intends to implement the sanitation precedent setting projects, and to use them as learning opportunities for all stakeholders, including Federation and community members at large, as well as the government. The agreed precedent projects were discussed by the community Federation and verified by the municipal officials to obtain a mutual understanding, which could be adopted and supported by all actors. The sanitation precedents will involve a diverse set of solutions which are categorised below.

Capacity building through peer learning on sanitation options

This precedent focuses on enhancing the capacity of the Federation community to develop affordable sanitation technologies. This will be carried out through peer to peer learning between the Federation sanitation teams from Dar es Salaam, from other regions and from the international arena on various aspects of community mobilisation, and the planning and management of technological options. In each municipality a team of community Federation sanitation teams will be enhanced with skills and knowledge to promote innovative sanitation solutions.

Promotion of sanitation facilities to households sharing between landlords and tenants

The approach of shared household toilets was explored as a viable sanitation precedent setting and found to provide solutions to the lack of sanitation. In this precedent setting, 21 affordable sanitation precedents will be constructed by the Federation community contractors or community construction teams. These toilets will be constructed as a loan to the Federation members and will include tenants and landlords working together to construct the toilets, and to manage and recover the loans to the Urban Poor Fund. The promotion of shared latrines will be carried out at Keko Machungwa, Vingunguti and Karakata settlements in Temeke and Ilala municipalities respectively. The Federation teams from these municipalities have mobilised the community (tenants and landlords), and assessed their affordability levels on these improved sanitation options. Discussions with the beneficiaries (landlords and tenants) on the costs, affordability and modes of repayment show that it is possible to recover the costs of toilets over the span of two years.

Improvement of pit emptying systems through the use of gulper pump and tricycles

Pit emptying was recognised as one of the critical challenges in urban sanitation. While the sewerage facility for the city is limited and cesspits tanks are not accessible, the urban poor are forced to deploy crude and unhygienic methods to empty their toilets. Stakeholders within the study have recommended the use of a gulper pump which sucks sludge out of pit latrines in small quantities and uses a motorbike to transport the sludge to the waste oxidation ponds. In this way, the public sector provides an opportunity for the community to use the public owned ponds, and the private sector provides the transportation facility to the Federation, who manage the pit emptying processes. The pit emptying mechanism would be carried out at Karakata settlement.

These facilities will be loaned to the community Federation groups which have demonstrated a demand for pit emptying solutions within their settlements. The Federation has developed a business plan to run the pit emptying business at a fee, while making the business sustainable after repaying the costs. A business model for managing pit emptying has been developed to determine its financial viability. Affordability and repayment periods have also been developed.

Enhancement of sanitation municipal forums

The development of citywide forums that will focus on urban poverty issues, including sanitation, was supported. Three forums will be developed, and will include Temeke, Ilala, and Kinondoni municipalities, to give an opportunity for the Federation teams to provide lessons on how to address citywide sanitation in Dar es Salaam City at large.

Planning and design for the DEWAT system

Finally, the precedent setting will engage the Federation sanitation team in mobilising and designing a Decentralised Waste Water Treatment Scheme (DEWAT) for one community which has already been identified. A need for the DEWAT scheme has been identified at Tandale settlement, although further negotiations with the water and sewerage utility (DAWASA) are still being carried out to approve the designs and the implementation schedule, which will be conducted between the community Federation, DAWASA and the private sector (BORDA).

The precedent setting projects will focus on building partnerships with the government and other key stakeholders at all levels. The envisaged partnerships are expected to enable the communities' ideas and initiatives to be taken into consideration by the government when developing settlement improvement plans and projects.

Conclusions and recommendations

Conclusions

This action research aimed to develop an understanding of the situational analysis of sanitation and hygiene in Dar es Salaam. Interviews were held with households and institutions, while focus group discussions were held with community representatives. A comprehensive literature review was conducted. Several field visits to six informal settlements in Dar es Salaam, representing all municipalities, were part of the assessment. It was understood that this methodology would provide a holistic view of the sanitation situation in informal settlements.

It was established that these informal settlements have grown over a long period of more than ten years due to rural-urban migration. A large percentage of respondents were women, indicating that women were the majority of those who remain at home to take care of the households. The majority had a low level of education at primary school level and most were self-employed or engaged in informal jobs. The average income level was less than TZS 100,000 per month, which is about US\$ 67 per month or US\$ 2.3 per day. Around 27 per cent have an income of less than TZS 50,000 per month. Other findings show that the majority of respondents were house owners, who had no formal security for tenure, but had acquired residential licensing.

The study has explored an understanding of latrine coverage and the emptying practices of existing latrines. The majority of households use traditional pit latrines. This reflects the lack of provision of sewer lines by DAWASA. Other types of toilets such as septic tanks, pour flush and ecological sanitation are quite expensive for households. Due to the technological challenges of soil which is sand based, and of a high water table, the cost of constructing a good latrine is quite expensive. This has to involve the lining of pits with cement blocks which increases the cost of the latrines and makes them unaffordable for the majority. Latrine emptying was investigated and it was found that most people used a manual pit emptying approach of digging and shifting the sludge. Vacuum trucks were expensive and inaccessible to informal settlements in Dar es Salaam.

The research has assessed the opportunities for using the Federation approaches in scaling up urban sanitation, using the concepts of collective action and community organisation, coproduction, sectoral and technical approaches and effective relationships between the community and the government. Findings indicate that the Tanzania Federation has demonstrated certain levels of collective action and community action. Through their savings they are able to mobilise more of the community members to have savings schemes and initiate various developments and infrastructure activities, such as water, sanitation, and housing projects. The Tanzania Federation also has experience in coproduction arrangements which could be useful in scaling up urban sanitation. They include housing projects in Chamazi and Dodoma, where the Federation worked with government officials in the planning, design and implementation of the housing projects. This experience will provide valuable learning for scaling up urban sanitation in Tanzania. Regarding multi-sectoral approaches, the Tanzania Federation has demonstrated its ability to develop relationships with various sectors and technical agencies such as municipalities, the Ministry

of Lands, Housing, Water, Health, and universities. There is a need to enhance these relationships further when scaling up sanitation.

The challenges affecting latrine construction and improvement were analysed based on the technological, financial, institutional and policy framework, tenancy relationships, and equity aspects. Technological issues include the geology of the sand and the high water table, which require innovative technological solutions for the substructure and qualified technicians. Households also consider the lack of finance as a key challenge affecting their ability to construct and improve their latrines. This was also cited by the municipality and the Ministry of Health officials as a deficiency in their budget allocation to support the improvement of sanitation at community level. Due to the lack of collateral, most commercial banks and formal microfinance institutions are unable to provide finance for sanitation in informal settlements. The institutional and policy framework is a challenge due to unclear roles and responsibilities among actors on urban sanitation. Although a sanitation policy has been drafted, it is not known when it will be approved. At household level, there is a tension in relationships between landlords and tenants regarding latrine improvement. Most landlords are not keen to support latrine construction and they are mainly concerned about the payment of rent. Finally on equity, children and the disabled have expressed challenges when using latrines and have called for improvements.

Recommendations

Enhancing Federation approaches in scaling up sanitation programme in Tanzania

The assessment of Federation approaches has shown that there is a big opportunity for scaling up sanitation if the Federation is fully engaged in the process. However, there is a need to further build the capacities of the Federation so that it is able to play its role effectively. Exchange visits and trainings could be useful. There is a need to establish sanitation focal persons within the Federation to provide training and facilitation to other Federation members.

Technology

Lack of space, poor means of toilet emptying, lack of appropriate technology, poor latrine design and construction, and poor road accessibility are amongst the key challenges to be addressed in order to create an enabling environment for the urban poor to scale up the demand for improved sanitation. Hence there is a need to innovate and adopt appropriate technologies that respond to the communities' demands as well as to the geographical characteristics of the settlements, the land, and affordability needs, as well as social needs regarding behavioural change.

- The lack of capacity among the technicians and community *fundis* to build sanitation facilities can be supported by developing training programmes.
- There is a need to provide room for innovation among the practitioners and communities for more affordable sanitation options.

Finance

There are inadequate financial resources for sanitation improvement in the informal settlements. In order to address the demand for sanitation, the government needs to

increase and set aside budgetary allocations for financing sanitation improvements in these settlements. The budgetary allocations could be earmarked for innovations, capacity building, research and awareness raising.

Opportunities for micro-financing for sanitation should be encouraged and created to enable house owners to easily access funds for sanitation improvement. The government should encourage financial institutions to prioritise sanitation within their products. Local government authorities could establish a sanitation improvement fund at local government level, whereby different stakeholders could contribute towards the fund and create an opportunity for a revolving fund. In addition, international financing and donor communities should prioritise sanitation financing for low income communities.

The Tanzania Federation of the Urban Poor needs to mobilise low income communities to use savings and credit schemes (the Federation model) which could help these households access loans for sanitation improvement. Moreover, there is a need to strengthen the Tanzania Urban Poor Fund (*Jenga*) as a financing vehicle for improving sanitation to low income communities. Currently, the *Jenga* fund has provided about 850 sanitation loans to the urban poor in Tanzania.

Institutional and policy framework

- There is need to ensure proper institutional arrangements at national, local government and community levels. Institutional responsibilities should be clearly identified and defined to ensure the coordination and accountability of sanitation activities. Currently the sanitation policy does not sufficiently outline the role of communities. The Tanzania Federation should use their advocacy experience in land and housing issues to ensure that the sanitation policy is inclusive in Tanzania.
- Partnerships and collaboration between different actors is critical for scaling up demand for improved sanitation. The involvement of multiple stakeholders should be encouraged. The government should create an enabling environment and clearly identify roles and responsibilities on an institutional basis. The Tanzania Federation should provide informed experience in establishing municipal partnerships forums for land and housing needs.
- There needs to be political will for promoting improved sanitation in informal settlements. Politicians should use political platforms to promote improved sanitation in informal settlements. In addition they should also advocate for the initiation of sanitation improvement funds at local government level and pressurise the government to make budgetary allocations in its national budgets to invest in improved sanitation facilities. The Tanzania Federation should position themselves to understand the budget allocation for sanitation and conduct a tracking assessment of what is happening at municipal and government levels.
- There is a need to develop networks and forums among various actors so as to share views on different technologies. The Tanzania Federation should be able to share the experiences in addressing sanitation challenges in urban areas that they have been implementing for four years now.

Improve behaviour changes through the promotion of hygiene

- The need to promote hygiene among informal settlement residents is of paramount importance. Hygiene promotion programmes need to continue and messages need to be delivered to communities, especially in informal settlements, which go beyond hand washing and the boiling of drinking water, but also focus on behavioural changes and the need to invest in the construction of improved sanitary facilities.
- The Tanzania Federation has established Participatory Hygiene and Sanitation Transformation Teams (PHAST) whose aim is to educate communities on hygiene practices. Currently the Tanzania Federation has established 22 PHAST teams of 20 people each who are promoting hygiene to urban informal settlements. However these teams require more support and training in order to sustain their voluntary work.

Equity in sanitation services

- The Tanzania Federation should provide experience on enumerations and household data collection, and how mapping tools can provide baseline information for sanitation among different groups within the settlement. This will ensure that the necessary data is available for project design and intervention.
- There is a need to sensitise more policymakers, including the Ministry of Health and the municipalities, in supporting the design and construction of sanitation facilities suitable for children and the disabled.
- Stakeholders, including NGOs and community groups which support sanitation, should be encouraged to innovate designs suitable for children and the disabled.

Sanitation precedents setting

- The Tanzania Federation, in collaboration with stakeholders in Tanzania, have four sanitation precedents for scaling up. There is a need to ensure that all actors involved in the processes are properly engaged at all stages in order to ensure an effective uptake. Moreover there is a need to enhance the knowledge of the Tanzania Federation through exchanges on various sanitation options.

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Annex 1: Development partners' support to sanitation in Dar es Salaam

Development partner	Source of funds	Amount	Use of finance	Remarks
UNICEF	UN sources	US\$ 5,000,000	HH sanitation School WASH	Funding is on increase both human and finance
	Other sources			
WaterAid	Private Sector- Vodacom Stanbic	TZS 560,782,500 US\$ 150,000	Education project: Building our nation campaign	
	DfID	TZS 188,000,000	Water and urban sanitation at households	Funding is on increase
	Stone Foundation	TZS 182,000.000	Water and urban sanitation at households	Funding is on increase
	EU		HH sanitation	Funding is on increase
AMREF	Total	TZS 217million	Water and HH sanitation	Funding is on increase
	Institutional based			
	EU, Private company	Euro 4.5	Half for water Half for sanitation	Mkuranga project Funding on increase LA allocates 5-9 per cent for sanitation
Plan International	Australia Aid Netherlands Govt The Charitable Foundation Child sponsorship	NA	Water 60 per cent Sanitation 40 per cent	
	UNICEF	TZS 181 million	Constructions of school wash facilities in 7 primary schools in Temeke.	EEPCO implementing partner capacity builders.
	Govt- basket fund	US\$ 3.5 million for 5 years	Community water and sanitation in low income unplanned settlements.	Sanitations embedded in water projects need to have a clear budget line and use it for software to promote behavioral change
	Own source (sewerage charges)		Operations and maintenance sewerage	Need for harmonisation of tools and hardware for sanitation

Source: Estimates collected informally by CCI, please do not cite

Annex 2: Financing sanitation in Dar es Salaam

Council	Source of funds	Amount in Tsh	Use of finance	Remarks
Ilala	District budget			
	Solid waste collection charges in 5 wards	TZS1.5 billion	Meeting running costs	Central government to provide budget directive for sanitation (20 per cent) of its revenue to be earmarked to sanitation
	Plan International			
	WaterAid		Sanitation and hygiene promotion and latrine emptying	This initiative is earmarked at creating demand for improved latrine and behavioral change.
	SAWA			
	BORDA funds from German Government		On site sanitation training	Relatively new organisation (2yrs)
Kinondoni	ESHO- UNICEF		Onsite sanitation HH & School WASH Hygiene education & Promotion of WASH facilities	Relatively new organisation (2yrs)
	District budget	TZS 73 million from basket fund	<p>Research on disease outbreaks - (6 million)</p> <p>Mazingira awards (TZS 4,300 million) supervision on sanitation activities (TZS 3,900 million) Supervision of the community programme (TZS 4,300 million)</p>	<p>Allocated funds are for community initiatives where sanitation is allocated the least amount.</p> <p>It seems on site sanitation not well attended.</p> <p>Need to have a separate budget line for each cost component for sanitation.</p>

	Care International			
	SAWA-source of funds Water for ALL, WFCF, Rotary Club	US\$ 1,700 million for 3 years	Hygiene promotion and provision of hand washing facilities in five schools.	Sanitation an emerging theme in the programme. Need to track finance input for sanitation from household to street/Mtaa level Develop mechanism for sharing on sanitation investment at council level.
Temeke	District budget Own source (waste management)	TZS 569,000,000 from collection of liquid waste		Temeke M.C. has a separate budget line for sanitation.
	Basket fund	TZS 262,847 million	Procurement of septic emptying trucks.	Allocation is on the increase 899 million (2010/11) 1.3 billion (2011/12) 1.5 billion (2012/13)
	Unicef/ SNV with EEPKO implementing partner	US\$ 477,500	School WASH	
	Unicef/SNV with EEPKO implementing partner	US\$ 401,876	Sanitation	Training CLTS, CorPs, ward committees
	WaterAid			
	CCI Homeless/ Jersey Homeless/ Guernsey Homeless/ DFID Homeless/ Comic Relief	TZS 26,818,000 TZS 11,224,915 TZS 103,000,000 TZS 39,304,419 TZS 40,000,000	Working with federation of urban poor in accessing loans to improve shelter, water and latrine at HH, shared and public.	Managing sanitation fund through credit scheme is a challenge as some clients are slow in repaying the loan. CCI is investing in software activities for onsite sanitation as well as building the capacity of members of the Federation.
	SDI/SHARE		Conduct Sanitation Action Research	
SAWA- source of funds Water for ALL, WFCF, Rotary Club	US\$ 1,700 million for 3 years	Hygiene promotion and provision of hand washing facilities		

Source: Estimates collected informally by CCI, please do not cite



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.

