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The trajectories of urban water poverty: Understanding institutional framings and approaches

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Acronyms and Abbreviations

BPD	Building Partnerships for Development in Water and Sanitation
CBO	Community-based Organisation
CSO	Civil Society Organisation
GDP	Gross Domestic Product
IARP	Integrated Approach to Reducing Poverty
IWRM	Integrated Water Resource Management
JMP	Joint Monitoring Programme
MDG	Millennium Development Goals
NGO	Non-governmental Organisation
PUI	Peri-urban interface
SAT	Stand-alone toilet
SSA	Sub-Saharan Africa
UNICEF	United Nations Children's Fund
WAWASH	West Africa Water Sanitation and Hygiene
WHO	World Health Organisation
WPI	Water Poverty Index
WPM	Water Point Mapping
WSP	Water and Sanitation Programme
WSS	Water and Sanitation Services

1 Introduction

The need for universal commitment to provide water and sanitation services (WSS) for everyone has been claimed since the 1970s. The United Nations conference on human settlements in 1976 made a commitment to universal provision for water and sanitation, which was endorsed by the 1977 Mar del Plata United Nations water conference (UN-HABITAT, 1976; UNW-DPAC, n.d.). This was followed by a designated international drinking water and sanitation decade during the 1980s aiming at universal access to safe water and sanitation by 1990. While access to WSS increased, it still left numerous people unserved and an the commitment to tackle the WSS crisis was renewed through the Millennium Declaration in 2000, this time with less ambitious targets[2] but similar difficulties to meet them. Despite all the investment and numerous interventions the latest assessment by the Joint Monitoring Programme (JMP) of the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), estimates that 768 million people are still without improved access to water and 2.5 billion people that lack access to an improved sanitation facility[3] (WHO & UNICEF, 2013). One starts to question the effectiveness of previous interventions in tackling the problem.

Many cities in the Global South keep on expanding without adequate infrastructure leaving a large number of people to experience varying degrees of water poverty. Water poverty, particularly in an urbanising context, is not soleley about inadequate access to water but also relates to the deficiencies with regards to sanitation. Sub-Saharan Africa (SSA) remains one of the worst affected regions. Over the last two decades, cities in SSA have been struggling with the management, operation and governance of water provision. The projected increase of the urban population over the next few decades further substantiates the urgency to address water poverty in an urban context. According to the UN, much of that growth (approximately 50 per cent) has been happening in less developed regions, in cities and towns with less than 500,000 inhabitants (United Nations Department of Economic and Social

[2] The water and sanitation target for the 2015 Millennium Development Goals (MDG) aims at halving the number of people without access to safe water and sanitation based on a 1990 baseline.

[3] JMP figures focusing on 'improved' access are being increasingly scrutinised conceptually and methodologically suggesting that the number of people lacking adequate access to water and sanitation is probably closer to double (Bain et al., 2012). This will be discussed in more detail in Section 2.2.

Affairs/Population Division, 2012). Even though research has revealed a huge variance of urbanisation rates in SSA, with stagnant or declining rates of urbanisation in certain countries, it is undeniable that small urban centres currently house the majority of urban residents (Potts, 2012), many of which suffer from lack of access to adequate service provision (Caplan & Harvey, 2010; UN-HABITAT, 2006; Satterthwaite, 2003). While there have been studies focusing on the role of small urban centres in rural and urban development since the 1970s with some specifically concentrating on WSS (e.g. Pilgrim et al., 2007; Caplan & Harvey, 2010; Satterthwaite, 2006; UN-HABITAT, 2006), contributions to the WSS literature are still far and few between. Most efforts on the challenges involved in increasing service provision in these locations in a context of rapid growth have so far have largely come from a supply-led perspective and less so from a perspective of the urban water poor, with a tendency to transfer the lessons learnt from rural areas and large urban centres. Both peri-urban areas and small towns are expected to absorb substantial amounts of the increasing urban population. It is therefore crucial to gain a deeper understanding of urban water poverty and the water poor in those settings to address the current and projected shortfall.

It is often assumed that once people gain access to water supply and sanitation (WSS) in urban areas this access is sustained. The reality for many of the urban poor is a journey where they 'travel' in and out of water poverty but their trajectories are insufficiently understood. Little attention has been paid to exploring the characteristics of urban water poverty and identifying key factors that shape the trajectories of the water poor. This report builds on previous research by the author and her colleagues that has focused on WSS in the peri-urban interface of metropolitan areas, which provides significant insights into how the peri-urban water poor access water and sanitation services (WSS) (Allen et al., 2006a, 2006b; Hofmann, 2011).

Why do so many people living in large and small urban centres still experience urban water poverty?

This report aims to answer this question by focusing on the different narratives of urban water poverty that have emerged among institutions engaged in development and WSS issues in their attempt to define the problem and substantiate the solutions being proposed. Key institutional hypotheses are identified and their narratives

discussed. The analysis intends to reveal the underlying worldviews, assumptions and interests embedded in them and explores who subscribes to them, which actors are empowered in the processes and to what extend the solutions offered constitute effective and sustainable pathways out of urban water poverty. With a general focus on the urban context, particular attention will be given to urban water poverty in SSA in the context of small urban centres. Within the given world limit, the aim is to develop an understanding of the main concerns and underlying assumptions with reference to case study examples with a recognition that a detailed discussion of all approaches associated with a particular hypothesis will not be possible.

Methodology

This report adopts Fraser's framework of social justice focusing on redistribution, recognition and representation (Fraser, 2007) combined with a political ecology perspective in order to explore how the different hypotheses of urban water poverty problematize the distribution of goods and rights in relation to water and what power relations are upheld by the different narratives. The analysis is based on a thorough review of the literature consisting of academic peer-reviewed journal articles, books and non-commercially published documents and reports. This is accompanied by an examination of WSS institutions to explore what knowledge is produced and disseminated in relation to the hypotheses and narratives of urban water poverty. This is done through three means: 1) in depth interviews with staff from different organisations concerned with WSS issues; 2) examination of grey literature and 3) scrutiny of institutional profiling in the public domain. It will be interesting to explore the alignment of institutional staff with the values and interests of their institutions. This can be done in relation to gender, disciplinary background as well as position within the institution (e.g. field-based versus policy/research staff). Eight in-depth qualitative interviews were conducted, largely with persons from the partnering Non-Governmental Organisations (NGO), namely WaterAid and Building Partnerships for Development in Water and Sanitation (BPD) but also a few others from organisations

associated with WaterAid and BPD[4]. The guiding questions for the interviews can be found in Annex 1. These were used to guarantee that the same topics were covered in each of the interviews. However, due to their qualitative nature, each interview was unique in that the questions were formulated in a way that was appropriate to each situation, other questions were added in reaction to the responses given and the sequence of the questions asked varied.

Structure

The report is divided into four chapters. The chapter following the introduction on 'Understanding urban water poverty' provides a characterisation of water poverty and the water poor in an urban context and thereby delivers a deeper understanding of its materialisation. Particular consideration is given to highlight contextual specificities with regards to SSA and different structures along the rural-urban continuum. The chapter further discusses existing methods used to assess and monitor urban water poverty at different scales and points towards the different aspects emphasised by each approach, before discussing some of the key factors that have emerged in the debate and finishes by establishing the main institutional hypotheses concerning urban water poverty. The following chapter critically examines these hypotheses by applying a framework of social justice with a political ecology perspective. The various sub-sections each start by analysing how urban water poverty is framed, followed by a discussion regarding the solutions proposed. The concluding chapter provides a synthesis of the main findings. Particular attention is paid on revisiting the hypotheses and their consideration for different structures along the rural-urban continuum before expounding the main reasons behind many people still moving in and out of water poverty. The conclusions further deliberate key ingredients in a pursuit of viable and perpetual pathways out of urban water poverty. Finally, some insights are provided in relation to the institutional analysis while also highlighting limitations and challenges.

[4] 18 people in total were approached but due to their busy schedules and some unforeseen circumstances only eight interviews (one with two people at the same time) could be realised in the time given to complete this stage of the research. It is hoped that the people contacted can provide inputs at a later time.

2 Understanding urban water poverty

Water poverty can be largely defined as the "*the condition of not having access to sufficient water, or water of an adequate quality, to meet one's basic needs*" (Oxford Dictionaries). But what does water poverty mean in an urban context and who is affected by it in what way? Section 2.1 is concerned with characterising urban water poverty and the urban water poor. With a focus on SSA an attempt is made to highlight regional differences and specificities in the SSA context. Further consideration is given to deliberate how water poverty materialises along the rural-urban continuum with particular emphasis on urban centres of different shapes and sizes. Section 2.2 on monitoring and assessment presents existing approaches of measuring the state of urban water poverty at different scales. Each of these highlights and measures different aspects depending on how the problem is framed by different institutions. The final section of the chapter further elaborates some of these issues and presents the main institutional hypotheses that are further unpacked in the following chapter.

2.1 Characterising urban water poverty

Many of the urban poor in low-income countries suffer from lack of access to water and sanitation, but the full magnitude of urban water poverty remains unknown. They often reside in informal settlements with deficient access to formal service provision and facilities at the household level are rare. Lack of adequate access to water and sanitation services (WSS) forms an integral part of urban poverty and is often considered as one of the key indicators (Interview 07, 2013). Adequate access to water and sanitation implies that the service provided is safe, sufficient, affordable and accessible based on individual needs in a specific context (Hofmann, 2011; Interview 05, 2013). For many women and men living in cities and towns, however, a multitude of these criteria are not being met. One of the first characteristics of water poverty in an urban context is the price paid for services. Households that are water poor lack access to services provided by the utility and have to pay a higher price for water that can be up to 100 times more compared to formal utility tariffs (Interviews 02, 05, 07 and 08, 2013; Bakker, 2012; Allen et al., 2006a). This is largely due to a reliance on alternative and often multiple water sources and pay as you use toilet facilities. Combined with low and unstable incomes urban poor communities are particularly

disadvantaged and the higher price paid for water can lead to deprivation of other basic services (Interview 08, 2013; Mitlin & Satterthwaite, 2013). Water scarcity is frequently experienced at the household level without necessarily implying that water is scarce at national or city level (Interview 02, 2013). Water rationing and the use of lower quality water sources for non-drinking purposes are a common phenomenon among the urban water poor. Recent evidence suggests that insufficient quantity *and* quality of water together with lack of adequate sanitation facilities increases morbidity and mortality rates linked to water and sanitation related diseases, which are a frequent occurrence among the urban poor (Prüss-Üstün et al., 2008). Women and girls are particularly affected as they are usually tasked with fetching water and other water-dependent household chores and they are also more inconvenienced when sanitation facilities are not provided within the household. The need to store water at the household level provides further risk of water getting contaminated.

2.1.1 Regional differences[5]

Urban water poverty is very context specific and experienced in different ways depending on the city or town, country and region. In SSA the problem is rarely related to physical scarcity of water, which constitutes a big issue for certain cities and regions in Asia, but rather due to the lack of adequate facilities. As is widely documented, the backlogs in SSA are generally much larger compared to other regions with some of the lowest levels of household connections, particularly among the urban poor (see UNICEF & WHO, 2012). There is an assumption that in SSA there is less of an emphasis on utility services with a higher presence of small-scale providers and water vendors trying to fill the gap (Interview 03, 2013). In the urban context, the number of large cities with no or low coverage of sewers and covered storm drains is alarming due to the negative implications on water quality and health (Interview 05, 2013). Much of this has been related to the problem of insufficient capital and the urban poor are usually the last ones to benefit from the limited WSS investments(Interview 04, 2013). Interestingly, Latin American cities have managed to fund the installation of city-wide sanitation systems in a context of fast urban growth with very little outside assistance

[5] The discussion of regional differences related to climate, geology and hydrology can be very important but are not discussed in this report and go beyond its scope. Emphasis lies on possible differences with regards to institutional and governance arrangements in relation to WSS and other related aspects.

and the region has further seen a steep increase in upgrading projects at scale that have improved people's access to water and sanitation (Interview 05, 2013). This was largely triggered by an era of elected mayors and city councils that have transformed the status of low-income groups. Apart from South Africa and Namibia, there is not much evidence of that happening in SSA (Interview 05, 2013). While cases from urban Latin America are frequently cited to showcase progress or success in WSS, it is not entirely clear what is distinct about it. Some would argue that the level of social cohesion and community engagement in Latin America is much higher whereby the poor organise and start acting themselves (Interview 01, 2013). Others contend that the poor in SSA cannot rely on government to improve their access and therefore tend to tackle the problem themselves (Interview 05, 2013). But given the current backlogs in urban SSA, water poverty cannot be solved through initiatives of the urban poor and their organisations alone.

2.1.2 The rural-urban continuum

It is undeniable that the extent of water poverty in rural areas is far greater than in cities and towns. Nevertheless, there has been steady progress in rural areas while urbanisation without infrastructure continues to be a major challenge (Allen & Bell, 2011). In many SSA countries access by urban households[6] to water piped to their premises has been declining between 1990 and 2010 and 50 per cent or more of the urban population in many SSA countries lack access to 'improved'[7] sanitation (Satterthwaite, 2013). Existence of a WSS utility is rare in rural areas with services being largely provided through localised facilities such as boreholes, shallow or protected wells (Interview 02, 2013; Thompson et al., 2001). Distance to source becomes a key factor in defining water poverty in rural areas; in urban areas it is distance combined with the number of users per facility, i.e. the time it takes to collect water or to use a sanitation facility becomes crucial, particularly for facilities outside of the household. The local environment in an urban setting is much more complex with many more stakeholders to be considered and the severity of problems associated

[6] Within this report reference to urban households, the urban poor and the urban water poor encompasses those living in different types of urban agglomerations, including cities and towns of varying sizes as well as peri-urban areas. Where necessary, and depending on the availability of more specific data, reference to a particular urban context or structure will be made.

[7] Please refer to Section 2.2 for a discussion on improved versus adequate access.

with waste management and sanitation are increasing with the size and density of urban areas impacting negatively on the provision of water and people's health (Interview 01, 03 and 05, 2013). At the same time, bigger and more densely populated areas offer the potential for a better and more available service through economies of scale that are absent in smaller or more dispersed settlements (Interview 08, 2013).

Existing studies have shown a considerable gap in service provision in small towns with their inhabitants being among the worst served (see Caplan & Harvey, 2010; UN-HABITAT, 2006). It has been argued that the poor in small towns are the worst off as these settlements do not attract the same attention and capital as large cities and are not on the radar of development agencies that tend to support rural programmes. Often the assumption is made that in contrast to the rural context, small towns have a utility service. In reality, however, this is often not the case or, if a utility exists it is either defunct or operation is limited to central areas whereby those with access would often end up selling water to poor unserved neighbourhoods (Interview 02, 2013). Small towns do not benefit from economies of scale in the same way that large cities do but rural localised solutions are also inadequate as they grow and gain more urban features (Interview 03, 2013; UN-HABITAT, 2006). Similar problems arise in peri-urban areas of cities or the so-called peri-urban interface (PUI). These are areas that tend to absorb large proportions of the increasing urban population with disproportionately high percentages of poor households and low levels of access to WSS (Allen et al., 2006a; Hofmann, 2011). Small urban centres such as the PUI and small towns cannot solely be defined in spatial or scalar terms as this would fail to encapsulate key characteristics and processes of change these areas are subjected to and can be rather influential in understanding urban water poverty[8]. The level of connectivity or connectedness to larger urban centres seems to constitute one of the important factors to consider (Caplan & Harvey, 2010). Caplan and Harvey claim that *"[w]hilst issues of connectedness also certainly apply to peri-urban settlements, these areas cannot so easily be separated from their adjacent urban areas. They are intimately and automatically connected to the infrastructure, economy and employment opportunities of the cities they surround"* (Caplan & Harvey, 2010, p. 18).

[8] Countries tend to define small towns in relation to population size. Sometimes other considerations such as population density, economic function and percentage of non-agricultural activities are added (Caplan & Harvey, 2010).

This is only partially true. When it comes to groups of a lower socio-political status frequently residing in the PUI they might be physically close but their disconnectedness in social, economic and political terms from the nearby urban centre manifests in severe levels of water poverty (Hofmann, 2011; UN-HABITAT, 2006).

Both the PUI and small towns present a context where natural resource based livelihoods are interspersed with more urban livelihoods and the two can co-exist even in the same household (e.g. husband is farmer and wife trades in the local market) (Allen et al., 2006a; Caplan & Harvey, 2010; UN-HABITAT, 2006). For many lower-income households residing in small urban centres water is not only essential for personal consumption and hygiene but also a key resource for income-earning activities. Individual needs for water are therefore highly context specific. For over a decade different scholars have highlighted the importance of rural-urban linkages in many parts of the world and argue that a simple rural-urban dichotomy is no longer valid nor useful (Douglass, 1998; Allen, 2003; Satterthwaite & Tacoli, 2003; Potts, 2012; Rodrigue, 2013). The mix of rural and urban characteristics that materialise in small urban centres, capturing both small towns and peri-urban areas, as depicted in Figure 1 are of great importance and highlight how urban water poverty might materialise differently in comparison with rural or large urban areas. These places tend to suffer from week local government structures with very limited budgets. The capacity to invest in infrastructure is often associated with the status of a settlement as either urban or rural whereby an urban status provides greater access to funding and more capable personnel but many small urban centres do not benefit from such status (UN-HABITAT, 2006; Interview 08, 2013). It is argued that urban water poverty in small towns is more homogeneous and easier to identify making it a more manageable problem with a simpler institutional landscape (Interview 02, 04 and 08, 2013); some contemplate that rich and poor areas are ‘equally ill-served’ (UN-HABITAT, 2006). However, this is very context specific and might only apply to a particular type of small town with a small population, less pressure on land and a certain level of social harmony with fewer transient communities. Furthermore, higher-income groups will always have the resources to initiate alternative arrangements to meet their WSS needs while the water poor will struggle to do so (Interview 04, 2013). The situation is quite different for a bigger town or peri-urban area in closer proximity to a city with high levels of migration, increasing competition over land and large pockets of low-

income areas (Hofmann, 2011). A focus on the rural-urban continuum as illustrated in Figure 1, rather than a rural-urban dichotomy, seems to be a more adequate framework to allow for the examination of urban water poverty along the spectrum of transitional structures or small urban centres in between the two extremities. Subsequent sections unpacking the main hypotheses of urban water poverty will make reference to this and try to establish similarities and more importantly distinct features in relation to the position on the spectrum.

Figure 1: the rural-urban continuum and the implications for water poverty

← RURAL-URBAN CONTINUUM →		
Rural	**small urban centres**	**Urban**
Livelihoods heavily reliant on natural resources	Mix of rural and urban livelihoods low-income groups often involved in water-based activities Strong ties with rural livelihoods	Livelihoods largely drawn from non-agricultural employment, services and selling goods
Access to land for housing not generally a problem	Increasing pressure and competition over land Overlap of tranditional and statutory land systems	Access to land for housing difficult and highly commercialised
More distant from government as regulator and provider of services	Weak local government structures due to: - Varying but generally low and inconsistent settlement status - Intersecting jurisdictions	More vulnerable to bad governance
Limited access to WSS due to: - Distance - Low density - Limited capacity to pay	Low and unequal WSS provision Increasing problems linked to overall lack of sewers and public sanitation provision Limited access to WSS for low-income groups due to: - High prices - Tenure issues - Limited capacity to pay - Poor governance	Access to WSS difficult for low-income groups due to: - High prices - Tenure issues - Poor governance
Less cash-earning opportunities and reliance on self-provisioning for: - Water - Food	Transition from subsistence to monetary economy Greater reliance on cash for access to services Self-provisioning for food common among low-income groups	Greater reliance on cash for: - Access to services - Food - Employment

(Own elaboration based on Allen, 2003; UN-HABITAT, 2006; Caplan & Harvey, 2010 and interviews conducted)

2.2 Monitoring and assessment of urban water poverty

The most widely used figures for monitoring and assessing water poverty come from WHO/UNICEF's Joint Monitoring Programme (JMP), particularly in order to monitor progress towards the water and sanitation related MDG target. The focus of JMP is to capture the coverage of 'improved' drinking water sources and sanitation facilities[9] within 1km distance allowing up to 30 minutes to use those facilities, but the figures say little about the adequacy of those services as they do not measure the regularity, sufficiency[10], quality, safety and affordability of those services (For a more detailed discussion see Hofmann, 2011). JMP heavily relies on national reports, censuses and surveys to produce their regular updates; as a consequence the misrepresentation of service levels at national level are deeply embedded in international monitoring and assessment. The focus nationally remains on coverage and completely neglects the maintenance and longevity aspect of services (WaterAid, 2009; Interview 02, 05 and 07, 2013). What is more, the methodologies applied by different organisations involved in collecting data are very diverse. "*Agencies working in the sector such as different sector ministries, development partners and NGOs often collect different information and analyse data in different ways for reporting progress on their activities. The lack of harmonisation of reporting may lead to gaps in progress reporting on coverage as, for example, NGOs do not always report their activities to the government*" (Welle, 2010, p. 26). Hence, the numbers presented in terms of how many people have access to WSS need to be used with caution as inadequate data and poor monitoring based on diverging criteria and indicators hinder a true understanding of who remains unserved (Interview 02, 2013). JMP has been updating their methodology almost with every report in order to respond to the weaknesses[11] and new data sets are added regularly. While this could be considered an improvement on current estimates it hinders a consistent longitudinal assessment. The 1990 baseline

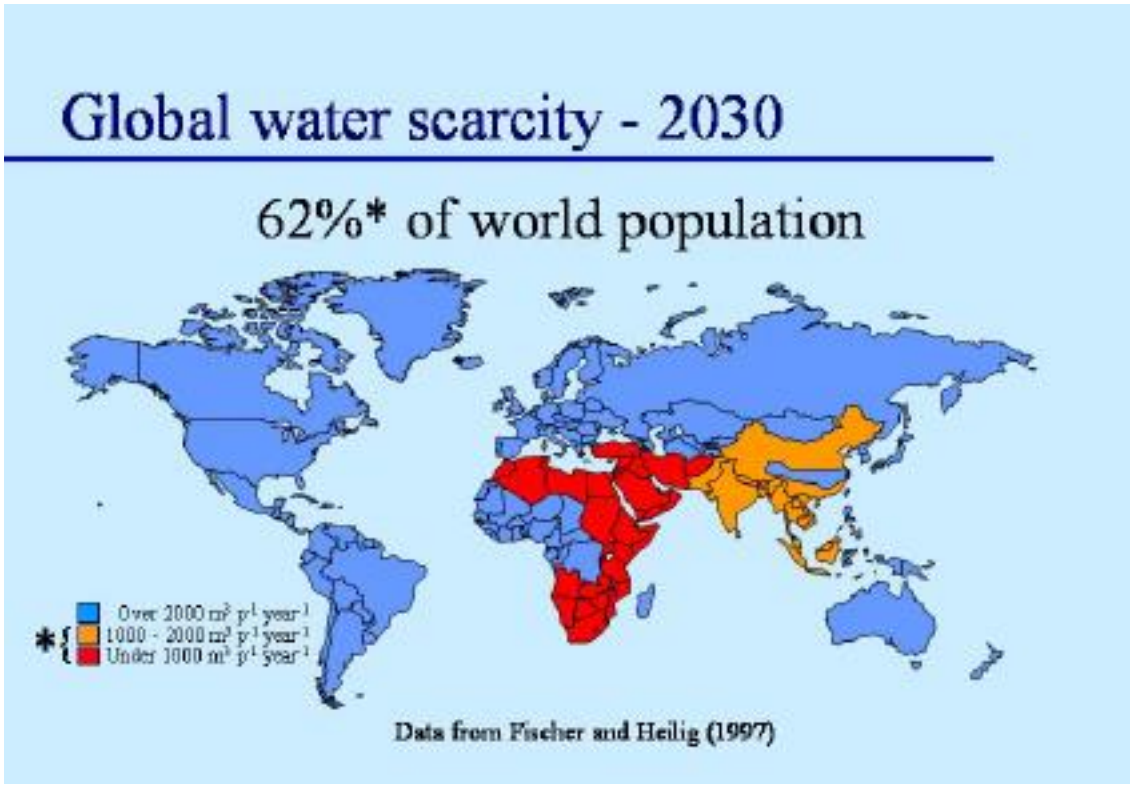
[9] For a more detailed categorisation of improved versus unimproved water supply and sanitation facilities see (UNICEF & WHO, 2012).

[10] There is no agreement regarding how much water would be adequate for people to fulfil basic human needs with figures usually ranging between 20-50 litres per person per day. JMP uses 20 litres as a benchmark. It is often stated that higher volumes should be provided where possible but interventions hardly go beyond the minimum standard (e.g. see the free basic water provision in South Africa discussed in Sections 3.1.4 and 3.2.1).

[11] See the latest JMP update for more information on the newly adopted water supply and sanitation ladder that goes beyond a simple improved-unimproved dichotomy (WHO & UNICEF, 2013).

figures are re-estimated with every new report, which leads to question how progress can be measured. In fact, many would argue that this is done deliberately to claim achievements of the MDGs (Interview, 05, 2013). In contrast, longitudinal studies in a selected number of countries and cities reveal a steady decline in the service available, particularly with regards to the amount of water available to urban households, which can force them to store water and rely on multiple alternative sources to meet their water needs at much higher cost and with possible impacts on health (Thompson et al., 2000; Kuma et al. (2010) cited in Obeng-Odoom, 2012); but such studies are rare and therefore of limited use in national and international statistics. Many institutions seem to take JMP figures for granted and use them in their analysis and development of solutions (IRC and WSUP, 2012; WaterAid, 2012a; Interview 02 and 05, 2013).

Figure 2: Global Water Scarcity in 2030 based on the Falkenmark Index



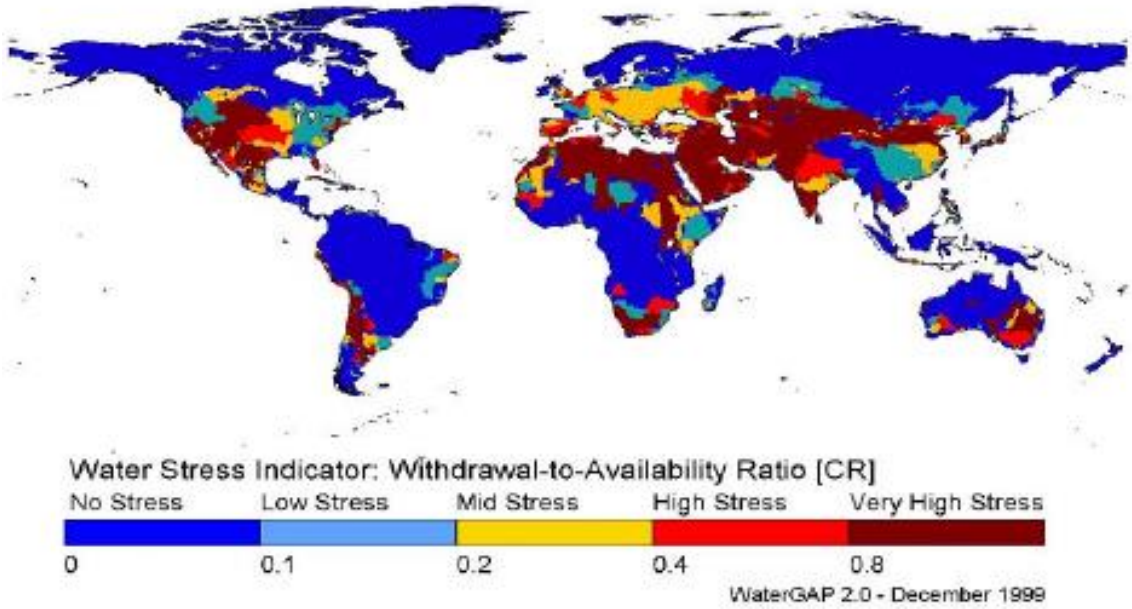
(Source: Rijsberman, 2004, p. 5)

Other widely applied macro indicators such as the Falkenmark index measure water poverty in relation to the availability of water resources in relation to the number of people per country. Not surprisingly, predictions for 2030 based on the Falkenmark index, as shown in Figure 2Figure 2, paint a particularly worrying picture for large parts

of Africa and Asia where most of the population growth is expected. While research could not confirm a correlation between countries' levels of water scarcity and the level of access to improved water sources (Chenoweth, 2008), the index is still one of the most widely applied, e.g. to support policies to curb population growth in the Global South and implement water efficiency measures (see Section 3.1.1).

Figure 3 portrays a different scenario as it not only looks at water resources per country but emphasises an increase in average annual water withdrawals with rising per capita income (Alcamo et al., 2000; Rijsberman, 2004).

Figure 3: Water stress analysis for 1995 using the criticality ratio (ratio of water withdrawals to water availability)

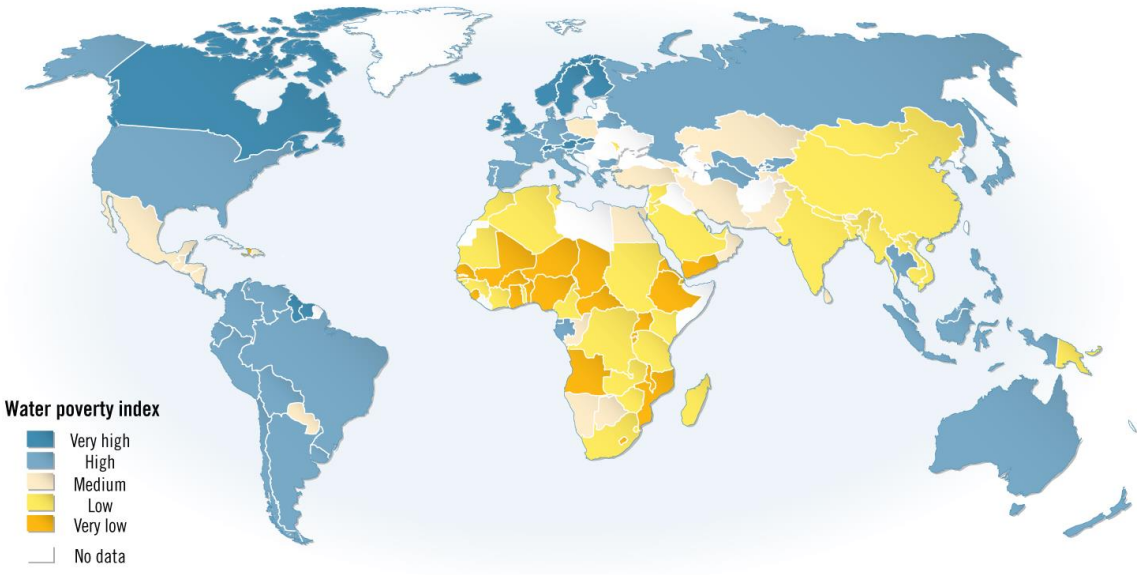


(Source: Alcamo et al., 2000, p. 22)

Macro indicators and assessments as those discussed above are not very useful in capturing spatial variations and unequal consumption patterns within a city or settlement, but rather serve the purpose of substantiating policy choices. The water poverty index (WPI) as displayed in Figure 4, developed by C. Sullivan in collaboration with others (see Sullivan, 2002; Sullivan & Meigh, 2003; Lawrence et al., 2003), currently represents the closest attempt to a more adequate global measurement of water poverty and can be further applied at local and regional scale. The index

considers multiple aspects[12] to capture complex realities on the ground and aims at a more equitable distribution of water by identifying those most in need (Sullivan, 2001).

Figure 4: Global calculation of the WPI at country level



Source: http://greenfieldgeography.wikispaces.com/Water+and+change

However, the index can be criticised for its complexity and amenability for manipulation offering only limited application across scales and restricted comparability of independent assessments (Chenoweth, 2008; Fenwick, 2010). There have been various attempts to improve and simplify the WPI to ease application (see Fenwick, 2010; Cho et al., 2010; Garriga & Foguet, 2010) but they all operate within the rational of the original index and, more importantly, still uphold a universal index that lacks to consider the specificities of water poverty in different contexts along the rural-urban continuum[13].

At the urban level data about access to services is largely collected by the utility but not disaggregated by income level or neighbourhood (ODI & SOAS, 2012; Interview 02 and 05, 2013). In Lima in 1990, 40 per cent of the population living in higher income

[12] The specific dimensions measured as part of the composite index are environment (use of water resources), resources (quantity and quality of available ground and surface water per person in a country or region) , access (level of access considering time and distance to collect water), use (type of water use – industrial vs agricultural vs domestic) and capacity (people's ability to manage water effectively) (Sullivan & Meigh, 2003).

[13] Examples where the WPI has been used tend to be largely rural and applications in the urban context have been met with a number of challenges.

areas consumed 88 per cent of the city water whereas the remaining 60% consisting of poorer residents only had access to 12 per cent (Ioris, 2012, p. 618). The way assessments are currently conducted in urban areas would not pick up on such level of inequality. People subjected to deficient quantities of water is not a matter of absolute scarcity but of relative and socially produced scarcity as a consequence of declining water quality caused by pollution, population density and increased consumption by certain groups within society (Bakker, 2011). Water quality is frequently neglected in popular assessment methods but crucial to determine the amount of water available. JMP figures would be considerably lower if the quality of water was taken into account (WHO & UNICEF, 2013). While the JMP urban task force pushed for improvements in urban WSS monitoring, it is unlikely that this will reap great benefits as there is a reluctance to change surveys and censuses towards greater disaggregation of data that could shed light onto unequal service provision patters with an emphasis on lower-income groups (JMP Technical Task Force, 2011; Interview 02 and 05, 2013). Generally the focus of monitoring and assessing water poverty lies on 'wide' access ignoring 'deeper' meanings to do with equitable distribution and the associated social disadvantages and structural conditions (Obeng-Odoom, 2012; Hofmann, 2011).

It is argued that most monitoring and assessment mechanisms are sustained by hegemonic discourses and a result of conscious policy choices driven by powerful players that use the data to make strategic decisions about investment rather than aiming to be useful to address urban water poverty at local level. "*If the international agencies had recognised that local governments have huge importance for improving water and sanitation, they would have supported the censuses and then supported the disaggregated databases so that you as a town planner have the data to see in your territory who exactly had water and who had sanitation. And if local governments are important players in this then they need the data sets to support them doing so*" (Interview 05, 2013). Alternative and much more localised forms of monitoring and assessment have emerged as a result of the inadequacies inherent in the creation of widely used figures. This is often done through the involvement of poor urban communities and generates disaggregated information integrating the spatial distribution of water and sanitation facilities, their level of functionality and who uses them (Interview 07 and 08, 2013). Further reference to these will be made in Section 3.2.3. It becomes apparent that the assessment and monitoring of urban water

poverty is closely associated with the framing of the problem and used to validate current approaches. This will further materialise through the discussions in Chapter 3 and reference to specific monitoring and assessment mechanisms will be made where appropriate.

2.3 Key factors and emerging institutional hypotheses

In many cities in the Global South "the public water supply network operates in a vicious cycle of the "'3 lows': low investment, low service standards, low cost recovery" (Bakker, 2003, p. 332). Traditionally, water poverty has been associated with a lack of infrastructure, which consequently resulted in many large-scale infrastructural water projects. Still today, managerial inefficiencies, institutional incompetence and financial deficits are blamed for the WSS shortfall putting the spotlight on utilities and governments for infrastructure provision. 'Low revenues and weak management' are claimed to hinder the expansion of water and sanitation networks (WaterAid, 2012a). As a consequence, the formal water network is in many cases largely restricted to more affluent areas of cities and as urban areas expand the provision of services is lagging behind. Many cities in Africa and Asia demonstrate spatial characteristics of urban water poverty in line with particular urban development patterns whereby specific areas of a city are not served (Interview 02, 2013). Conflicting land tenure regimes and disputes between customary and statutory systems prevalent in SSA have given rise to informal urbanisation characterised by overcrowded housing conditions with absent or inadequate WSS provision leading to unsustainable water abstraction and contamination (Allen et al., 2006a). Poverty is regularly seen as the main reason for people lacking access to WSS and the financial inability to pay steep connection fees is considered an impediment for the poor to gain network supply (Davis et al., 2008; Interview 02, 2013).

Most current conceptualisations of urban water poverty and solutions to the problem are frequently based on a politically produced ideology that water shortages are due to technical and natural constraints. Alternative views highlight the importance of power relations (in social, political, economic and cultural terms) particularly in urban areas where water has become a commodified good (Swyngedouw et al., 2002; Swyngedouw, 2009). An increasing number of scholars have argued that the process of

urbanisation in the Global South is characterised by "*intense social and political struggles around water*" whereby lack of recognition of those belonging to lower-income groups results in lack of access to WSS (Swyngedouw, 1997, p. 312; Interview 02, 2013). Lack of entitlement is frequently associated with the illegal status of the urban water poor and their disempowerment.

Through the discussions in this chapter different narratives in the current debate about urban water poverty have started to emerge and shed light onto how the problem is explained and what key issues are flagged. Table 1 presents the main hypotheses arising among WSS institutions. This will be further unpacked in the following chapter emphasising how the problem of urban water poverty is framed and the approaches associated with such understanding. Specific reference will be made with regards to their application in the context of different urban settings.

Table 1: Key institutional hypotheses of urban water poverty

	Hypotheses	**Large urban**	**PUI**	**Small towns**	**rural**
Distribution	**Supply-led:**				
	3.1.1 Water scarcity				
	3.1.2 Lack of institutional capacity and financial resources				
	3.1.3 Lack of sector integration				
	Demand-led:				
	3.1.4 Economic poverty				
Recognition	3.2.1 Lack of entitlement to universal access				
	3.2.2 Tenure issues				
	3.2.3 Lack of empowerment				

3 Urban water poverty from a justice perspective

With prevailing patterns of unequal distribution of WSS, lack of access is not just associated with poverty but also an issue of justice. The understanding of urban water poverty and why people living in cities and towns are water poor, can be tied to different forms of (in)justices. First, people lacking access to material resources such as water is a clear example of *maldistribution* rooted in class inequalities embedded in the current political economy. Second, it could be argued that it is a case of cultural *misrecognition* rooted in social structures. These two dimensions are deeply intertwined and Fraser encourages "*a shift away from a one-sided politics of recognition, which ignored political economy, toward an integrated politics of redistribution and recognition*" (Fraser, 2007, p. 306). Fraser further argues to add a third dimension, that of *representation* as it "*furnishes the stage on which struggles over distribution and recognition are played out*" and highlights the importance of the frame in which decision-making takes place (Fraser, 2007, p. 313). Urban water poverty from a justice perspective thus needs to be understood not only with regards to material injustice (*maldistribution)* and cultural or social injustice (*misrecognition)* but also from the perspective of political injustice (*misrepresentation*). In that sense, sustainable pathways out of urban water poverty require transformative change towards 'parity of participation' that generate spaces for equal representation, in this case of the urban water poor, and seeks to deconstruct the socially fabricated political-economic structure that created these injustices and power imbalances (Fraser & Honneth, 2003; Fraser, 2007). Parity of participation is very connected with the concerns of critical political ecology. This perspective adds an environmental dimension to the social justice discussion and allows an examination of the intersections between flows of power and water through the different urban water poverty hypotheses and how these shape hydrosocial arrangements and relations (Budds & Sultana, 2013; Swyngedouw, 2009).

Current narratives of urban water poverty tend to decouple existing struggles in the above-mentioned justice domains. The concept has been framed and deliberated in many different ways. Through a close examination of the main hypotheses of urban water poverty, a dichotomy can be observed whereby the problem is either framed as one of maldistribution or misrecognition (see Table 1). The introduced framework of

justice with a political ecology perspective is applied to examine each hypothesis in more detail and explore the implications for the urban water poor and their trajectories. While many of the hypotheses are interlinked and display certain similarities, particularly within their groupings of maldistribution (Section 3.1) and misrecognition (Section 3.2), they are artificially divided and discussed in order to emphasise their particularities. Each of the sub-sections under 3.1 and 3.2 starts with an analysis of how the problem is framed, followed by a discussion on proposed solutions. Reference to case studies is made to illustrate some of the approaches.

3.1 Water poverty as maldistribution

The hypotheses discussed within this section constitute variations of the dominant views on urban water poverty and access to WSS whereby the latter is largely equated with coverage. The way the problem of urban water poverty is framed, assessed and tackled demonstrates a preference towards science and technology and de-politicisation with water-centric rather than people-centric solutions (Budds & Sultana, 2013) that largely exclude the urban water poor. The first three hypotheses emphasise deficiencies in relation to the supply-side of WSS that frame the problem with regard to various deficiencies of current WSS provision with little or no emphasis on disaggregating the urban water poor. The last hypothesis in this section characterises urban water poverty as an issue concerning the economic circumstances of those lacking access. In reality, many of the hypotheses are intertwined and although the emphasis in explaining the problem differs, the proposed solutions are similar in that efforts to increase the distribution of services allocate a major role to utilities, the state and international development agencies.

3.1.1 Supply-led: resource scarcity

Framing the problem

Water scarcity is defined as "*a lack of secure, uninterrupted, and long term availability of adequate amounts of fresh water, of required quality, on a regular basis, and for multiple needs*" (Elhance, 1999:4 cited in Nompumelelo Tapela, 2012, p. 9, emphasis added). Large parts of the literature have been focusing on the scarcity of water being

a determining factor in people's access to water with numerous scholars focusing their work on defining and measuring water scarcity at national or regional level (see Section 2.2 and Falkenmark, 1986; Falkenmark et al., 2007; Brown & Matlock, 2011). Most often this is understood as the physical shortage of water in relation to the population to be served within a state or region and presented as an objective reality. This evidently singles out states as the prime actor and disempowers other actors involved in the management of water at different scales (Trottier, 2008). More localised…..regimes managing water become "*invisible through the application of seemingly neutral and aseptic principles such as the fourth Dublin principle*", which defines water as a public good with a social and economic value (Trottier, 2008, p. 208). Blaming demographic expansion that leads to physical or 'volumetric' scarcity dominated discussions particularly during the 1990s but is still quite prominent today (Nompumelelo Tapela, 2012). In prominent discourses anthropogenic factors influencing water scarcity tend to be restricted to the impacts of climate change, insufficient wastewater treatment and lifestyle thus downplaying the socio-political aspect of the problem. "*The dominant global water crisis discourse has reformulated a series of environmental issues* [including] *resource degradation into an issue of efficient management, where the definition of efficiency remains very narrow and economic*" and does not touch upon the problem of excessive consumption patterns by the powerful few (Trottier, 2008, p. 207; Allen & Bell, 2011). Such narrative obscures water scarcity experienced at the local level caused by unequal distribution and lack of regulation leading to the depletion and pollution of existing water bodies (WaterAid, 2012b; Interview 03, 2013). Many of the urban water poor experience seasonal water scarcity related to both the quantity *and* quality of water. In cities and towns with deficient sanitation pollution levels in freshwater sources further increase during the dry season (Hofmann, 2013). Those that cannot afford to purchase water frequently rely on open or unprotected water sources subject to seasonal variability such as springs, streams, rivers and lakes but this is largely ignored within the dominant discourse that takes the focus away from people moving in and out of water poverty.

While a focus on the municipal level is much more useful in that it allows for the disaggregation of 'users', the water scarcity discourse lacks to differentiate between different contexts along the rural-urban continuum and the varying needs of water users, overestimates the power of the state and presents technology and science as

neutral in favour of large infrastructural projects (Trottier, 2008). Such framing of the problem leaves existing inequalities untouched whereby "*access to potable water in the megacities of the Global South is precarious for a large number of people despite the fact that the rich and powerful generally have more than enough water available for necessary and luxury use*" (Swyngedouw, 2009, p. 57). Even when water is scarce there are neighbourhoods with 24 hour water supply inhabited by powerful politicians and diplomatic communities whereas slum neighbourhoods living at the socio-political 'fringe' lack access to services as they are not recognised by policy and decision makers (Interview 04, 2013). It could thus be argued that resource scarcity is a welcome concept for the politics of distribution to hide behind the environmental scarcity concept (Lankford, 2010; Nompumelelo Tapela, 2012; Janakarajan et al., 2005; Mehta, 2011). A valuable consideration in the water scarcity literature is the thought that as water becomes scarcer in relative terms its value increases leading to amplified competition and conflict, particularly during institutional struggle to transition to a changing situation (Rijsberman, 2004). This however, shifts the focus to utilities and infrastructure provision and more efficient management of a seemingly scarce resource away from the injustices experienced by the urban water poor and their lack of access. The fact that the combined yearly water usage of five of the biggest food and beverage multinational corporations is enough to fulfil the basic needs of the entire world population demonstrates that we are dealing with unequal consumption patterns that arise out of power differences rather than a scarce resource (White, 2010). Mehta refers to a 'scarcity industry' that is dominated by influential world-views and practices dictating current access to water (Mehta, 2011, p. 382). This is not just specific to water but applies equally to other resources: "*There is enough food in the world to feed everybody yet there are people dying of hunger and malnutrition*" (Interview 04, 2013). Without assessing water scarcity at the level of discourse as well as the level where it is experienced and perceived by different people, the discursive construction of scarcity and the complex social and power relations that generate scarcity and govern access to and control over resources at various levels will remain invisible and untouched (Mehta, 2011). Other types of scarcity as framed by Molle and Mollinga[14] are not debated and thus urban water poverty solely remains a

[14] Molle and Mollinga distinguish between five types of scarcity, namely physical, economic, managerial, institutional and political scarcity (Molle & Mollinga, 2003). The latter is understood as a form of political

distributional struggle whereby the water poor stay unrecognised and excluded from political decision-making (Molle & Mollinga, 2003).

Current approaches

"*Only through some process of radically more efficient management—for example, pricing water to reflect its scarcity or reversing population movement to water deficit regions—can the problem possibly be resolved*" (Agnew, 2011, p. 467). This quote epitomises that the scarcity concept is frequently used to promote marketization and private sector involvement in the water sector. Ironically, market and private property regimes are seen by many as the solution to safeguard the environment and combat scarcity rather than the problem that created today's inadequacies (Ioris, 2012). Such narrow reasoning is used to justify simplistic solutions that ignore the complexities around poor people's water needs (including water for productive purposes) as well as the political nature inherent in today's water conflicts and are highly unsuitable for the water poor, particularly in small urban centres.

As a consequence, initiatives developed under that premise still left a considerable number of people unserved and led to demand a shift from supply-led to demand-led water management as embodied by the Integrated Water Resource Management (IWRM) movement. The call for increased user involvement, the treatment of water as a commodity and the establishment of water basin authorities (Rijsberman, 2004) is still embedded within an understanding of water poverty in relation to the resource and its increasing scarcity and manifested in a call for water efficiency (Agarwal et al., 2000). While participation is included as a key component by identifying the state as key ' interlocutor', it is likely that IWRM processes replicate "*paternalistic, technocratic and bureaucratic top-down conventional approaches*" with slight variations depending on what level of involvement of other stakeholders is tolerated (Molle, 2008, p. 133). Again, WSS interventions that neutralise scarcity and the causes of inadequate provision, hydrological conditions and underlying social structures do nothing else but reproduce or even aggravate the conditions of urban water poverty rather than addressing them as they claim (Budds & Sultana, 2013, p. 278).

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subordination and could be categorised as a form of misrecognition and misrepresentation.

3.1.2 Supply-led: lack of institutional capacity and financial resources

Framing the problem

Detailed studies exist that estimate the cost for meeting the MDG target for water and sanitation (see Hutton & Bartram, 2008). Lack of financial resources together with insufficient institutional capacity and inefficient management are frequently acknowledged as major challenges in tackling the shortfall in access to WSS (World Bank, 2008; (Interview 01, 02, 03 and 06, 2013). Many facilities become dysfunctional due to insufficient capital and a negligence towards maintaining existing supply structures (IRC and WSUP, 2012). Such framing of the problem frequently calls for large infrastructure development, financial and technical assistance and institutional capacity building within the WSS sector. Endorsement by international development banks and agencies, first and foremost the World Bank, make this a dominant narrative within the sector as the Bank is considered by many as an expert and highly influential in conveying development ideas, regardless of numerous criticisms regarding their conventional blueprint approaches and the deliberate exclusion of unsupportive evidence from published Bank reports (Molle, 2008; Bakker, 2013; Swyngedouw, 2004). Civil Society Organisations (CSO) have engaged with this narrative and are in favour of service provision reforms, providing that this will lead to pro-poor benefits and greater accountability of service providers, which they argue can be achieved through their involvement in the process (Etherington et al., 2011; WaterAid, 2006). "*It does not matter too much whether you are connected to the utility or use small scale providers. If you have a service that is regulated and is regulated well you have a place to go to when something goes wrong. You can start with the provider and if you don't get any recourse from that you move up and go to the authorities……I think that is reliant on the relationship between the provider and the user and between the user and the authority*" (Interview 03, 2013).

Prior research suggests that small urban centres seem to be disproportionately affected by financial austerity and institutional inaptness due to a tendency to disregard these areas (UN-HABITAT, 2006; Caplan & Harvey, 2010; Allen et al., 2006a; Hofmann, 2011). Small towns are described as places with "*second degree human capital*" or lack of full-time staff (Interview 04, 2013; Pilgrim et al., 2007) while the PUI

further suffers from institutional fragmentation and jurisdictional overlap (Allen et al., 2006a). Both impact on the operation, management and maintenance of WSS with little capacity to expand the current system at pace with urban growth and expansion patterns (Interview 04, 2013). A decent utility constitutes an important aspect to avoid people falling back into water poverty (Interview 05, 2013). However, political factors or rather political capital, particularly the quality and willingness of urban governments to improve access for the water poor, especially those living in informal settlements, seems to be more important than money and technical expertise but are frequently obscured within dominant narratives (Satterthwaite, 2013; UNDP, 2006; Interview 01 and 03, 2013). To prove the point, in almost all nations with a per capita income above $5,500, 80 to 100 per cent of the urban population have water piped to their premises whereas nations with per capita incomes between $2,000 and $5,500 display big differences in the percentage of the urban population with water piped to their premises (Satterthwaite, 2013).

With a few exceptions (e.g. see World Bank, 2003; UN-HABITAT, 2006, n.d.; Cardone & Fonseca, 2006), the development community and governments have so far largely disregarded the context of small urban centres in their efforts to improve WSS. The majority of private contracts have been granted in large cities and according to Bakker, cities with less than 500,000 inhabitants are unlikely to attract private sector investment (Bakker, 2003). Fast growing small urban centres are seen by some as a suitable testing ground to pilot innovative and adaptive solutions that could be integrated into urban management strategies with a potential to bring some of the lessons learned back to metropolitan areas (Interview 07, 2013; WaterAid, 2012a). There is however no evidence that this is being tried already. More research on urban water poverty along the rural-urban continuum could explore whether this would be a feasible option.

Current approaches

Large Infrastructural supply solutions are widespread policy approaches in developing countries as many claim their potential to resolve both existing and growing demand (Mehta, 2007). Despite fundamental differences in the approach, technological fixes have been proposed within both supply-led and demand-led solutions to the

problem[15] (Lankford, 2010, p. 197). These often go hand in hand with an increased push for marketisation and private sector participation in the water sector, less so for sanitation, justified on the basis of economic, managerial and institutional scarcity (Ioris, 2012; Molle & Mollinga, 2003). Since the 1990s multilateral and bilateral agencies' efforts to aid developing nations have been embracing the idea that the private sector is more efficient at providing services than the public sector (Bakker, 2003). The push towards privatisation or private sector participation[16] is not only promoted in relation to increased efficiency but further portrayed as a way to enhance access for the urban poor and preserve the environment under the name of 'free market environmentalism' (Bakker, 2011, p. 349). Africa seems to be experiencing a renewed emphasis on infrastructure development based on this old but still prevailing paradigm that conveniently serves the interests of large development banks rather than tackling the roots of urban water poverty (Merrey, 2009). In fact, many contracts lack clear incentives for service provision to low-income households, with a general disregard for small urban centres. Where pro-poor targets are formulated, these are overshadowed by a focus on financial and technical objectives with very little attention to social and political aspects of service provision (ODI & SOAS, 2012). This demonstrates a clear disconnect between the rhetoric of projects and their implementation. Facilities put in place could potentially benefit the urban water poor, however, whether these actually deliver an affordable and sustainable service to low-income households is not pursued (ODI & SOAS, 2012). There appears to be more of a focus on the utility making its return rather than specifically targeting those lacking access (Interview 06, 2013).

No doubt, the capacity of local governments and utilities has to improve in order to tackle urban water poverty effectively and substantial financial investments are needed to maintain and extend access to WSS (Prüss-Üstün et al., 2008; Hutton & Bartram, 2008). There seems to be agreement that small urban centres require innovative/alternative technical and financial solutions and the similarities with

[15] Supply management aims at increasing supply through the construction of new infrastructure while demand management implies increasing efficiency, e.g. by fixing leakages.

[16] Private sector investment in the water sector was at its highest during the 1990s and declined rapidly after 1997. As the push for privatisation in the water sector has not achieved the anticipated results, private sector involvement nowadays largely takes the form of management contracts (Bakker, 2012).

regards to WSS solutions between small urban centres and low-income areas in large cities are frequently highlighted. It is claimed that in small towns "*Recent sector reforms leading to internal restructuring of the sector, decentralization of service responsibility, and the introduction of private operators have led to significant improvement in many countries*" (Pilgrim et al., 2007, p. 21). The onus for pro-poor results seems to lie with the urban water poor themselves, CSOs and small private service providers while the government only overcomes inaction when financial returns become evident (Cardone & Fonseca, 2006). There is a real potential for external funding organisations to support governments and utilities to "*devise innovative approaches for increasing access and upgrading the priority attached to equity in project outcomes*" but financial and technical sustainability still seem to gain priority over social benefits (ODI & SOAS, 2012, p. 20). While a push for private sector participation and marketization is clearly reinforced by influential bilateral and multilateral agencies and backed up by international agreements such as the Hague declaration and the Dublin principles, water activists have shown resistance arguing for water democracy and community-based resource management (Bakker, 2003). Multinational companies involved in WSS provision tend to concentrate on large cities and networked systems that hardly benefit poor and unserved areas of a city or small urban centres and ignore the fact that poor people use alternative and often multiple water sources to fulfil their needs (Uwejamomere & Northover, 2012; Interview 04, 2013). Due to defunct utilities small-scale water and sanitation providers are particularly active in small urban centres and low-income neighbourhoods (UN-HABITAT, 2006; Allen et al., 2006a). While they tend to be better placed to serve low-income households, e.g. allow flexible payments and disregard tenure status, they do charge more and efforts to bring their tariffs down are met with a number of challenges (see UN-HABITAT, 2006; Allen et al., 2006a).

They are nowadays increasingly integrated in the development of viable sustainable solutions. Investments for city-wide utility services would be far too great and this has led to small scale providers being gradually accepted as a legitimate stepping stone (Interview 03, 2013; IRC and WSUP, 2012). However, a general mismatch between micro-level needs and practices and meso- and macro-level planning and policies can

be observed[17] (Allen et al., 2006a; Nompumelelo Tapela, 2012). As a consequence, supply-led approaches based on conventional methods tend to benefit wealthier communities as there is no detailed assessment of who suffers from urban water poverty and how they could gain sustainable access. Loans provided by development banks further hinder a pro-poor approach since the financial burden is shifted to utilities that, in order to recoup investment and make a profit, pass the cost on to consumers (Uwejamomere & Northover, 2012). Thus, framing urban water poverty as a problem of institutional and financial incapacity appears to be frequently used to provide a retrofitted justification for the solutions implemented.

CSOs are trying to influence governments and service providers towards pro-poor services and increased accountability (Etherington et al., 2011; Interview 01, 02, 03, 04 and 06, 2013). CSO efforts often concentrate on increasing the capacity of service providers to serve the poor by improving their understanding of the needs and abilities of low-income people and developing incentives to adopt alternative interim service solutions (Etherington et al., 2011; BPD, 2013). One key component is the development of context specific tariff reforms[18] another is the push towards better regulation and monitoring in order to fill the 'accountability gap' (WaterAid, 2006). The government in Zambia has increased the accountability of service providers through enhanced regulation for water supply and the promotion of citizen monitoring through Water Watch Groups (WaterAid, 2011). Such initiatives have led to low-income people being recognised as consumers and represent themselves as such, but largely as individuals rather than a collective. In itself this does not tackle the root causes of urban water poverty and poor people's lack of recognition in more meaningful ways but could constitute a step in the right direction when combined with other methods discussed in more detail in Section 523.2.3. Water Point Mapping (WPM) in SSA portrays a similar approach to increase transparency and accountability through user involvement in service monitoring. In Zanzibar, customers of urban water supply are given the opportunity to report faults through 'mobile-to-web reporting' and track the

[1717] Research by Allen et al. (2006a) focusing on peri-urban areas of large cities has revealed that policy-driven approaches hardly reach the poor who frequently rely on needs-driven practices to meet their WSS needs.

[18] This relates very much to issues of affordability and will therefore be discussed in Section 3.1.4, with a focus on economic poverty.

utility response using a web-based information system (Welle, 2010). Similar issues with regards to the recognition of the urban poor arise whereby they are considered consumers. This is limited to those served by the utility. Moreover, this specific example is completely blind to gender roles in poor households whereby the women are frequently tasked with the collection of water and the men are the asset holders, i.e. with access to a mobile phone. Again, not every household among the urban poor owns a mobile phone and might therefore be excluded. Further issues raised in relation to WPM have to do with the baseline data. If this is inadequate it will be reflected in the quality of the maps created. Furthermore, the methodology is susceptible to manipulation and the main challenge seems to be governance-related and difficult to overcome. WPM can increase the evidence base but if this is met with lack of political commitment the information can be interpreted and manipulated to serve other more powerful interests (Welle, 2010).

3.1.3 Supply-led: lack of sector integration

The water sector is considered quite weak and fragmented, particularly the sanitation sub-sector with a reluctance for cross-sector collaboration, and it is argued that prevalent technical sector-based solutions will do little to solve the WSS challenge (Interview 03 and 06, 2013). The reluctance of many countries in SSA to prioritise WSS in political and financial terms within wider poverty reduction efforts is reflected in investments often below 0.5 per cent of annual Gross Domestic Product (GDP) in the sector for (UNDP, 2006 Interview 06, 2013). At the same time, excessive housing densities as a result of informal urbanisation and unplanned urban growth that flourish through the lack of a regulatory framework, together with a disjuncture between service provision and spatial planning and development have been identified as major obstacles to the sustainable and safe provision of services (Allen et al., 2006a). Where resources are limited a concern for the protection of water sources, and the environment in more general terms, seems to constitute a luxury. At the same time the widespread neglect of sanitation and absent city-wide sanitation systems lead to contamination from both households and industries (WaterAid, 2013; Hofmann, 2013; Interview 01, 2013). Evidence suggest that uncontrolled water abstraction and the contamination of water sources disproportionately affect low-income groups (Etherington et al., 2011; Interview 04 and 08, 2013). Inadequate access to services in

informal settlements has been associated with these areas' exclusion from urban plans in addition to unfavourable town planning regulations (WaterAid, 2013 Interview 02, 2013). The integration of WSS approaches into comprehensive urban development plans is seen as a suitable way to strengthen urban planning across cities and towns and address weak cross-sectoral coordination and integration. While this approach is not new, its application in the Global South has so far been limited (Etherington et al., 2011). Many programmes or projects tend to follow a sectoral approach without considering wider planning and development processes and could claim only limited success (e.g. see Breeze, 2012; World Bank, 2009, 2008). Examples of bad practice are used to establish a need for sector integration that considers resource protection and links WSS efforts to environmental sanitation and urban planning (Interview 01 and 03, 2013; WaterAid, 2012a). While there appears to be a missed opportunity to integrate WSS investments with other urban development, finding incentives to integrate different stakeholders remains challenging (Etherington et al., 2011; Interview 01, 2013).

Planning in small urban centres is considered even more chaotic and fragmented leading to "*hotchpotch development and hotchpotch water*" and it is argued that this is related to limited government funding designated to these municipalities (Interview 04, 2013). They are characterised by further fragmentation of institutional responsibility at the local level whereby water and sanitation are divided into different authorities with an additional separation in the sanitation sub-sector (UN-HABITAT, 2006). In the PUI specifically, the additional complexity of overlapping rural and urban jurisdictions and inconsistent status often lead to an institutional vacuum whereby nobody claims responsibility and the ineptness of planning seems to be even more pronounced (Allen et al., 2006a; Grant, 2010; Interview 04, 2013).

Current approaches

The way the problem of urban water poverty is framed within this hypothesis has given rise to yet another set of supply-led solutions. Current efforts to break existing sectoral silos seem to be largely rhetoric rather than a reality. Those supported by international development agencies often end up in an increase of financial resources used to fund technical solutions. The West Africa Water Sanitation and Hygiene

(WAWASH) programme funded by USAID is trying to bring different components together with $23 million spent on water, sanitation and hygiene (WASH), $4 million on climate change and $1 million on food security. While the programme offers potential for cross-sector collaboration, efforts of linking up across sectors are weak even at local level. Each funding component is dealt with separately involving different stakeholders, which is reinforced through sectoral work ethics and sector-specific donor funding streams (Interview 01, 2013; Etherington et al., 2011). Practical Action supported the establishment and scaling up of an Informal Settlements Coordination Group in Nairobi slums that is now supported by the World Bank's Water and Sanitation Programme (WSP) in Africa. Its purpose is to enhance coordination among the various stakeholders leading to concerted efforts to increase access to services (Practical Action, 2010).

A recent WaterAid programme focuses on city-wide planning for WSS. The NGO aims at increasing investment at local, national and international level in order to address the current financial shortfall and raise the profile of water and sanitation within broader poverty eradication efforts (WaterAid, 2009).The overall aim of the programme is to influence urban planning, support the work of (planning) authorities and trigger more investment in urban areas to achieve long-term and inclusive service provision (WaterAid, 2013). The emphasis lies on collating relevant (spatial) information[19] held within different authorities and sectors and share it with all stakeholders concerned as a first step to address institutional fragmentation and encourage cross-sectoral collaboration (Interview 02 and 06, 2013). While the programme specifically claims a pro-poor approach that ensures "*informal, peri-urban settlements and slums are incorporated, and aligned with existing broader infrastructure plans for the cities concerned*" (WaterAid, 2013, p. 2), it is unclear how this is going to be guaranteed. Despite the NGOs track record of working with low-income communities and local CBOs, the examination of existing WSS provision in the case study cities is undertaken without their involvement. This runs the risk of merely capturing WSS coverage with little information about the level of access for low-income households. Broad consultation and collaboration with additional local

[19] The focus in each of the case study cities is context specific but the programme general looks at urban planning in terms of infrastructure and service provision (largely water and sanitation but also transport and housing), climate change, flooding and sea level rise.

partners is envisaged if and when planning proposals are developed (Interview 06, 2013). This seems quite a tokenistic approach to participation and contrary to many CSO approaches emphasising community organisation and mobilisation among low income groups to enhance their recognition (Interview 02, 06 and 08, 2013; see also WaterAid, 2011, 2006). Instead, priority is given to gain the trust of decision-makers and raise donor interest to secure funding (Interview 06, 2013). If the programme gains support from international development banks as anticipated, benefits for the urban poor could be in jeopardy. Their preference for large scale infrastructure projects, financial and technical sustainability has already been discussed above. If urban water poor communities are not recognised and able to participate equally throughout the *whole* process it is unlikely that 'integrated' approach will move people permanently out of water poverty.

A new policy on land and housing in Windhoek provides an interesting example for small urban centres to address the inadequacies of conventional standards and regulations that can constitute a huge obstacle for low-income households to access land and services (UN-HABITAT, 2006). However, the success of this initiative was dependent on the mobilisation and organisation of urban poor communities and a partnership between the government and the Shack Dwellers Federation in Namibia rather than a purely supply-led initiative. This is an aspect that is discussed further in Section 3.2.3.

3.1.4 Demand-led: economic poverty

Framing the problem

Urban water poverty is often understood as poor people lacking the financial resources necessary to meet their basic needs. Particularly in an urban context poor households surviving on very low incomes have to make difficult decisions involving trade-offs between housing costs, service level as well as the distance to economic opportunities (WaterAid, 2012a). "*Because of this strong nexus between income and the quality and quantity of municipal services, there is a corresponding correlation between place and people poverty such that there are fairly distinct groups of poor people located in areas with poor facilities. This relationship is bi-directional: poor people live in poor neighbourhoods and poor neighbourhoods breed poor people"* (Obeng-Odoom, 2012,

p. 1141). Economic poverty is often seen as the determining factor that pushes people into urban margins where lower levels of service provision prevail (Interview 04, 2013). This could be related to physical movements whereby people with limited income might move into an area with higher levels of water poverty because of better income-earning opportunities, the prospect to lower the cost of accommodation or the possibility for a bigger space or ownership of a house (Interview 05, 2013). It could also be associated with fluctuating incomes that proliferates the vulnerability to economic shocks or tariff increases (Interview 02 and 03, 2013). In the rural-urban transition, many poor people struggle with the change from subsistence to a monetary economy and the associated payments for service provision. High connection fees (which can amount to as much as ten months to two years of a family's income) and the inability to pay fixed monthly utility bills have been identified as major obstacles for the urban poor to gain access to networked supply (Interview 02 and 05, 2013). At the same time, it has been acknowledged that low-income households frequently pay much more for water with a lower service level due to their reliance on alternative and often multiple sources (Interview 02, 04, 05 and 09; see also Allen et al., 2006a; Bosch et al., 2002). Utilities and donors often either assume that low-income households are able to make regular payments if they fall below a certain percentage of their income or discard them as paying customers because they are poor (Mcphail & Bank, 1993). *"[I]n the vast majority of capital societies, the struggle for access to water remains one revolving around the ability of some to be able to pay and the inability of others*" (Ekers & Loftus, 2008, p. 712). It is reductionist to look at urban water poverty solely based on class and discard the widespread acknowledgement that poverty constitutes a multidimensional phenomenon whereby poor people constantly have to cope with a number of deprivations affecting their lives, with economic hardship being just one aspect that influences lack of access to infrastructure and services (Baker, 2008; Mitlin & Satterthwaite, 2013). Many of these deprivations are interlinked and therefore being water poor in an urban context is often not a water and sanitation problem but "*a function of other things*" (Interview 03, 2013).

Current approaches

A number of approaches have emerged to confront urban water poverty as economic poverty. Connection and consumption subsidies are applied in a number of cities to help poor people benefit from access to piped water (ODI & SOAS, 2012; Interview 05, 2013). Other approaches include the allocation of a fixed amount of free water to fulfil basic needs (e.g. South Africa, Chennai and Mexico City) or at a reduced cost (examples include Ouagadougou, Accra and Dar es Salaam). These mechanisms are often considered as a positive move into the right direction (Interview 02, 03 and 05, 2013). However, in both cases the failure of or neglect for pro-poor targeting frequently paired with fraudulent practices have resulted in schemes that only partially reached those most in need (Hofmann, 2011; Interview 05; ODI & SOAS, 2012). Even if pro-poor targeting was improved and access to services increased this is very much a supply-led initiative where the poor are passive recipients and benefits might be limited or short-lived. Although the case of free basic water provision in South Africa is often highlighted as a positive example (Interview 02, 03, 05) the benevolent nature behind it is seriously questionable. The initiative was not instigated out of health and well-being concerns but rather as a mechanism to lower administrative expenses to deal with and recover arrears; this might explain the inadequacy of the amount allocated for free (Harvey, 2007; von Schnitzler, 2008). Thus, such free allocations are part of the commodification process of water whereby the poor enter into regular tariff structures once they have used up their allowance (Harvey, 2007).

NGOs through their involvement in utility reform have been trying to increase access for the poor, e.g. through context-specific tariff reforms, e.g. including subsidised tariffs, pre-paid meters and flexible payment mechanisms and through the diversification of service providers. The latter can prove particularly useful for small urban centres where poor households tend to rely on a range of alternative forms of service provision (Allen et al., 2006a; UN-HABITAT, 2006). The emphasis lies on choosing appropriate services and tariffs in consultation with the beneficiaries and instituting a relationship between service providers and poor communities (Etherington et al., 2011). The last point is particularly concerned with providing low-income groups with a voice as legitimate consumers, e.g. "*by reporting leaks, organising users to pay bills, preventing illegal connections*" (Etherington et al., 2011,

p. 28). NGO involvement has in many cases achieved positive improvements increasing access for the urban water poor and reducing their spending. In Uganda, the utility has acknowledged the challenge of flexible payment regimes operating among service providers supplying the urban poor. Through a project of the National Water and Sewerage Corporation in communication with WaterAid the utility has introduced a mechanised token system for water payments whereby low-income households gain access to water charged at the official rate through water points with prepaid meters (Etherington et al., 2011; Interview 02, 2013). Recognition of the urban poor is limited to their role as customers and thereby shifts the focus of such initiatives to redistribution from a supply-led perspective. Water meters first and foremost increase the chances of profit for the utility but meeting the water needs of a poor family or household might represent an expense that is difficult to meet (Interview 05, 2013). Pre-paid water meters have been criticised for being a "*technological culmination of neo-liberal policies…..bent on ensuring not only cost recovery but handsome profits*" for governments and utilities (Harvey, 2007, p. 127). Responsibility lies with the consumer to optimise their consumption based on economic reasoning rather than health considerations (von Schnitzler, 2008). for the context of small urban centres where a substantial proportion of low-income households is involved in water-based livelihood activities such schemes are inadequate (Hofmann, 2011; UN-HABITAT, 2006; Satterthwaite, 2006). From a government point of view, this mechanism provides an opportunity to extract revenue from low-income people, often living in informal settlements, without the need to grant them formal recognition (Interview 05, 2013).

The approaches and instruments discussed tend to affirm and reify the economic inferiority of the urban poor, albeit in different ways, and fail to tackle the roots of economic injustice let alone cultural or political injustice (Fraser & Honneth, 2003). The poor, albeit their customer monitoring role, are dependent on the good will of the decision makers who tend to prioritise economic gains over social benefits. Pakistan where local government was reluctant to extend piped systems because of the profit they made selling water to tankers (Interview 05, 2013) is a very good example. Other approaches exist that are trying to combine efforts to increase access for the urban poor with livelihood initiatives that aim to lift poor people out of economic poverty and enable them to pay for WSS as well as enhance service sustainability (Interview 08,

2013). Such combined approach seems to be more suitable in tackling economic injustice but still fail to address issues of recognition and representation.

3.2 Water poverty as misrecognition

Following critiques regarding the focus on maldistribution more and more scholars emphasise lack of recognition as the underlying cause for urban water poverty. This perspective adopts a multi-dimensional view of (water) poverty whereby lack of access to water and sanitation is an important aspect of a series of interlinked factors contributing to urban poverty and cannot be solely understood in economic and distributional terms (Mitlin & Satterthwaite, 2013). More and more emphasis has been placed on the right to water and the need for universal access as part of the post-MDG agenda. However, implementing that right is met with a number of challenges fuelled by existing social inequality at various levels (WaterAid, 2012a). The following sections discuss different hypotheses in relation to rights and entitlements for water and sanitation services. Section 3.2.1 focuses on broader human rights issues largely in relation to international and national conventions and declarations. Struggles to implement the right to water have also been associated with more specific issues around tenure and lack of empowerment and representation of the potential right holders. These are discussed separately in sections 3.2.2 and 3.2.3 respectively.

3.2.1 Lack of entitlement to universal access

Campaigns for a human right to water are often associated with anti-privatisation movements to guarantee citizens access to a life-essential resource and is advocated for by CSOs with support from international development agencies such as WHO and the United Nations Development Programme (UNDP) (Bakker, 2012). Opponents have argued that such approach is individualistic and anthropocentric with possible devastating consequences for the natural resource base and a human right to water does not necessarily imply that it has to be provided free of charge (Bakker, 2012). As a consequence, the right to water is being acknowledged and endorsed by a broad range of institutions, consisting of both pro- and anti-privatisation proponents but with obvious differences in explaining the problem of water poverty and how to solve it.

Thus, it remains a vague concept that can easily be appropriated by different groups to justify their agendas.

Over the last decade or so water as a human right has been associated with the discourse of sustainable development and thus linked to global issues of climate change, depleting water resources and population growth emphasising the link between the environmental and social sphere (Scanlon et al., 2004). This relates back to many of the issues discussed in section 3.1 but rather than framing it as a problem of maldistribution, the human rights discourse highlights the social implications of water poverty caused by "*poverty, inequality and unequal power relationships…. …..exacerbated by social and environmental challenges*", putting the spotlight on issues of misrecognition and misrepresentation (OHCHR et al., 2010, p. 1). Viewing the right to water and sanitation in relation to sustainable development has given birth to combining a rights-based approach with an ecosystem approach (Scanlon et al., 2004). While this seems to be well-established conceptually, issues remain largely around how such approach is to be deliberated and implemented to avoid the risk that wider and longer-term environmental benefits prevail over more immediate and localised social injustices.

"*Academics, human rights experts, NGOs worldwide, and the Commission on Human Rights have all promoted international recognition of a human right to water, their statements being based on the premise that the right to life and to development cannot be realized in the absence of the right to water*" (Scanlon et al., 2004, p. 13). Since 2010 the United Nations General Assembly explicitly recognises the right to water and sanitation and legally binds states to fulfil that right (UNW-DPAC, n.d.). This enhances potentially the ability to enforce the provision of water, push for government accountability and render human rights violations in relation to water more evident but is not sufficient to achieve universal access (Scanlon et al., 2004; Dubreuil, 2006). While many developing countries, e.g. Tanzania, Ghana and Burkina Faso, to a name a few, have endorsed the right to water and committed themselves to universal access through national laws and policies the challenge of how to apply this in practice remains (ODI & SOAS, 2012). Making demands for universal access on a system that does not have the capacity to deliver seems to constitute a major obstacle and practitioners are unsure about how to operationalise the right to water and

sanitation and bring it down to the local level[20] (Interview 03 and 04, 2013). Just like 'sustainable development' and 'good governance' the human right to water constitutes one of those 'nirvana concepts' that "*embody an ideal image of what the world should tend to*" without the answers of how to reach it (Molle, 2008, p. 132). Bakker argues that a focus on 'rights talk' reinforces the current public-private binary that prevents more innovative forms of alternative community economies of water and more equitable political ecologies (Bakker, 2012).

Another limitation related to framing urban water poverty within a rights-based approach is particularly concerned with the context of small urban centres where lower-income households still tend to rely heavily on water for their livelihoods activities. The right to water (and sanitation) acknowledge water as a prerequisite to fulfil basic human needs, which neglects water for productive purposes.

Current approaches

While the declaration of water as a human right does not mean anything to the urban water poor directly, it is considered "*a tool in the bag of the institutions that are ….applying the rhetoric of the rights*" such as NGOs and CSOs to pursue a rights-based approach (Interview 04, 2013). "*A rights-based approach is a transformational development process in which people are the drivers and subjects of their own development…..It implies a change in the power dynamics between those without access and the duty bearers*" (Gosling, 2010, p. 7). There are examples where members of poor urban communities have gained legal representation in their fight for water (see http://www.righttowater.info/legal-approach-case-studies/). While these cases cannot change 'dominant neo-liberal macroeconomic policy frameworks' they can provide a way to decrease urban water poverty in distributional terms by advocating against neo-liberal instruments applied at the local level[21] (Harvey, 2007). However, this is a lengthy process that does not result in immediate improvements and an outcome in favour of the claimants cannot be guaranteed (see Danchin, 2010; von

[20] Even though the 2010 UN resolution specifically states water *and* sanitation as a human right, the do not enjoy the same status. Sanitation tends to be implicitly linked to water rather than being equally prioritised (OHCHR et al., 2010)

[21] Members of a poor township in Johannesburg gained legal representation to question the adequacy of the quantities of water provided through the free water allocation schemes as well as the pay-before-use mechanisms that kicks in once households have used up their free allowance (Harvey, 2007).

Schnitzler, 2008; Loftus, 2009). Moreover, water poor communities are often unaware of their rights and lack the means to challenge existing laws and practices (OHCHR et al., 2010; Barlow, 2011; Dubreuil, 2006). While many institutions, particularly CSOs nowadays advocate for a rights-based approach that tackles deeply ingrained social injustices, its implementation overall is inconsistent (WaterAid, 2009; Klemm et al., 2012). Evidence suggests that the dependence on support from funding bodies that are more inclined towards neoliberal supply-led solutions often brings about solutions that might improve access to services but without tackling the underlying causes and no guarantee that improvements are sustained (Interview 02, 03, 06 and 08, 2013). The Ugandan initiative of pre-paid meters illustrated in section 3.1.4 provides a case in point where the right to water has been embedded in the neoliberal discourse. The initiative is referred to as recognising the right of citizens to water while also acknowledging the challenge of flexible payment (Interview 02, 2013). At most this might tackle urban water poverty in distributive terms but it constitutes a form of 'prepaid citizenship' (von Schnitzler, 2008) that neglects procedural rights and this is exemplified in the fact that water is provided on the basis of prepayment rather than entitlement.

The discourse on water as a human right provides a useful way of legitimising the struggles of those that currently suffer from urban water poverty in their wider claims for social and environmental justice and a framework to increase advocacy, accountability and support but it is still far away from offering feasible solutions to the problem that are context specific and embedded in local processes (Klemm et al., 2012; Bakker, 2012; Satterthwaite & Tacoli, 2003). As a result, monitoring the human right to water and sanitation is similarly flawed and supposed to take place at national, regional and international level, largely as a mechanism to hold states accountable for their obligations (OHCHR et al., 2010), e.g. through the judicial mechanisms discussed above.

3.2.2 Tenure issues

Based on existing limitations to operationalise and implement the right to water, it has been argued that a focus on property rights is potentially more fruitful in developing 'politically progressive strategies': "*Effectively realising human rights, in other words*

requires the articulation of property rights, water rights and the human right to water. This implies, for example, explicitly linking water access and land tenure and integrating the governance of water use and land use practices" (Bakker, 2012, p. 37).

The type of settlement people live in (largely formal versus informal housing) has been identified as a reliable proxy for the level of access to water (Nompumelelo Tapela, 2012). It is precisely in more deprived and informal areas where people lack access to services, and land tenure and tenancy arrangements are often highlighted in relation to people's ability and recognition to make demands on the WSS system (Interview 02 and 03 and 07, 2013). While there is agreement that deficient access to WSS in informal settlements is essentially due to lack of infrastructure investment, opinions diverge regarding how this is linked to people's settlement status. "*Proponents of land titling argue that illegality discourages capital investment and that legal tenure is the precursor and prerequisite for investment. Others suggest that it is security (i.e. not fearing eviction), not the legal title, that is sufficient impetus to invest*" (Scott, 2013, p. 3). The former argument is intrinsically linked to existing regulatory frameworks that can restrict access to services in settlements with an illegal or informal status[22]. Access to WSS thus implies meeting institutional requirements for a connection such as official registration of an address or a title to the land they occupy (Interview 05, 2013). "*In some instances the request from a community to get connected is bluntly refused because they do not own the land and there is no guarantee that the infrastructure will be safe. There is always that link between service provision by government to recognition of their right to be in that place*" (Interview 02, 2013). However, individual titles are not necessarily the most feasible solutions in fast growing cities (Urban LandMark, 2013b).

Tenants are in many countries entitled to basic service provision but enforcement in informal settlements is weak (Scott, 2013). It has thus been argued that the degree of an enabling environment or wider policy and regulatory framework is equally important and does not require legalisation of tenure (Homeless International, 2011; Aristizabal, 2004; Interview 01, 2013). Empirical evidence suggests that people's

[22] An example of this is the Zero Growth Pact in Mexico that has been set up to curb urban expansion and protect the environment leading to the 'legal' exclusion of households from service provision that have settled in an area after 1997 (Allen et al., 2006a).

vulnerability to evictions and lack of services is not influenced by (il)legality but rather dependent on security of tenure[23], which can be achieved through ways other than legal titles (Interview 02, 2013; Urban LandMark, 2013a). At the same time, access to water is seen as a major factor in determining people's sense of tenure security (Interview 07, 2013). It is therefore not an issue of informal occupation but about the level of recognition that residents of informal settlements experience (Interview 04, 2013).

Informal settlements are characterised by a multitude of tenancy profiles consisting of tenants in rental arrangements with on-site or off-site landlords and owner-occupiers. As tenants residing in informal settlements are frequently overlooked by formal systems their relationship with the landlord becomes important in the pursuit of accessing WSS (Interview 02 and 03, 2013). It is often assumed that tenants have access to on-plot WSS facilities but the incidence of them using shared or off-plot sanitation facilities, particularly with live-in landlords, is much higher compared to owner-occupiers (Scott, 2013). Therefore WSS solutions in informal settlements are very dependent on the make-up of tenancy profiles.

It has been argued that the issue of land tenure is less acute in small towns as there is more available space in comparison to larger towns and cities, e.g. for the construction of sanitation facilities (Interview 02 and 03, 2013). This does not necessarily apply to the PUI and some of the faster growing small towns. Land prices in the PUI might be lower compared to more central areas of a city but also reflect the absence of service provision. As these areas become more urbanised, low-income dwellers often have to compete over land with a range of more powerful stakeholders with a negative impact on their security of tenure (Allen et al., 2006a; Allen & Frediani, 2013). However, no matter where people are placed on the rural-urban continuum, when it comes to investments in WSS this seems to be closely associated with people's tenure status (Caplan & Harvey, 2010; UN-HABITAT, 2006). Based on experience in Nairobi, it is argued that the ratio of many tenants versus few resident-landlords and owner-

[23] Security of tenure can be defined in a number of ways: "the degree of confidence that land users will not be arbitrarily deprived of the rights they enjoy over land and the economic benefits that flow from it; the certainty that an individual's rights to land will be recognized by others and protected in cases of specific challenges; or, more specifically, the right of all individuals and groups to effective government protection against forced evictions" (UN-HABITAT, 2008, p. 5)

occupiers paired with a fast occupancy turnover impede service provision investments (Scott, 2013). Where landlords or others do invest in WSS there is generally a risk that this leads to increased rental prices that could be unaffordable for those with a very limited household income and push them out into areas where they are likely to find themselves back in water poverty (Interview 03, 2013).

Current approaches

There is a growing push towards people being able to realise their right to water and sanitation irrespective of their living conditions and tenure status (WaterAid, 2012a). This has been pursued in a number of contexts. One example is in Dhaka, Bangladesh where NGO efforts increased access to water by decoupling it from people's settlement status. The utility now sees those living in slum areas as valid costumers provided that the inhabitants can afford to pay a connection fee and make regular payments without the right to the land (Allen et al., 2006a; Akash & Singha, 2011). If the government decides in a few years to stop the service because the land does not belong to these poor communities, the utility has collected its revenue and recouped investments but at the same time a considerable number of people are thrown back into water poverty. As a consequence, the long-term success of such initiatives is heavily dependent on efforts to increase tenure security and protect informal settlements from eviction. Community mobilisation and the extent to which the urban poor are included and represented can play an important role in that respect; an issue that is discussed in more detail in the following section.

Another example of decoupling access to water from tenure rights is the Integrated Approach to Reducing Poverty (IARP) project in Mukuru, one of Nairobi's slums. This is an attempt by Practical Action in partnership with the city's water and sewerage company to increase services in informal settlements through collaboration with small scale providers and landlord, e.g. for the construction of stand-alone toilets (SATs) (Practical Action, 2010). The project has brought major reductions for the beneficiaries in the payments for both water and sanitation. However, water consumption remains low with 100-120 litres per family per day and it has been challenging to incentivise landlords to provide the space and the investment for SATs (Practical Action, 2010; Scott, 2013). Sufficient room for sanitation facilities constitutes a major challenge in

densely populated areas such as the fast densifying PUI where competition over land is increasing. It could be argued that poor people living in informal settlements became recognised by the water and sewage company, however, their inclusion in political decision-making still remains low. The big winners, it seems are the water and sewage company, small enterprises and participating landlords with good prospects for future profit.

Other examples exist where WSS provision has been tailored to different tenancy profiles, including tenure-neutral pay-per-use services; pay-per-use multi-household service contracts (requires shared set-up investments and shared bills) and infrastructure investments in settlements with a high percentage of owner-occupiers used for on-site and off-site facilities (Scott, 2013). They suffer from the same problems as the two initiatives discussed above and therefore can only be considered stepping stones towards more sustainable pathways out of urban water poverty.

A different approach is exemplified through various schemes of incremental tenure security. The Tenure Security Facility Southern Africa pursues a context-specific process of participatory land readjustment that aims at incrementally enhancing the commitment by authorities to recognise existing land management regimes in informal settlements and achieving tenure security that eventually results in titles or other forms of legal tenure (Urban LandMark, 2013b). In Bogota, the urban legislation process provides inhabitants of informal settlements with collective intermediate tenure until they gain official titles (Aristizabal, 2004). During that period, inhabitants benefit from a right to services and are protected from evictions. Group tenure in an urban settlement in Kenya has proven a relatively inexpensive way to secure titles and further allowed the community to keep the land and defend it against commercial interests (Bassett, 2007). A lot of the success with these initiatives relies on the mobilisation of poor communities and their dialogue with the authorities. The various cases consulted suggest that scaling up within and across cities remains challenging and still leaves many of the urban water poor without any form of tenure security (Aristizabal, 2004; Urban LandMark, 2013b). What is more, it is not clear whether these incremental mechanisms that increase the poor's recognition are in fact sufficient to trigger infrastructure investment and tackle maldistribution.

3.2.3 Lack of empowerment

Framing the problem

Over the years alternative narratives have emerged to counter predominant supply-led discourses around lack of infrastructure, managerial inefficiencies, institutional incompetence and financial deficits. "*The right to water and sanitation is, in fact, not just a right to subsidised services but a means to ensure that water and sanitation fulfil a social and environmental collective function and that the most disadvantaged groups in society are effectively empowered to have a say in the decision-making process*" (Allen et al., 2006a, p. 36). Particularly NGOs and CBOs have been arguing that urban water poverty is due to the fact that poor communities do not have the power to leverage for the services because they lack a voice and political clout in decision-making (Interview 04 and 07, 2013). Urban water poverty thus becomes an issue that cannot be simply solved by the WSS sector but needs to consider underlying socio-political concerns. There is a strong believe that lack of social organisation and mobilisation and cohesiveness among the urban water poor leaves them vulnerable to corrupt systems and legal depressions with little scope to make demands for better access to services (Interview 02, 03, 04, 05, 07 and 08, 2013). However, "*[p]olitics is never simply about individuals following separate courses but about social influences affecting choices and involving the relative mobilization of different groups*" (Agnew, 2011, p. 469). Such approach further recognises the knowledge and capacity within poor communities whereby they know best what their needs are, rather than someone external telling them, since they are the ones that have been the victims of unjust distribution of WSS but might lack the means to be recognised and have access to and influence over information and decision-making processes (Interview 02, 03 and 04, 2013). In fact, even the World Bank and the UN have acknowledged the importance of poor communities and their organisations in leading the efforts to tackle the WSS challenge (The World Bank, 2003; UN Millennium Project Task Force on Water and Sanitation, 2005) Leadership among urban poor communities is considered an important prerequisite and less fragile if it is shared among a group of leaders rather than concentrated in one person (Interview 03 and 04, 2013).

In the context of small urban centres, it is argued that greater social harmony and support for community organisation and mobilisation, which constitutes an advantage for community-led service provision, e.g. community-led total sanitation (Interview 02, 2013). Again, this might be true for a specific type of small town with limited migration patterns but cannot be generalised across the whole range of small urban centres. Lack of social cohesion and the redefinition of social structures in urban areas are often triggered by migration patterns and high levels of newcomers that can be characteristic for certain peri-urban areas (Hofmann, 2011). This would suggest a higher emphasis on the individual or family unit compared to rural areas (WaterAid, 2012a). However, lack of WSS in an urban context is not an individual problem but a social one (Interview 07, 2013). Particularly in the case of sanitation, inadequate access does not only affect individual households but can have severe implications for neighbouring ones as well.

Current approaches

A lot of the approaches of civil society to tackle urban water poverty are based on organising and supporting groups of the urban poor in order to enhance their chances to become recognised and make demands (Interview 02, 2013). The primary strategy for CSOs rests on community mobilisation to enable poor urban communities to be informed and educated as to where the pressure points are and make demands as a united voice (Interview 02, 04, 05, 06 and 07, 2013).Many CSO initiatives go beyond the dominant state-market framework and focus on local capacity building, social organisation and community-finance mechanisms before entering into dialogue with other stakeholders. There are nowadays quite a few examples where poor urban communities and their organisations use their insight knowledge to produce detailed information about informal settlements. Surveys and enumerations are used to initiate a conversation with government agencies that puts these unrecognised communities on the map of urban planning (Homeless International, 2012; Cain & Mulenga, 2009; Patel et al., 2012; Adubofour et al., 2012; Makau et al., 2012; Hooper & Ortolano, 2012). Savings schemes and community enumerations are often part of the parcel of wider slum upgrading programmes that simultaneously tackle tenure insecurity, unhealthy housing conditions and inadequate service provision. Active participation of the urban poor is emphasised in order to increase their ability to prioritise and

represent their interests and enhance their negotiation power (Interview 05 and 07, 2013; Alam et al., 2005; Homeless International, 2012; Ettyang, 2011; Homeless International, 2011). Community mobilisation at local level that is supported by national and international organisations (e.g. national and international CSOs and organisations of the urban poor - National Slum Dwellers Federations and Shack/Slum Dwellers International) can further strengthen the power of communities vis-à-vis policy-makers and government (Alam et al., 2005; Ettyang, 2011; Patel et al., 2012).

CSOs and poor urban communities have also entered into monitoring arrangements with the government where they are tasked with undertaking regular assessments against government indicators (Interview 04 and 07, 2013). By explicitly engaging with government frameworks this provides an opportunity to influence government policy and work towards more inclusive planning and decision-making processes. In Angola, the information that poor communities generate through regular city-wide mapping and monitoring displays detailed information about access to services (down to the very household) and indicates which areas in the city are moving in and out of water poverty (Interview 07, 2013). This quite powerful information is used to exert political pressure and push for more pro-poor solutions, e.g. through community management models whereby elected community water associations or small community enterprises become intermediaries between the water company and the water users to leverage access and the revenue generated is used for maintenance, network extensions and other community benefits (Cain & Mulenga, 2009). In contrast to some of the initiatives discussed in Section 3.1 where poor urban communities largely participate as individual customers providing information to the utility for increased efficiency and better management, knowledge becomes power that can be used to initiate a relationship where the urban water poor gain better access to WSS *and* become recognised as legitimate stakeholders. "*When information is power when it is in the hands of communities as the state needs the information, the press needs the information, the urban planner needs the information….when this information can be jointly owned and collected and verified by these various different actors it becomes actually quite powerful as an influencing mechanism"* (Interview 07, 2013). Through their knowledge generating activities, poor urban communities can make important contributions to urban planning and WSS improvements considering that in most SSA

countries more than 70 per cent of the urban population live in informal settlements (Hooper & Ortolano, 2012).

NGOs often act initially as an interlocutor between the duty-bearers and the urban poor at the same time as strengthening the capacity of the latter to eventually take over that role (Interview 04, 2013). The question is whether such initiatives are able to leverage government practice, i.e. become recognised and institutionalised with the potential of being scaled up, since CSOs cannot achieve universal access (Interview 07, 2013). Quite a few examples have demonstrated not only major improvements in service provision for the urban poor but further strengthened local leadership and bargaining power among them through their critical engagement with existing governance structures (see the cases on the Orangi Pilot Project in Pakistan and community-managed toilet blocks in India in UN-HABITAT, 2006; and various examples of WaterAid's Citizen Action Programme in WaterAid, 2006). However, gaining support from governments and decision-makers can be a slow process that is met with various challenges. All too often localised efforts do not move beyond self-help initiatives and divert the attention away from structural root-causes. "*People can improve their own circumstances – but the form of people-based development is crucial. Residents of towns and cities must feel that they own water projects aimed at improving water access*" (Obeng-Odoom, 2012, p. 1143). There is thus a risk of community-managed solutions to let governments 'off the hook'. Even more, for the water poor to permanently move out of urban water poverty the transformation of existing governance structures is required that not only asserts but also executes people's right to water. Institutionalised forms of citizen co-production whereby citizens and governments engage through an equal platform in the management of water offer some good examples (Allen, 2012). However, the battle against urban water poverty cannot be fought at the local level alone. Tackling those injustices requires confronting the prevailing market-driven development paradigm, which requires action at all levels and not just locally and nationally (Barlow, 2011).

The initiatives discussed are helpful in opening up space for 'alternative community economies' embedded in a just governance framework. However, there is also a risk of idealising community control. "*Much activism in favour of collective community-based forms of water supply management tends to romanticize communities as coherent*

relative equitable social structures, despite the fact that inequitable power relations and resource allocation exist within communities" (Bakker, 2012, p. 33). Community-based initiatives are not always able to fully tackle issues of exclusion, provide affordable services to all and build equal capacity among the urban poor and therefore do not automatically represent viable solutions for everyone household among the urban poor (Alam et al., 2005). Fieldwork conducted by the author in Mumbai on a number of community relocation and rehabilitation projects and programmes led to question the inclusiveness of some of the urban poor federations.

4 Conclusions

Water poverty along the rural-urban continuum

The hypotheses of urban water poverty discussed demonstrate a clear divide between maldistribution and misrecognition. The narratives in each grouping can be associated with distinct epistemic communities that tend to coexist independently from each other. While none of the hypotheses openly disregards different structures along the rural-urban continuum, when looking at the application of the solutions put forward their priorities start to emerge. As captured in Table 2 hypotheses of redistribution tend to focus on large cities as the supply-led solutions proposed are not particularly suited to the context of small urban centres. What is more, the dominant focus on technical and financial aspects neglect the variance in governance arrangements in different urban centres. Consideration for small urban centres within narratives of recognition is more variable. While the macro-level discourse on entitlement and universal access largely fails to become operationalised at local level, approaches to tackle land tenure issues seem to be dominant in larger cities with insufficient examples in small urban centres. Instead, initiatives that tackle water poverty through community mobilisation and empowerment exist across the rural-urban continuum. Considering the importance of small urban centres in future scenarios of increasing urbanisation more attention needs to be paid to that particular context within a wider understanding of water poverty and its varying characteristics along the rural-urban continuum. Figure 1 in Section 2.1.2 constitutes an initial attempt to present key features that influence water poverty along the rural-urban continuum. This is by no means complete and would benefit from further elaboration with a potential to explore whether there are critical thresholds that can be established.

There is an urgent need to incorporate the specificities of the local context for an adequate comprehension of the urban water poor in more disaggregated way and the factors that influence their water poverty trajectories. While there are many deficits in the current dichotomy of urban versus rural, a universal definition of water poverty can be misleading. However, it would be equally unhelpful for policy and planning to limit analyses to those two categories as different localities and circumstances carry a diversity of water needs. Suitable mechanisms to monitor and assess water poverty in

the varying urban contexts are still far and few between. Tools such as the WPI and WPM have been largely developed for the rural context and subsequently applied to urban areas but with limited success. Approaches that tend to analyse the problem from a single perspective or scale ignore a whole range of stakeholders that will be crucial in the development and implementation of just and sustainable solutions.

Table 2: Water poverty solutions along the rural-urban continuum as applied by the different hypotheses

	Hypotheses	Large urban	PUI	Small towns	rural
Distribution	**Supply-led:**				
	3.1.1 Water scarcity	x	-	-	-
	3.1.2 Lack of institutional capacity and financial resources	x	-	/	-
	3.1.3 Lack of sector integration	x	-	/	-
	Demand-led:				
	3.1.4 Economic poverty	x	?	?	-
Recognition	3.2.1 Lack of entitlement to universal access	Largely macro-level discourse			
	3.2.2 Tenure issues	x	?	?	-
	3.2.3 Lack of empowerment	x	x	x	x

x applied - not applied / isolated examples ? no clear evidence of application

Why are we still missing the plot?

It is not necessarily the goals and targets established in relation to urban water poverty that have been faulty but the routes chosen to analyse and address the problem that explain why most efforts over the last few decades have led to limited achievements. By scrutinising the hypotheses of urban water poverty through different lenses of justice and from a critical political ecology perspective it become evident "*how power relations have been forged and upheld under the guise of scientific rationality*" within the hegemonic discourse (Trottier, 2008, p. 212). As exemplified in Section 3.1, dominant responses focus on technical and financial improvements and institutional reforms that are internationally acceptable (i.e. marketization and private sector participation) while conveniently sustaining current power relations that generate and nurture existing inequalities and dependencies. Accordingly, progress is monitored and assessed through aggregated indicators that allow for international comparison and disguise inequalities of access within cities and towns. Power relations that are being upheld have created uneven waterscapes within the city that are characterised by

disparate access to WSS whereby the poor experience water scarcity while the wealthy enjoy its abundance (Budds & Sultana, 2013; Ioris, 2012). How water is circulated within the city depends as much on institutions and their practices as on the hydrological cycle; it is thus not only shaped socially but also socially endorsed (Bakker, 2003, p. 337). As has been demonstrated, many framings of urban water poverty tend to be blind to this leading to broad-brushed technical solutions that lack to understand who in the urban context is water poor and why and therefore neither achieve greater access nor enhance recognition. The water scarcity hypothesis and others discussed in Section 3.1 exemplifies the difficulty to obliterate hegemonic narratives despite the opposing empirical evidence as they serve powerful interests and appeal to many because of their simplicity. Efforts where CSOs have critically engaged with hegemonic discourses have so far been met with varied success. Much research concerning water and sanitation is funded by bodies with a declared stake in maintaining a certain narrative concerning the global water crisis and it remains difficult to challenge dominant views and values (Interview 03, 2013). It could be argued that the commitment by the big and powerful players concerning bottom-up and participatory approaches towards the recognition of the urban water poor have only paid lip service to such approach in order to silence the critics.

As emphasised through the discussion, separating redistribution from recognition leads to a 'reductionist or essentialist exercise' (Allen & Frediani, 2013, p. 375) whereby only part of the issues around urban water poverty are being addressed. This applies equally to efforts focused on recognition. As Section 3.2.2 exemplifies, recognising poor people's right to tenure does not necessarily achieve distributional justice. Similarly, localised self-help initiatives that fail to engage sufficiently with the current frame of decision-making in a critical way can be equally weak.

Reconciling redistribution and recognition

Effective pathways out of urban water poverty need to aim for both equality of power and wealth and this, according to Fraser, will lead towards parity of participation (Fraser & Honneth, 2003). In the case of urban water poverty, a fundamental part in the aim towards parity of participation is the issue of representation and inclusion of those lacking access to WSS in political decision-making while enhancing distributional

aspects. "*It will thus not be superficial solutions based on technical expertise, administrative reforms, or new technologies that will be effective in providing water to the poor in the Global South, but rather measures that enable people to reclaim control over their own hydrosocial relations*" (Budds & Sultana, 2013, p. 278). The most viable approaches to date have been those where urban water poor communities become actively involved and enter into dialogue with the authorities in a process that enhances both the distribution of goods and rights, with examples across the rural-urban continuum. Of particular interest is the increasing number of locally-driven initiatives that were able to be scaled up and institutionalised. Critical engagement with government policy and technocratic approaches through the application of alternative mechanisms in the delivery of services and the monitoring and assessment of access levels can lead to positive and sustainable outcomes as exemplified through some of the initiatives discussed in Section 3.2.3. "*Even if debates are never fully exhausted, the principle of constantly reopening debates, exposing shortcomings, discussing concepts, engaging opposed views, deconstructing generalisations, in other words tirelessly promoting openness, scrutiny, and accountability, remain the central recourses available to actors who find their interests undervalued or ignored, as water projects are conceptualized and implemented. These are means to forestall debate closure (or reopen 'settled' debates) and effectively challenge the neutralization or exclusion of particular alternatives, viewpoints, or social groups*" (Molle, 2008, p. 150). The fundamental question is whether processes of participation embedded in the various hypotheses continue to uphold current power relations that have led to the subordination of the urban water poor and their unequal access to WSS or whether they have the potential to address the underlying causes and create spaces for true representation.

Institutional analysis and the limitations

A general trend can be noticed whereby governments and international development agencies have placed themselves firmly within distributional discourses. Even if many profile themselves as aiming towards increased pro-poor increased access, their emphasis on sector reform and sustainable investment is evident. The situation with CSOs appears to be more varied. Many convey urban water poverty through their vision and mission as an issue of maldistribution and misrecognition. Such critical and

comprehensive understanding does not always travel down to specific programmes and projects on the ground could be associated with a disjuncture between policy formulation and the delivery of programmes and projects on the ground. However, this is only an initial hypothesis that needs to be further substantiated. WaterAid's city-wide urban planning programme seems a missed opportunity to integrate top-down and bottom-up approaches from the outset and it could be argued that preoccupations to raise funding have prioritised the former. Having said that, CSO have been vital in initiating interesting and innovative schemes that constitute viable stepping stones towards sustainable pathways out of urban water poverty.

From the interviews conducted a certain bias can be noticed in relation to people's disciplinary background, which as expected seems to guide their preoccupation and focus in the debate on urban water poverty. Due to limitations regarding the time to conduct the research and the fixed word limit this report is only able to instigate an institutional analysis that needs to be pursued and deepened as the research continues. Moreover, the limited number of interviews conducted so far hindered a more meticulous analysis of people's positionality within institutions based on gender, age, experience and background.

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Annex 1: Interview guide for qualitative interviews

Name:	**Disciplinary background:**
Institution:	**Gender:**
Position:	**Interview date:**

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1. Since when have you been involved in the water sector and in what capacity?
2. What is your understanding of urban water poverty? How do we know if people in cities live in water poverty? (ask for case illustrations)
    a. Is there a difference for cities in Sub-Saharan Africa compared to urban areas elsewhere in the Global South?
    b. How does it differ compared to rural areas?
    c. Are there significant differences in relation to the 'size' of an urban area (large cities vs. small towns)? If so, how?
    d. How is urban water poverty currently monitored and how effective are these mechanisms in your view? (explore institutional mechanisms vs. other assessments/indicators)
3. Why do people fall into water poverty in urban areas (what gets them into water poverty)?
    a. What are the key factors?
    b. How do current agendas/approaches (at different scales) deal with this problem? How appropriate/effective are they?
    c. What is the approach of your institution and how might it differ? (case illustrations)
    d. Do you differentiate in your approach between large cities and small towns/cities? (case illustrations)
4. How do people get in and out of urban water poverty? (explore with reference to large cities vs. small urban centres)
    a. What conditions or variables are significant in that respect? (case illustrations)
    b. How easily can some of these conditions be changed?
    c. How fragile is that potential change (vulnerability to fluctuation in any of the variables)?