

Successful Water Management?:

A Case Study of the Community-Led Approach Used by

Fass Chakho Village, The Gambia

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Abstract

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Although the Gambia has attained its water target of the Millennium Development Goals, many people in the country are faced with the threat of water insecurity. This problem is more critical in the rural areas where several communities have defaulted from the private sector-led maintenance of water infrastructure arrangement in place due to the government rhetoric and support by donors to keep the water systems working. However, in the quest for an alternative arrangement of water infrastructure management, the traditional method of water management and security is explored. Such is the case at Fass Omar Chakho, a small community at the North Bank region of the Gambia. It uses people-led water management approach to ensure water security and efficiency in its management. While multilateral donors and government promotes the use of the private sector as community partners in managing their water infrastructure, the management approaches at Fass Omar Chakho offer a more appropriate and acceptable alternative for rural communities and a more efficient financial model, thus ensuring water security and sustainability for rural communities.

The thesis proves that common property regime is a more viable financial model for community since it reinvests profit in the community, increases water output, has a higher community payment rates, upholds good governance and participation and is more culturally appropriate. Data collected from water management committee, opinion leaders, women and other participants at Fass about their perception, knowledge and practice as well as their track record on water management indicated that community-led approach is a cost effective, efficient, appropriate and acceptable alternative for rural communities. As a result of which, it ensures Water Security and sustainability because it is inclusive, relatively cheaper and takes into account the community dynamics in its decision making process thus ensures continuous availability of water.

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Chapter 1: Introduction

Introduction

Like many other developing countries, water is also a pressing issue in the Gambia. Its domestic water use largely consists of ground and surface water fed by the tributaries and short rainy season between the months of June to September. Water sector has direct and indirect contributions of about 20% of the GDP (Government of the Gambia, 1987). About 17% and 7 % of the rural and urban population are without access to water respectively. The largest water user was agriculture with 67%, followed by domestic sector with 22% and industry with 11 % (FAO, 2008).

Since 2000, access to water in the Gambia has improved to the extent that government projections indicate it will exceed the expectations of the Water Millennium Development Goal target by 2015. Several rural and urban water supply projects were undertaken and provided hundreds of community with improved water supply. Many small communities received solar powered water reticulation systems for the first time in their history, providing them with an adequate supply of clean and safe drinking water. The Government of the Gambia and its multilateral partners funded majority of the projects (Carol, 2008 p. 2).

Despite these interventions, water insecurity remained a threat in rural areas mostly due to the lack of financial viability of their maintenance model. One of the preconditions for receiving solar powered water systems for the rural communities has been to enter into a maintenance agreement with a private sector company for the water infrastructure with the view that such maintenance regime would keep the water system

running and make it sustainable. This plan was problematic from the beginning as it ignored existing community water management knowledge, while many arrangements failed as private companies began overcharging for community water usage. In the end, this system failed to meet expectations (Carol 2008, p. 2). Currently over 85% per cent of communities have defaulted or failed to honour their contracts; forcing some back to getting water from their unsafe local wells, and putting many more at risk of water insecurity if their structures breakdown (Carol 2008, p. 2).

Although the private sector's technical expertise and operational capacity to maintain rural water infrastructure is recognised by the Water Resources Department, the communities purchasing power failed to match their expectations of the water management agreement (Gambia National Water Policy, 2006). The amount of money owed to contractors by the communities stands at an unsustainable proportion and risks taking them out of business (Carol, 2008). In 2013, out of 59 communities that signed maintenance contracts with private companies only six currently hold such contracts (Pardy, 2013 pp. 2).

Given the enormous challenges facing communities and the private sector partnerships in addition to the fact that markets are unreliable, volatile and subject to the whims and manipulation of corporations, a more participatory approach is required if the water gains are to be sustained.

Community participation also goes beyond co-signing contracts and collecting water fees. It is a process of several stages starting with the conception of the project to its closure. Local management knowledge, culture and history of water management were

largely denigrated in favour of conditions imposed by donors. As a result, the marketization of water, a product that many communities believed to be their unalienable right and a common property that under any circumstances should not be sold, private sector-led management received a backlash from the very communities that it signed contracts with to “assist”. Reports such as Pardy’s 2013 revealed gaps around private sector-led water infrastructure management as well as identified potential benefits and strengths of Common Property Management Regime as an alternative in the rural areas.

While most of the communities whose water management was private sector-led had challenges, Fass Omar Chakho whose management is entirely community-led have had no issues. This study will seek to understand how and why has Community-Led Water Management at Fass Omar Chakho village of the North Bank region of the Gambia succeeded where market-led management has failed.

Literature Review

Water Scarcity

Water as an essential for life’s sustenance and yet it is a finite resource that has always been at the centre of human development (WHO, 2009). It has been a subject of human interest for over 5000 years and its management and protection have also been core value of many civilisations well before any core scientific enquiry backing the benefits of the protectionist (Charles and Johnson, 1988). It is estimated that nearly 800 million people do not have access to water globally and billions more live on little or unsafe water and many more with threatened sources of water (Chan, 2013). About 1/5 of the world population inhabits areas where water is physically scarce (WHO, 2009). Even

in places where there is enough rainfall, water scarcity can be present due to improper management. The absence of physical infrastructure to harness water from the rivers and aquifers also limits access in developing countries (WHO, 2009). One in every three people in the world does not have access to right quality and quantity of water they need (WHO, 2009). The health implications of poor water quality include dysentery, typhus, plague, trachoma and other diseases (WHO, 2009). Currently 10% of global food produce is watered with wastewater and from contaminated sources affecting the quality of the food and transferring those chemicals in to humans (WHO, 2009). The scarcity of water can hinder the attainment of MDG 7.

Water security is defined as “the availability of, and access to, water sufficient in quantity and quality to meet the health, livelihoods, ecosystem and production needs of populations, coupled with an acceptable level of water-related risk” (European Report on Development 2012:5). FAO also indicated that over a billion people live on less water than required for their needs corroborating the scarcity problem (FAO, 2006). While lots of initiatives have been taken to address it, the exponential growth of human population in the last decade coupled with the dwindling of water sources, makes access to safe water arguably one of the biggest development challenges of our time. In the 1990s, over 250 million cases of water borne diseases were reported annually excluding diarrheal diseases. Diarrhoea alone accounted for 4.7 billion cases annually (WHO, 2000). The World’s Water Report 2005 estimated that about 5 million water related deaths occur annually out of which diarrheal, which is mainly water borne, stands at 2 million. In 2006, 1.03 million deaths were associated with an inadequate water supply, sanitation and hygiene; with an additional 550,000 deaths being attributed to poor water resource

management and unsafe water environments (WHO, 2008). The U.S Bureau of Census estimates that by 2020, the global population will reach 7.5 billion most of whom will be living in developing countries where scarcity is even worse. If the trend of the year 2000's in terms of annual deaths directly caused by water scarcity continues, by 2020 the number of people who will die of water related disease would reach almost 2.6 million annually. This would sum up to about 50 million people dying of an unnecessary and preventable death between 2000 and 2020 (World's water, 2004-2005).

The water scarcity problem is compounded by the fact that conditions attached to receiving funding for water projects propagate privatisation delivery systems especially in the rural areas, which over time failed to achieve the desired result of sustainably. These conditions not only threatening gains made by the water projects, but also could have an adverse impact on people. Water scarcity could increase water borne and water related diseases, which are among the highest causes of death among children in Africa and cost governments millions of dollars to treat. Thus safe drinking water contributes to the improvement of health and wellbeing of people, increases productivity, reduces poverty and enhances gender parity (UN, 2006). Thus, the need to address such menace cannot be overemphasized as rightly indicated by Charles, "an ounce of prevention worth a pound of cure" (Charles and Johnson 1984). Additionally, improved access to water and its effective management can have a spiral impact on the socio, economic, environmental, health and even cultural benefits on a community, thus forming the basis for development of societies. United Nation Water warns that the consequent of poor water management can be devastating to several dimensions of sustainable development, poverty, economic development and environmental protection.

It further added that “unattainable development pathways and governance failures have affected the quality and availability of water resources, compromising their capacity to generate social and economic benefits. Demand for freshwater is growing. Unless the balance between demand and finite supplies is restored, the world will face an increasingly severe global water deficit.” (UN Water, 2015).

The water situation in Africa varies from one country or region to another. While some countries are on track to meeting the millennium development goal for water by cutting to half their population without access to water, most are no closer to achieving it (Banerjee and Morella, 2011). Less than one-third of the households have secured access to water. About 15 per cent of households receive piped-water through household connections and another 15% through stand posts. Wells and boreholes are still the common form of water supply in the continent covering 37 per cent of households (Banerjee and Morella, 2011). The rest of the population rely on surface water for their daily subsistence. 4% of the rural households receive piped water compare to 38 per cent in urban Africa. Low rate of pipe water also reflects the relatively low rate of urbanisation in Africa (Banerjee and Morella, 2011 pp. 34). 80 per cent of rural households receive their water from boreholes, wells or surface water. Richer areas that are mostly towns and cities have more pipe borne water than rural areas thus indicating that income and urbanisation are directly linked to access to safe drinking water. Proponents of urbanisation argue that; the bigger population helps bring down the cost of water due to the economics of scale thus making urbanization more attractive for water services (Banerjee and Morella, 2011 pp. 34). The cost of water services in Africa is the highest in developing countries. Reflecting the work of Diallo and Wodon 2005, Banerjee

indicates that in most countries of the region, the disparity of access to water is even larger than that of income. Similarly, the distribution of new water connections in recent years is also more unequal than that of income (Banerjee and Morella, 2011 pp 36). Therefore, it is safe to argue that the reason for lack access to water in Africa is not only limited to lack of investment in the sector or poverty but also improper management practices.

Access to water in general has not expanded to a large extent due to mainly rapid population growth and shrinking households (Banerjee and Morella, 2011). While population growth might be obvious, as income and education rise for many families in Africa, more people embrace a nuclear family system disengaging from the traditional household of an extended family; thus putting more pressure on the water expansion needs. While many hold the view that universal access to water challenge is a supply and demand conundrum, in Africa the problem is by and large a supply one. With increasing population growth, high infrastructure cost, high connection cost and illegal land tenure system, proper supply measures were hard to put in place.

Urban water sources in Africa are categorized in three thematic groups namely: countries with large urban populations whose water supply comes from wells and boreholes at the same time use the other sources to provide substantial coverage (Banerjee and Morella, 2011 pp. 43). Second: countries whose urban population largely depend on stand pipes for their water supply. The last category of countries is the one whose majority of urban dwellers have their water from household pipe connections (Banerjee and Morella, 2011 pp. 43). The rest of the people who are outside those cohorts access water from alternative sources such as: water vendors, rainwater harvesting,

shallow wells and surface water. These are mostly used where formal alternatives such as the private sector or public sector failed to deliver secured access to water. Cost of informal water sales from tankers and other water vendors are intrinsically linked to household connection rates. The lesser the household connections, the higher the informal water sales services (Banerjee and Morella, 2011 pp.43). Households' water reselling schemes are also very common occurrences even though it is illegal in several countries. Legalising it and other forms of water sales from boreholes, wells among others will greatly improve access (Banerjee and Morella, 2011 pp. 48). However, while access is largely improved for those who can afford it, this practice forces the poorest of the poor further out of the city and towns to access alternative and less protected sources. Water marketization has been the fad for most of urban Africa. As a result, those who can ill afford to pay like the inhabitants of African slums depend largely on contaminated sources of water thus putting the lives and health at risk. Furthermore, Water resellers are poorly regulated and can abuse the service by over charging the poor or deny access to people for other reason that might not be related to payment or sales.

Due to the fact that most of rural Africa depends on boreholes and wells as their main sources of water and closely followed by surface water which require a lot of effort to collect and transport, a significant burden is added on women who are the main providers of the household water supply in rural communities (Banerjee and Morella, 2011 pp. 49). Having the water sources closer to people can have great benefit on people's health and wellbeing. However, due to limited resources and poor maintenance, African governments have struggled to keep the water infrastructure functional all the time. Ethiopian water infrastructure research indicates that mechanized boreholes are more

likely to breakdown than hand pump wells. This could be attributed to lack of proper supply chain for its spare parts (Water and Sanitation Collaborative council, 2004). Aggravating factors such as poor choice of technology, low pump density, poor maintenance system, poor and immobile end users are also constantly present (Harvey and Reed 2006). While the rural population continues to dwindle and income inequalities between the urban and rural areas continue to rise, such a challenge is likely to be present for a long time to come (Water and Sanitation Programme, 2006). Although most African countries are not on track to meeting the Water MDGs, few countries have done a remarkably well in providing water for their people. Such countries include the Gambia, Senegal, Benin, Mali and Burkina Faso. Interestingly every country uses its own system of institutional arrangements (Banerjee and Morella, 2011pp. 58). Several instances of gains made in addressing water scarcity in Africa are being attributed to the success of privatization that promotes reforms to increase private sector based water management (Banerjee and Morella, 2011pp. 25). However, there are other players such as governments and the people led programmes that also play an important role in providing water. Different levels of government in Africa undertake rural water provision. In the majority of the countries, water service is provided for by the central government directly or through local or state governments and non-governmental organisations (Banerjee and Morella, 2011pp. 109). Private sector involvement in the rural area water management has been minimal in the past but sprung to prominence in the 1990s to 2000. In many countries rural water supply management has the mandate of the closest government to the community and in some cases responsibilities are shared with the community. Rural water department agencies are available in half of the countries and rural water policies

are also a common feature for most of Africa (Banerjee and Morella, 2011 pp. 110). Water points such as taps and boreholes are better mapped as compared to wells thus making planning more difficult.

Rural water supply in Africa therefore faces a plethora of challenges including but not limited to: lack of water treatment facility, limited budgetary funding, low disbursement efficiency, weak institutions, poor leadership, limited cooperation between local and National government, poor maintenance and rehabilitation strategies, unskilled local technicians, no community participation strategy which leads to an absence of ownership as a result, it requires more focus and attention (Banerjee and Morella, 2011 pp. 113).

Water Millennium Development Goal Target

Water is sine-qua-non to any development. Lack of it can adversely affect the attainment of all the MDGs. Recognizing its importance to development, the United Nation's, in setting up its development priorities for action in 2000 dubbed the Millennium Development Goals (MDGs), highlighted increased access to water as a key action point to meeting the goals. With the leadership and partnership of developed countries and donors MDGs sought to cut by half the proportion of the world's population without access to water, end poverty, hunger, malnutrition, improve health and sanitation and preserve the world's environment (UNESCO, 2006). Access to water also has a great bearing on the attainment or otherwise of other MDG targets such as health, education, the environment and developing countries' economy at large. World Health Organization estimates, every US dollar invested in water and sanitation in

developing regions generates an economic benefit of \$5 to \$28.6). Furthermore, in 2003, the General Assembly resolution A/RES/58/217 declared the period 2005-2015 International Decade for Action 'Water for Life' the starting of which coincided with World Water Day, March 22, 2005. The Water Decade aims to increase advocacy on water and galvanise efforts towards the attainment of water MDG targets (WHO, 2009).

While the expected costs for Water and Sanitation provision for the Gambia is about 638 Million Dalasi (US\$ 24 million) annually, which is about 1.2% of annual Gross Domestic Product (GDP). Just a fraction of that is invested in this sector. In 2009-10 AMCOW estimates that the gap for water supply is US\$ 37 million for water supply and a further operations and maintenance costs of US\$ 3million for water supply (AMCOW report 2010). These shortfalls impact tourism, environment, businesses and livelihood of many more people (Water for all, 2012). In 2008 about 880 children less than five years old died of diseases associated with poor water and sanitation in The Gambia (WHO, 2010).

So far access to water has increased globally. In 2010, 89 % of the world's population had access to improved drinking water sources such as improved wells, boreholes and running water, which is a significant, increase compared to the 76 % in 1990 (JMT, 2010). The number of people using improved drinking water sources reached 6.1 billion in 2010, up by over 2 billion since 1990. With that in mind, it is tempting to suggest that the MDG target of halving the proportion of the population without sustainable access to safe drinking would be met globally by 2015. However, much of that improvement occurred in Asia with China and India whose populations' account for

about half of the world's people taking the lead; thus their successes largely reduce the world's population without access to water even though they are only two out of many developing countries. The Sub-Saharan region however, also registered some modest progress. Since 1990s access to water increased steadily in Africa however, meeting the MGD target of 75% by 2015 will be a big challenge for many countries. Water contamination in the rural areas, global warming, little or no water infrastructure, bad water management practices, desertification, harmful cultural practices and beliefs, civil unrest, poor governance, stringent loans and grants conditions, population growth, rural urban migration, poverty, ill informed policy guidelines and low levels of education remain major threats to the region's attainment of the target (UN 2004).

The Millennium Development Goals (MDGs) propelled donor support and galvanised actions toward water projects across the African continent (Infrastructure Africa, 2009). Technical and financial supports from bilateral and multilateral partners substantially improved infrastructure and water output. However, due to poor water governance, ill sustainability and maintenance plan, improper infrastructure management policies, the population remains susceptible to water insecurity.

Despite the gains made with the MDGs, there are still about 300 million people without access to safe drinking water and sanitation. Population growth, low investments in water infrastructure and unfulfilled pledges by highly industrialised countries only exacerbates the problem (Kauffmann, 2007). By 2015, it is projected that there will be about 234 million people without safe drinking water. Overall, the water sector is largely neglected in the region and accounts for just 6% of all projects in the region (Analytica, 2011). Moreover, the World Bank estimated that about 16.5 billion dollars is needed

annually to achieve the region's water and sanitation MDG target; current expenditure is estimated to be at about 3.6 billion dollars annually. The potential for water security is very strong, however, due to limited infrastructure the African development bank indicates that only 6% of the region's hydro potential is tapped due to low lack of water storage capacity, thus requiring more than only financial resources but also technical and managerial efforts to increase its capacity (Analytica, 2011).

Water Management In Developing Countries

The debate for water management in developing countries is for the most part centred on state-led model, private sector led model and public private partnership. There has been steady shift in water management in developing countries since the end of the Second World War. With the push for neoliberal development agenda, market expansionism and trade liberalisation, multilateral funding agencies were also in full swing in the push for water privatisation. Thus water privatisation and water delivery systems were promoted as private products, taken them away from the public delivery and state run systems. By the mid 1960s, many developing countries have taken over the reins of managing and governing their affairs as independent and sovereign nations. At the top of their agenda was the provision of social services for which water was key (Wright, 2010). Water provision to citizens of the newly independent countries was in the hands of their governments (public sector management of water), which to some extent they made some modest gains. By the end the decade the world was hit with an oil and financial crisis that affected every country but more so the developing countries. Coupled with other factors, the financial systems of developing countries collapsed and structural adjustment conditions were employed to revamp local economies. Governments lost their

grip on many social issues to the private sector notably water provision. While privatisation did not fare any better than the public sector water management, the introduction of public-private partnership in 1990s was thought to offer a balance to incorporate two dominant models that had both failed to deliver on their promises.

Water Privatization

A shift in development approaches in the 1980s brought about by the collapse of many developing economies and the subsequent structural adjustment program, ushered in a neoliberal capitalist approach as the dominant development discourse. These events and their conditions led to changes in the outlook and policies of major donor and multilateral policies including policies affecting water management and delivery systems. Segerfeldt argued that privatization provides resources for investment and increase access to otherwise a segment of the population that could not have been catered for by the public sector. He also claims that the true beneficiaries of water privatization are the poor who would have cheaper water and better access (Segerfeldt, 2005). He added that the problem of water in developing countries is because the infrastructure needed to collect, purify and distribute is not available which the private sectors' money can help bring. Hardin for his part added that human beings by nature are self-centered and should not be trusted with common property. In his work the *Tragedy of the Commons* he made the proposition that human activities will at the end of the day only lead to tragedy to the common, thus management of common resources must be left in the hands of the state or the private sector (Hardin, 1968). Moreover, other proponents of privatization such as World Bank and USA see it as sine-qua-non to any form of development. On the other hand however, Swyngedouw argues that the fundamental theory that best describes

privatization is “accumulation by dispossession” which has also become a linchpin in contemporary corporate wealth accumulation (Swyngedouw, 2005 pp.81). He defines privatization as “ a process through which activities, resources, and the like, which had not been formally privately owned, managed or organized, are taking away from whoever or whatever owned them before and transferred to a new property configuration that is based on some form of “private” ownership or control”(Swyngedouw, 2005 pp.82). This can rightly be interpreted as a legalized form of theft of workers labour and from common property (Swyngedouw, 2005 pp.82). While noble people attempt to amass wealth the right way, capitalist and capitalism as observed by David Harvey expands by swallowing resources, peoples, activity, and land that was otherwise managed and used to generate a common good (Swyngedouw, 2005 pp.82). Privatization not only renders the unfair dispossession legitimate, but also desirable (Swyngedouw, 2005 pp.82)

Accumulation by dispossession unequivocally celebrates private ownership. However, Hardin alludes that it is a “utopian argument” and it optimizes output and enhances development for social good. (Swyngedouw, 2005 pp.83). Even though the dispossessed refuse to accept the “legal” theft, making money is also a distance reality under neoliberalism leading to conflicts, but due to the strong support from the state, the cartel continues on. For example the World Bank in the 1990s became more aggressive and introduced neoliberal conditions to its water related loans as it blamed failure of the public sector to deliver water services extensions in the 1980s. Thus water privatization and marketization became the order of the day (Hall, 2005 pp.19). While the results of privatization have been mostly called into question, it is undisputable that privatization ignores local knowledge and mostly does not deliver on its promises. Even though there

are instances of privatization “success” as mentioned above, its outcome from the accelerated water projects in Bolivia, Philippines and Argentina has shown that it is far from being the panacea to improving access to water (Conca, 2008). Overall, the debate on the effect of privatisation has been fairly conclusive on the fact that it has more negative effects than positive thus questioning its viability (UNDP, 2006). Due to the large funding support provided by proponents of neoliberalism however, its application continues to be strengthened and wide spread. In 2006 the USAID foreign aid on water and sanitation amounted to around \$1.5 billion. On the other hand, 16% of World Bank’s issued loans for 1993 to 2002 went to the sector (World Bank, 2004). Ultimately, by virtue of its contribution, the United States maintains 16.3% voting shares of the World Bank and 13.39% for international development thus giving it an overwhelming power to influence the Bank’s terms and conditions for water based projects (Conca, 2008).

Despite the fact that the Bank admitted the low performance of private sector in delivering water services to the people in the past, it remains reluctant about shifting the paradigm to a more people centred approach of water management, even though 90% of the people access water and sanitation services provided through a public service (Hall, 2005). Similarly, a report commissioned by WaterAid and Tearfund (2003) indicated that private sector participation policies do not fully tackle the critical water utility failure issues which affect the poor such as capacity building, community participation, institutional reform and finance, thus challenging their potential to achieve the Water MGD target (Conca, 2008). Furthermore, private actors and companies face realistic market risks such as takeover, disinvestments, geographical re-allocation, bankruptcies, inefficient operations, and political risks among others, thus posing a plethora of

challenges to providing efficient and sustained water operation which raises a question on the viability of market- based water management for water security (Swyngedouw, 2005 pp.98).

Public-Private Partnership

Local communities, social movement groups, and labor unions among others have overwhelmingly resented the push for privatization, mostly due to the fact that private sector investments are in many cases preceded with guaranteed rates of return, risk protection and other privileges thus ignoring the social and cultural aspect of communities in pursuit of profit (Hall, 2005). In an attempt to find a balance of public based and private centered approaches to water, World Bank and privatization advocates have more recently shifted towards the promotion of a more public-private partnership (Hall, 2005). Proponents of public – private partnerships (PPPs) argue that it increases available resources by combining government and private investment towards a specific goal (Skelter, 2000). They also believe that it creates a “hybrid” force to “share risk, and enhance understanding and cooperation between governments and the private sector (Skelter, 2000). This notion sets up a conflict between two parties with different interests. While governments’ goals are not for profit, the private sector is primarily driven by profit (Linder and Rosenau, 2000). Thus on one hand public-private partnerships are pro-people, but on the other hand can also be a smoke screen to legitimize the exploitation of the masses. Therefore it is questionable as a viable partnership to address the needs of the poor to manage their common pool. Even though in theory it seems to factor concerns of both interest groups, in practice it is far from the desirable. Between 2000 to 2004 a review conducted by U.S based NGO (Public Citizen)

found that 56 out of 60 world Bank funded water projects and 54 out of 60 funded by the U.S had provisions that were promoting privatization and cost recovery (Hall, 2005). Public/Private partnership and privatization might be a matter of semantics but their objectives will be very similar. It should be resisted because it ignores the nature of recourses as well as their rightful owners or even responsibilities (MCKean,1998).

Finally, central and local governments have provided water as a social service to the residents of their geographic area for centuries. As early as 1667, after the British forced the Dutch out of the New York City, the first Act taken was building public wells which were later funded from monies raised from families and public funds (Salzan, 2005 p.16). Since that time, authorities have always been at the centre of water provision and management. Even though remarkable successes were registered using public sector approach, there were many people especially in the rural areas without access to water. Failure of the public sector to deliver water services extensions in the 1980s even when banks made loans accessible was largely used by the Bank to justify its privatization policy of the 1990s (Hall, 2005 p.19). Even though other factors including the economic crisis at the time, corruption, mismanagement, bad governance, failed states were the order of the day and hallmarks of that time which adversely affected the public sector performance. The era of “Thacherism and Reganism” around 1990 was referred to as a “lost decade” for advocates for a public based water system due to the acceleration of privatization of water in several major cities of the south (Hall, 2005 p.9). However, the failure of transnational companies to deliver on their promises coupled with high water tariffs, several resistant movements have sprung up across the globe to counter the ideology of free market fundamentalism to return water to its rightful owners, the people

(Hall, 2005 p.9). The opposition to water privatization in developing countries is led by consumers, workers, environmentalists, other civil society groups and political parties (Hall, 2005 P.17). Their opposition to water privatisation largely due to price hikes, fear of job loss with the introduction of new management who are not answerable to the public but its stakeholders who care more about profit than workers and weakened trade union. They also perceive water as a public and an environmental good which should be in the hands of public authority instead of the private sector.(Hall, 2005 p.18).

So the quest for a better alternative is as valuable today as it was decades ago. Privatization of water has not worked to a large extent and due to bottlenecks bureaucracies government led water utility provision by the public sector has not made much difference in the lives of the public who need water either (Hall, 2005 P.9).

Common Property Management Regime

The challenge of Water Decade 2005 to 2015 was to focus attention on action-oriented activities and policies that ensure the long-term sustainable management of water resources, in terms of water quantity and quality, and include measures to improve sanitation. Achieving the goals of the 'Water for Life' decade requires sustained commitment, cooperation and investment on the part of all stakeholders from 2005 to 2015 and far beyond. Due to the fact that water plays a vital role in society as well as life's sustenance and has strong social and cultural relevance makes it all the more important and requires safeguarding. Without such a perspective, water security initiatives could prove to be futile (UNESCO, 2013). Reflecting the work of Cernea (1989), Lu argued that any sustainable resource development approach must take into

consideration the pattern of resource utilisation, but also social, cultural factors as well as rules and ownership concepts (Lu, 2001). Unlike Hadin, he and many other scholars such as Mckean argue that common property regimes enhances sharing property rights and ensures a common pool of good (Lu, 2001). A Common property regime is not free for all but has a structured common ownership, management rules and sanctions for lawbreakers (Lu, 2001).

Historically, reliable sources of water have shaped human settlement, civilization and subsequent development. It has also been central in early settlements (Salzaman, 2005). People led governance of water has always been key to ensuring quality and quantity of drinking water since earliest times through traditional laws and rules such as Jewish to Islamic water laws. Similarly, indigenous societies such as Zimbabwe and the Aboriginals in Australia have had impressive practices and law governing water. Ancient Rome like other early primitive and civilised societies have engaged in community-led management of its common pool (water). This gave them significant knowledge and skills over time in managing their resources with the use of culturally appropriate methods (Salzaman, 2005) .

Common pool resources refer to global resources and in some cases are people inclusive. Once one takes from the general good, others are affected because they all share it and once a part is withdrawn they will be left with less to share, thus making it a common property requiring common rules and regulations. Neither centralization nor privatization of its management might address everyone's need. However, to enable sustainable resource management, people management of local resources could be more

successful. Traditionally public goods (managed by government) and private goods were managed by the market (Ostrom, 2011), because common pool unlike public good is subtractive, for example the fish or water if someone catches or withdraws some, it affects the population of fish or volume of water you can catch or withdraw. As a result, it requires a common property regime that focuses on institutional arrangements for collective use, management and in certain instances ownership of natural resources (MCKean, 1998). Governments for economic gain have largely overtaken the management of countries' environmental resources; the proliferation of private sector led resource management has become a global fad (MCKean, 1998). It is said to increase efficiency, enhance incentives for investments and create incentives for resource protection and sustainability (MCKean, 1998). However, three critical questions remain to be asked: Who should have the legitimacy to hold the property rights of resources? Which rights should be transferred or used? What resources should be privatized? (MCKean, 1998).

People-led management of property, which is also referred to as Common Property Regimes have been efficient in managing resources in the past and can still be relevant in today. Although its disappeared technological, economic development contributed to its ousting, unfavourable legislations more than anything forced them out of existence. Therefore it left common property management out of the countries' plans to formalize property rights based on the argument that individual or public ownership of resources offers long-term protection and prosperity (MCKean, 1998). While some common property regimes have failed on the behest of advocates of public-private partnership and privatization, Mckeen persuasively argued that it would be a grave misjudgement to

dismiss it as a relic of “the past, intrinsically unworkable, or incompatible with contemporary society” (Mackeen 1998). Thus, instead of creating or destroying institutions and resources willy-nilly, it is important to investigate suitable regimes that have historically worked in a particular place and continue or expand their usage (Mackeen, 1998).

Common Property Regime is strategically more advantageous for people and communities for many reasons. Some of the resources traits like water make them very difficult to divide and or parcel between people or communities. For example the river travels across boundaries and cannot be claim by any single person thus necessitating collective management of its water. Similar, the environmental uncertainties and fragility makes common property all the more useful. The effect of disaster in one area is shared thus lessening its impact. Communities collectively support families and individuals who might not be in the position to pay for their water as a result of poor harvest or other disasters. Its goal of sharing and caring caters for the randomly deprived by allowing common decision-making and a sharing of resources.

Additionally, it becomes more desirable in “internalizing externalities and productive efficiency”. Instead of engaging in bilateral deals with other stakeholders, decisions are internalized and priority is attained based on the best interest of the common. It’s cheaper, less time consuming and above all better for the environment. Common Property Regime also provides and enhances administrative efficiency. Rather than individuals managing resources on their own property which may cause problems (for example every member of the community digging their own open pit well and attempting to maximise water extraction to the disadvantage of their neighbours),

resource management can be in the hands of the community organization thus reducing individual conflicts (Mackeen, 1998).

In as much as common property regimes can function effectively in communities and regions especially in the rural areas, their success requires political support, technical ability, and good governance. Communities must be allowed to operate unhindered by government in their attempt to be organized. People in the community have a long history of managing their resources with limited or no visible legal protection. Once such resource attracts commercial values however, people and communities tend to be brushed aside, dispossessed of their resources by market forces aided by the state as a result, shipping away from their community resources for profit.

The aforesaid conditions and attributes of common property resonate well with rural communities' culture and tradition of The Gambia. Hence its adoption and viability cannot be over emphasised. While this study does not entirely condemn other management practices, it does advocate for the maintenance of common property regimes in places where it has proven its worth in ensuring water security in the past. Mackeen alludes to that: "It is crucial, then, not to eliminate common-property arrangements where they survive; but, rather, to view common property as a legitimate and very suitable variety of private property in some circumstances when conducting property-rights reform, and to pay careful attention to the nature of the resources in question (are they common-pool goods?) before tampering with property rights to those resources" (Mackean,1998).

Critical to implementing common resources management are factors such as clarity of the boundaries of the resources, which enables maximum protection from the

community or group and also limits trespassing. Rules of usage of resources agreed to by everyone ensures maximum support and minimal mistakes, thus allow the protection and sustenance of the resources for posterity (MCKean, 1998) and (Arnold and Campbell, 1986). Additionally, rules have to be clear and enforceable making it easy to monitor and enforce and reduce misunderstanding and conflict in addition state punishments for violators must be in place (Mckean, 1992b;Ostrom, 1990). Furthermore, decision-making and usage must be fair, everyone must get what he or she deserves irrespective of social status (Mackeen, 1998). Solving problems should also be swift and inexpensive and disagreements should be addressed in the shortest possible time. Finally, power must not be seen as concentrated in the hands of few people. It must be separated among people or small groups to increase self-control.

Common-property regimes work better in societies or communities where people are used to working together and in addressing challenges than in a conflict with people who do not compromise. Institutional overlap: It is better in addressing an ailing or weakened institution with the culture of negotiations and compromise than in totally new places with people who have no history of working together or solving problems together. It requires local and national support to succeed. Such support should be backed by law and enforceable. Apart from the limited financial support it requires in the beginning, it should be able to pay for itself and not require subsidiary support. Where more than one community shares the common property, it is better to share portions and not allow overlapping of one community to the others. However this should be conducted and agreed to between or within the members of the common rather than being imposed by outsiders.

Thesis statement

This thesis will argue that a secure water delivery system in rural Gambia requires a management approach that factors in the water management history of people. It must incorporate local knowledge and culture. It must be sustainable and more importantly, it must be cost effective. Because communities demonstrated a track record of success in managing their other water sources such as generator powered borehole systems or open wells at a minimal cost. Thus, communities feel exploited when alternative management methods like the private sector-led water management are imposed on them as a precondition for receiving a solar-based reticulation water system.

Not only does community-led water management treats resources as common good belonging to the people and allows rightful ownership and management, but it is also more cost effective, culturally appropriate and sustainable. Unless water and its management are returned to their rightful owners therefore, the threat of water insecurity would remain in those communities. Thus this study will ascertain that community-led management of the common property, in this case water, can be a very good alternative to private sector-led water management in rural Gambia (Fass Chakho) because it's a more economically viable model, reinvests resources in communities and enhances the culture of reciprocity. Additionally, It is participatory and acceptable in rural areas thus, achieving significant success where market-led management has failed.

In order to support this position, I needed data on the amount and methods of payment, governance structure including representation as well as a sustainability plan of the Fass Omar Chakho community. The broader logic will be to understand what the

community did, how it did it and why they did it, its efficiency, cost effectiveness and sustainability.

Methodology

This section outlines research methods used in the study to argue the aforesaid thesis to prove that Community-Led Water Management at Fass Omar Chakho village of the North Bank region of the Gambia is a more viable economic model for local communities where as market-led approach have not done so well in that regard. The data collected to determine that included the community's history of water management, the cost effectiveness of its water management model, flexibility of their approach, its sustainability and acceptability of the approach by the people it serves with the aim of understanding the mechanisms that made it successful. Key informants such as policy makers and private sector officials were also interviewed and their perspective on the respective water approaches vis-à-vis rural water policy of the country was obtained. The perspectives of local water management committee, women groups and opinion leaders on their water management system as well as their reasons for resisting private sector partnership were also obtained. Interview questions are annexed at the end of this thesis.

Qualitative approach was used both to construct an understanding of the way in which community management worked and to collect the data. This is because qualitative research has the advantage of understanding attitudes, perceptions and behaviours within the context of participants' natural environment. It is also an effective study technique to gain insight into peoples' lifestyles, values, behaviours, belief system, their concerns or

motivations and to describe the subject matter in detail in its original language from the research participants (Siddiqi et al.,2011 and Trochim, 2006).

Case study of Fass Chakho community of the North Bank Region of the Gambia was undertaken and the water man. This is because of its unique water management model that seems to have succeeded where other models have failed especially the private sector led models. Secondly, the geographic location of the village (northern part of the Gambia) vis-à-vis with Senegal and the Sahara desert makes it prone to drought and until about a decade ago had no pipe borne running water supply. Also like all other communities whose solar based water system is managed by a private sector company (GAM-SOLAR), Fass Omar Saho also benefited from the Millennium Development Goals related water projects and has a local water management committee in place. Other than the highway that cuts across the north of the country, it has no paved roads. Consideration was also given to some extent to the availability of Internet and telephone services to ensure effective communication. Fass Omar Saho also has a multitude of languages with Wollof being the predominantly and some Mandinka, Fulani spoken languages. Finally, it was also accessible by motorbike thus making it cheaper to reach compared to hiring a car. Given the above circumstances, the community had no know advantage over others thus making its water management more unique.

As a case study, first, Fass Chakho's water management style was identified and described in detail. This was needed to ascertain the management regime in place, its aims and objectives and challenges and also how it provided details on its contribution to water security in their community. Secondly, its governance structure was also assessed and described using focus group discussions with the three core groups identified earlier

on. This was important because it indicated the full structure of governance and spelled out its gender dimension, fairness, representations, their roles and responsibilities as well as their tenure. Thirdly and more importantly to this study, the cost effectiveness of the management system was assessed during the discussions. This provided full picture and data on cost of water in the community as well as described their payment modality that ensured every member of the community contributed to the water management without default. Finally, the sustainability strategy of Fass was also identified and described in details through the focus group discussions. Participants were asked questions including; who maintained and sustained their water reticulation system? as well as the contingency plan they had in place should their infrastructure break down. This was very relevant as it provided details and ascertained the completeness of their water management model and its ability to provide water for the community for posterity.

The assessment of Fass Omar Chakho's people-led water management system and its viability to improving water delivery in rural Gambia was carried out in the summer of 2014 online and in the Gambia. For a period of 5 weeks, primary and secondary data were collected such as local documents; reports, water contracts as well as policies were also cross-referenced with government reports to ascertain my hypothesis. With the help of the team on the ground, focus group discussions were done on the ground while I facilitated and monitored the process through Skype and by telephone. Similarly, a sizeable number of semi-structured questionnaires (3) were emailed to the Department of Water Resources official and private sector company managing the water infrastructure in rural Gambia, which were responded to and returned. By collecting such

data, the thesis seeks to delineate community-led water management and its effectiveness in contrast to a private sector led one in rural Gambia.

Overall a total of 5 semi-structured questionnaires were emailed to 3 policy makers and 2 private sector companies in the water management sector. All but two of them were returned. This was done to elicit responses from people who propagated for the involvement of the private sector in rural water management as well as policy perspective on rural water management. Their responses provided data on donors, partners, and money spent on water projects for the period under review and rationale for the introduction of private sector companies in the management of local water infrastructure. The open-ended nature of the questions allows respondents to provide other information that could be relevant for this study and might have been left out.

Publications and documents were also obtained and reviewed during these interactions. Relevant documents obtained from the private sector and government department are: Gambia National Water Policy 2007, Willingness to pay study 2010, The Gambia: Proposal for an ADF grant Rural Water Supply and Sanitation Project, Maintaining Solar-Powered Water Supply System in the Gambia (*Project Review and Proposal for Renewal*), Gambia Water Resources Council Act 1979. Other documents obtained and reviewed from the National Bureau of Statistics, the Gambia Meteorology Department, and the Department of Water Resources websites and from the Gambia National Library archives and other United Nations agencies' website. Some NGOs providing water and water related projects such as Nova Scotia-Gambia Association, Child Fund and Muslim Aid International's websites also provided data on their sources of funding, choices of technology, selection process of beneficiaries and their

involvement of communities in the planning, implementation and sustenance of rural water projects were captured. Information gathered through this process facilitated the triangulation of the different information gathered from the community and the government and also highlighted the inherent dominance of neoliberal based approaches in almost every sphere of international development projects including rural water supply and management. It also provided data on the fundamental problems of water management.

The NSGA staff who are seasoned facilitators supported the focus groups' processes significantly by reading out questions, probing on answers provided and also recorded their response while I monitored the process on Skype and by telephone. Even though the technology failed from time to time the process went on well without my interventions. Groups were deliberately kept to a minimum to avoid unwanted distractions. The three category groups that participated in the discussions were; the women groups, opinion leaders and water management committee members. As key water management stakeholders in the community, their perspectives, motives and general experiences with the community-led water management model were facilitated. The water management committee, two women groups and two group of opinion leaders were interviewed and all totaling fifteen residences of the community participated. Selection of participants was based on randomization and snowballing. Community leaders helped to identify relevant water stakeholders in the community who were then consulted and helped identify other members of their committee allowing wider reach of the target group's community. This process facilitated not only the identification of respondents, but also located participants who otherwise would have been difficult to

reach (Berg, 2004). One of the sampled populations was the family heads also known as opinion leaders who often shouldered the burden of paying for the households' water and who make decisions on behalf of their families. Using focus group interviews; were asked about their payment methods, fees, tradeoffs they make to settle their water, and their participation in the decision making process. The groups provided details on the cost of water per household per month, the family burden and tradeoffs made to ensure water availability for the household, which is very relevant in the determining how such fees burden on the poor. The rationale behind selecting these groups was based on the fact that they are the key stakeholders and among the custodians of the water infrastructure in their community and they have most to lose if there is water scarcity. This is important for comparison with water fees charged by private sector-led communities as well as turnover rate for each model of water management.

A total of 4 members of the Community Water Management Committee (These are people mandated by the community to manage the day to day running of their water resources) participated in the focus discussions. As custodians of the water in their community, they understood the management system better than most others. Their perception of private sector management, their mandate, water management experience, the benefits of their approach to water management as well as challenges were asked. While they were mostly unanimous in their responses, sometimes they have a short heated debate mostly on dates or events that were irrelevant to the study. This process was also very important because it allowed participants the opportunity to share their experiences that might not have necessarily been asked or captured. The information collected provided details on the governance system, mandate and previous experience of

locally managing their water as well as the effectiveness and efficiency of community-led model as well as scope and impact.

Furthermore, three women groups (mostly housewives) with a total of nine people were interviewed and their experiences captured. This is because women in rural Gambia and Fass in particular are responsible for fetching and providing water for the household and water scarcity affects them more than anyone else in the community. They walk for miles in search of water sources depriving them of precious productive time. Two groups of women group focus interview took place at water point locations while women were waiting for their turns to fetch water while the third was at a house. They highlighted the challenges associated with providing water for their households, especially when their water infrastructure breaks down. They also provided data that was key to highlighting the advantages of community-led model and its impact on women in particular. Details of which are provided in chapter 3.

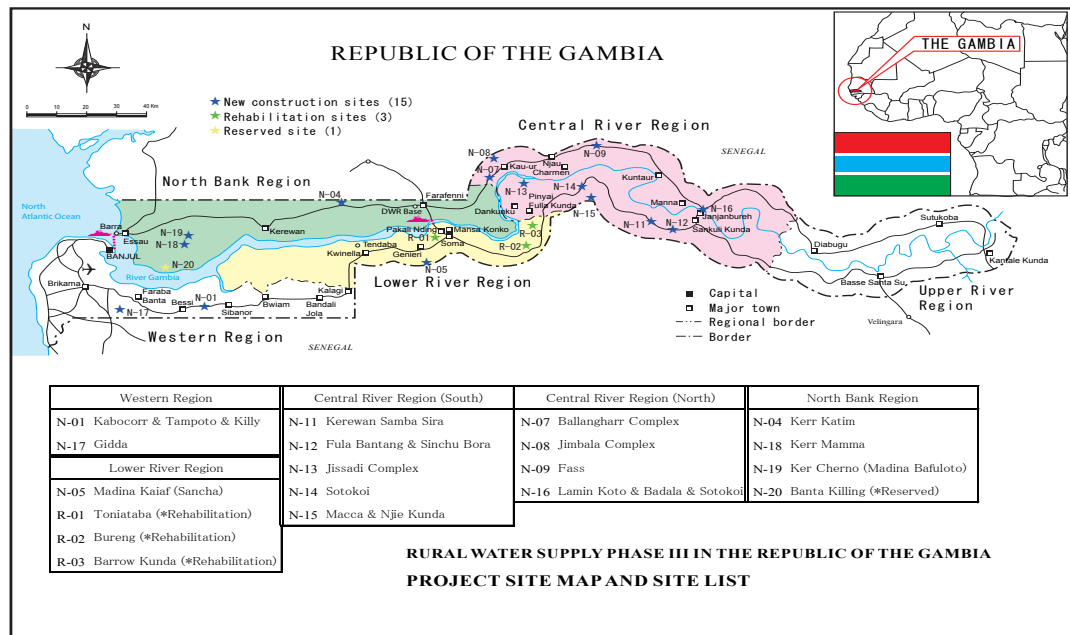
Subsequent chapters will discuss the historical progress of water management and various forms of water management practices in traditional and contemporary Gambia. In Chapter 3 the case study of Fass Chakho's Water Management Strategy is presented and described in detail. In the last chapter (4), the results are analyzed and discussed in more detail and bring out the issues that made community led water management succeed where the private sector failed.

Chapter 2. Water management in The Gambia – background and issues

Introduction

This chapter discusses the history and the more contemporary policy issues surrounding water management in the Gambia. It will explore the transition of water management from the public sector to the introduction of the private sector in its management as well as discussing the historical progress of water management and various common pool management practices in both the traditional and more contemporary sense. It will also look at the factors that led to those changes and their impact on Gambians.

Figure 1.1: Map of the Gambia and its location in West Africa



Source: Ministry of fisheries and water resources

Water management in the Gambia

As in many developing countries, water and sanitation have been and continue to be a pressing issue. Safe water is defined as “naturally occurring surface and ground water, whose chemical, physical and microbiological quality does not deter, in view of technological constraints, from its exploitation for human benefit” (Njie, 2002). The water resources in the Gambia consist largely of groundwater and surface water from the River Gambia. The sources are for the most part rain fed and in the case of the river from its tributaries. A variation on the short rainy season between June to September and early or late season drought could have a huge catastrophic impact on people and livestock (Gambia Government, 1987). It is the most limiting factor to agriculture and livestock production in the country. Quantifiable data on drinking water in the past has been about 20% of GDP over the period 1980 to 1986 (Republic of the Gambia, 1987).

Increased demand for water in rural and urban areas against the backdrop of drought put enormous pressure on the groundwater, thus led to the introduction of the Water Resources Act 1979 and subsequent establishment of the Department of Water Resources in 1980 providing the legal framework for public sector guidance of the water sector (Gambia Government, 1987). Among other things the department’s mandate included the rural water supply activities, which for the first time was given some semblance of recognition to the plight of the rural poor. Subsequently several rural water supply projects were implemented: (i) The rural water supply Gam/74/007 which built 228 wells and Rural Water Supply and Groundwater Development project Gam/82/008 an additional 250 wells most of which were equipped with hand pumps. Overall, modest progress was made in the rural water sector digging about 1000 shallow wells, 10000

traditional wells and 65 boreholes (Gambia Government, 1987). However, in the following decades there was a breaking down of many of the wells and boreholes due to a lack of maintenance and improper management. The structural adjustment programmes of the 1980s also saw the withdrawal of the state in managing peoples water to a very large extent. The World Bank in the 1990s became more aggressive and introduced neoliberal conditions to its water related loans as it blamed the failure of the public sector to deliver water services extensions in the 1980s, leading to water privatization and marketization becoming the order of the day (Hall, 2005 P.19).

Public Sector Management of Water 1965-1970

One of the priorities of several African states including the Gambia at independence was the development of their social sectors, importantly, the water sector and improving the lives and the livelihoods of their citizens. Moreover, the devastating impact of the drought of the 1970s coupled with the collapse of the financial sector, which led to the introduction of structural adjustment program, was a painful awakening for small developing economies like the Gambia. These events led the government into focussing on investing to increase water access for its population, environment and by extension economy (Njie, 2002).

The Gambia Utility Cooperation (GUC) was established in 1972 by an act of parliament to provide water and electricity for the domestic and commercial use in Banjul, the capital city and the other six regional centres (Access Gambia, 1987). This was an important step in the country's quest for improving its water service delivery but also to improve the health and income of its populace. GUC existed for many years and

provided people in the urban centres with reasonable water services. Subsequently, in 1979, water services were also expanded to the rural areas. The Gambia government enacted the National Water Act and later established the Department of Water Resources geared towards the facilitation of rural water projects and improved water access. By the end of the decade the rural water supply was significantly improved (Access Gambia, 1987). A common feature of this period has been government's leadership in the planning, implementation and maintaining of water infrastructure both in the urban and rural areas. Even though questions could be raised on its effectiveness on the stewardship of such a project, it cannot be denied that water services have improved for many people. However, due to the global economic crisis at the time, to poor maintenance and unavailability of spare parts required for maintaining the broken systems, the gains made were reversed downward. In the post structural programme, the World Bank and other donor partners shifted their loans and grants policies towards a more market based approach, thus dispossessing the government of its role in the water sector, This led to the privatization of some aspects of the water service industry in the case of rural water management and in other cases such as the GUC, it was sold out to the highest bidder (Access Gambia, 1987).

The move from Public to Public-Private Management of Water – 1994

The Second Republic of the Gambia, which was ushered in 1994 through a military coup d'état, only accelerated the neoliberal agenda. The GUC saw its privatisation and was bought by the Management Services Gambia Ltd (MSG) and during 1993/1994 utility holding corporation [UHC] was set up to provide utility services to growth centres of the Gambia. UHC was tasked to ensure asset profitability while MSG was awarded the

operation lease. After the end of MSG's lease in early 1996, the two came together to form the National Water and Electricity Company (NAWEC) in 1996 (Access Gambia.com). Historically, the pipe borne water supply by NAWEC has been largely limited to the greater Banjul area sourced largely from underground water tables and then provincial growth centres which were serviced when there was a need to do so using various other techniques and water sources such as the river or rainfall (Access Gambia). While Area Councils have legal responsibility for the water supply for their region, services are primarily delivered through specific donor funded projects and UN funded projects due to limitations in technical capacity (Access Gambia). As a result, many other government departments, public bodies, the private sector and parastatals also are engaged in water related projects across the country leading to overlapping or contradictions in some instances (Gambia National Water Policy, 2007).

After a short sanction by the international community due to the military coup which strained the country's economy and the water sector, the sector received a significant boost from local and international partners. UNDP, the Japan Co-Operation Agency, the European Commission and the Africa Development Bank spent approximately 836.6 million Dalasi between 1994 and 2004 on the water sector alone. Even though most of that funding was focused on improving the urban and peri-urban water sectors, the rural areas had also received some modest progress (DOSFNR, 2004). However there are still marginalised groups in the rural areas (Sanitation for Water for all, 2012). The overall expected cost for water and sanitation for the Gambia is about 638 Million Dalasi (US\$ 24 million) annually as estimated by the WHO, which is about 1.2% of annual Gross Domestic Product (GDP) and translates to an average Dalasi 350 (US\$

13.1) per capita annually, or Dalasi 462 (US\$ 17.1) per inhabitant. The World Health Organization (WHO) estimates that in 2008 about 880 children less than five years old died of diseases associated with poor water and sanitation in The Gambia (WHO, 2010). Therefore investing in the water sector is paramount for national development. Clean water also impacts tourism, environment, businesses and livelihood (Water for all, 2012). Similarly, water and sanitation education at the school level can improve school enrolment, enhanced attendance and completion, and at the workplace can increase female participation in the workforce. Hence, water and sanitation promote social equality and economic growth (Sanitation for Water for all, 2012).

Water Governance, Regulations, Policies and Frameworks in the Current System -2014

Water policies, legislation and usage in the Gambia are under a multitude of authorities and also incorporate regional and international conventions, multilateral undertakings as well as codes of conduct (Gambia National Water Policy, 2007). As a result of the signing of the following international policies and protocols, the Gambia agreed to adhere to best practices of water management and use but also to development milestones (Gambia National Water Policy, 2006).

As a signatory of the Ramsar Wetlands Convention, 1971, The Gambia River basin Organization 1978, International Drinking Water Supply and Sanitation Decade, 1980-90, Dublin Statement, international Conference on Water and the environment Janerio 1992, United Nation Conference on the environment and Development, Rio de Janerio, 1992, Bonn International Conference on Water, 2001, World Summit on Sustainable Development, South Africa, 2002, European Commission Framework Directive, 2000,

African Ministerial Conference on Water, 2001, European Union Water Initiative, 2002, Millennium Development Goals 2000 among others, the country's water governance and management is complex and evolving yet it has a global outlook.

Although the evolving of the country's water policy guidelines and use of internationally agreed standards is a good thing, it also compels the country to adhere to international norms and protocols. It challenges the sovereignty of a country's decision-making process and policy directions towards water management. One of the major effects of such partnerships is the policy shift from public based water management to a more private centred water management system. The UN Water Conference in Plata 1977 and subsequent Earth Summit and World Water Forum had consolidated the internationalisations of water resource issues and strengthened cooperation (Njie, 2002).

The responsibility of providing portable water for Gambians lies in the Department of Water Resources, and the National Water and Electricity Company (NAWEC) for the rural and urban areas respectively. With the urban areas considered to be any place with a population of 25,000 and rural areas to be places with population of 5,000 and below, a big gap of people in-between those two cohorts are left unattended thus requiring new strategies that incorporate their needs. As a crosscutting issue, the water sector is sometimes difficult to understand. The roles and responsibilities of the Department of Water Resources and Local Government Authorities are intertwined as enshrined in the Local Government Act which mandates local governments and National Water policy and can sometimes affect performance of one or the other. Civil society, NGOs and Community based organisation are also active stakeholder in the chaotic rural supply (National Water Policy, 2006).

Similarly, drinking water at the national level is also regulated by different acts and legal frameworks as well as different institutions and departments each mandated with different responsibilities and in some cases with overlapping mandates (Gambia National Water Policy, 2006). Gambia Utilities Cooperation Act, 1972, National Water Resources Council Act²², 1979, Public Health Act, 1990 and Regulations 1990, National Environment Act, 1994, National Water and Electricity Company (NAWEC), Company's act 1999, Hazardous Chemical and Pesticide Control and Management Act 1999, Waste Management Act 1999, Environment Quality Standard Regulation, 1999, The Gambia Public Utility Regulatory Authority (PURA) Act, 2001, Local Government Act, 2002, Nation Water bill, 2004 (draft), National Water Policy, 2006 are among the most notable. These policies, acts and regulations are implemented by different bodies and institutions and in some cases overlap in their responsibilities.

As a result of these aforementioned legislations, water management in the Gambia is well grounded in theory and law, however local people still face significant practical challenges. Water management and distribution have been guided over the years by public or private sector friendly policies and protocols. Common property regimes and community management are seldom featured as alternate management strategies. However, given the historic and cultural values of water to locals, common property regimes can be a viable option in many cases to address some contemporary management challenges they face (Ostrom, 2011).

Institutional Structures and Responsibilities:

The Gambia has a complex and multi-layered water management system. While the urban areas are mostly being provided with a piped borne water system by the Nation Water Company, rural areas depend on boreholes, wells and surface water for their subsistence. While the under funded Department of Water Resources and Local Area Councils continues to struggle to provide services for all, Village Water Management Committees and the private sector continue to manage the local water infrastructure.

At the rural area level, the Department of Water Resources is charged with the responsibility of implementing, supervising and monitoring of water supply programmes and projects in the Gambia. Working with different funding agencies, it managed to implement several solar powered based water systems. It facilitates the formation of Village Water Committees and support communities-private partnerships. The department's responsibilities will be discussed later on.

The Gambia's National Water and Electrical Company (NAWEC) was established in 1996 under the 1995 Companies Act of the Gambia with the principle aim of providing electricity, drinking water and sewerage services for private, domestic and industrial use (National Water Policy, 2006). It is mandated to provide water and electrical services, set tariffs, connect the public and private buildings, industries and agriculture to its water system in addition to outlining penalties for abuse or damage on installations (National Water Policy, 2006). From its inception to date, the pipe borne water supply by NAWEC has been largely limited to the greater Banjul area and sourced largely from underground water tables and then provincial growth centres using various other techniques and water

sources such as the river or rainfall (Access Gambia). As indicated in the table below, NAWEC services the entire greater Banjul region using groundwater which also puts a lot of pressure on the aquifers. More recently, as a result of population growth and the expansion of smaller communities close to towns, their services have been expanded to peri-urban areas. In the past, standpipes have been provided to every community in Banjul for free by the municipality. However, this has changed with individuals paying for their water-use directly to the company.

Figure 2: NAWEC WATER SOURCES

Well Fields	Boreholes	Status
Brikama	2	Operational
Fajara	6	Operational
NASA	1	Pending
Salagi & Jambur	13	Operational
TTC	1	Pending
Wellingara & Sukuta	11	Operational
Yundum	1	Pending
Estimates:		
Combined yield		50,000 m ³ per day
Existing demand		70,000 m ³ per day
Coverage		40% of Greater Banjul Area

Source: Access Gambia 2014

The primary water authorities in the local areas are the Area Councils. Since 2002, water supply provision has been the responsibility of local governments. The 2002 Local Government Act, amended in 2004 indicates that: “A council shall in its jurisdiction be responsible for the management, utilisation and conservation of water

resources” (National Water Policy, 2006). They work with the Water Resources Department and communities to ensure effective and efficient use of water resources.

Village Water Committees play a vital role in ensuring water security in their communities. In the past decades, rural communities in the Gambia relied mostly on wells and river water for their sustenance. Even though such open water sources were mostly accessible, there have always been local rules and regulations on its use. More recently, with the advent of the MDG related projects and World Bank conditions, the committees have become more organised and formalised. They are now elected by community members, are more gender sensitive and more accountable to their communities (Rural Water Supply and sanitation project, 2011). Key to their responsibilities is the operation and maintenance of the water supply facility. They collect tariffs, enter contracts in some cases with service providers to undertake repairs and maintain and operate assets directly. They engage local and central government in planning, mobilising and training to enhance their different skills (Rural Water Supply and sanitation project, 2011). They are crucial to enhancing success or otherwise of water projects and infrastructure management in their communities.

Similarly, Civil Society Organisations, Community Based Groups and Non Governmental Organisations also play a crucial role in water management especially in the rural areas (Gambia National Water Policy, 2006). Due to their credibility and track record of project implementation in the rural areas, many donor countries and organisations pass through them to provide water services for the poor. Their role in community development has evolved over time to include education, poverty alleviation, health service provision, agriculture and gender-related projects. These groups have

provided solar powered borehole systems, hand pump wells and concrete lined wells to hundreds of communities in The Gambia and have been instrumental in the country's goal of achieving the water related MDG target.

The private sector's involvement in the water sector has been in place for several decades. The use of Private Public Partnership has attracted investment and technical expertise from companies in the construction, management, and maintenance of water infrastructure (Gambia National Water Policy, 2006). In the late 1980s private sector companies provided services including construction, borehole drilling and water infrastructure maintenance (Gambia National Water Policy, 2006). The VM Company based in the Gambia and others provided maintenance of rural water infrastructure to several community and payments were based on the size of their supply system (Pardy, 2013).

However, the declaration of the Millennium Development Goals and subsequent funding increment and conditions in the water sector not only avail much needed resources for the developing countries, it also spurred the emergence of more companies to service demand for water infrastructure management. By 2003 there were about one thousand solar powered systems operating in The Gambia (Pardy, 2013). Leading donors such as the European Union (EU), Japan International Agency (JICA) and the World Bank attached the conditionality of "effective maintenance policy" as a prerequisite to accessing loans thus opening the flood gates of maintenance privatization in rural Gambia. By the end of 2003, Gambia Solar Energy and Engineering Co. Ltd entered into solar powered water infrastructure maintenance contracts with 59 communities requiring them to pay for their water use. To donors and supporters of the market based

maintenance system, such ventures ensure sustainability of water supply, however for communities who had always managed their water infrastructure, the introduction of a new payment modality and water management strategies were a new concept to them.

Competing Water Demands:

The need to understand the water need of the country in the future is paramount to any sustainable water management strategy in The Gambia. Identifying the key water need institutions such as farming, population and livestock as well as pricing and legal restrictions can be instrumental in addressing their needs (Njie, 2002).

The population size, lifestyles and the area one lives influence domestic water demand in The Gambia. The average consumption per capita for most rural dwellers is 18 liter/day whereas in areas impacted by the Japanese Integrated Water Use project, per capita consumption is at 35 liters. This number significantly rises in the Kombos to 70 litres/day. These are expected to increase with population growth, which is currently at 4% (Njie, 2002).

Just like the above, tourism and tourist lifestyles such as bathroom fitting, bath tubs, and water sports among other things shape the demand for water in this sector. Even though on average demand per capita are said to be higher than that of local, there is no data validating this claim. Furthermore, due to the dependence on global economic strength, marketing, politics and other factors that are not a given, projecting the amount of water usage for this sector can be a big challenge. However using bed occupancy projections, which are by no indication accurate, Njie assumes that if the investment

conditions are stable and current capacity increased by 160 beds per annum, the demand from the tourism sector per capita bed will be 130 litres (Njie, 2002 pp. 9).

Horticultural gardening in the Kombos and rice field irrigation mostly in the Central River Region are among the largest uses of water in the agricultural sector. Water needs for rice fields irrigation annually is estimated to be around 3000mm per year and 700mm/year for horticulture crops and during the dry season, these figures can increase by 20% (Njie, 2002). It is estimated that this could significantly rise due to population growth requiring more fields to be cultivated for crops. Water needs for this sector can rise to a staggering 480% with rice cultivation, which is the staple food of the Gambia accounting for 80 to 90 % of the demand (Njie, 2002).

Also, livestock production is a big burden on water resources. Other than their population increase, demand for water will also increase the production of their feed among other things. However projecting their water need will be difficult as it is dependant on several other factors such as drought, disease, government agriculture policy and environment among others (Njie, 2002 pp10). Water is also required for the environment to maintain the aquatic systems as well as industries for food processing, product packaging, cleaning and raw material processing in certain industries (Njie, 2002). This demonstrates that water demanding sectors are intrinsically linked and require a holistic system of management that takes into consideration the needs of every sector but also protects the needs of the future generations. However, even if the country experiences high population growth, high socio-economic growth, and decreasing groundwater recharge rates, the river Gambia, groundwater and projected rainfall over the next 50 years will enable the Gambia to have a surplus of 300% of maximum water

demand (Njie 2002). The big challenge will remain getting available water to where it is needed most. Poor infrastructure and management or poor transport systems can lead to “scarcity in the midst of plentiful” (Njie, 2002). As a result, water security depends largely on the viability of water infrastructure meeting all the demands from domestic and other sectors (Njie, 2002 pp 21).

Figure 1.2: PHOTO OF WOMEN FETCHING WATER IN RURAL GAMBIA



Source: Nuru Sey field visit

Millennium Development Goals Projects

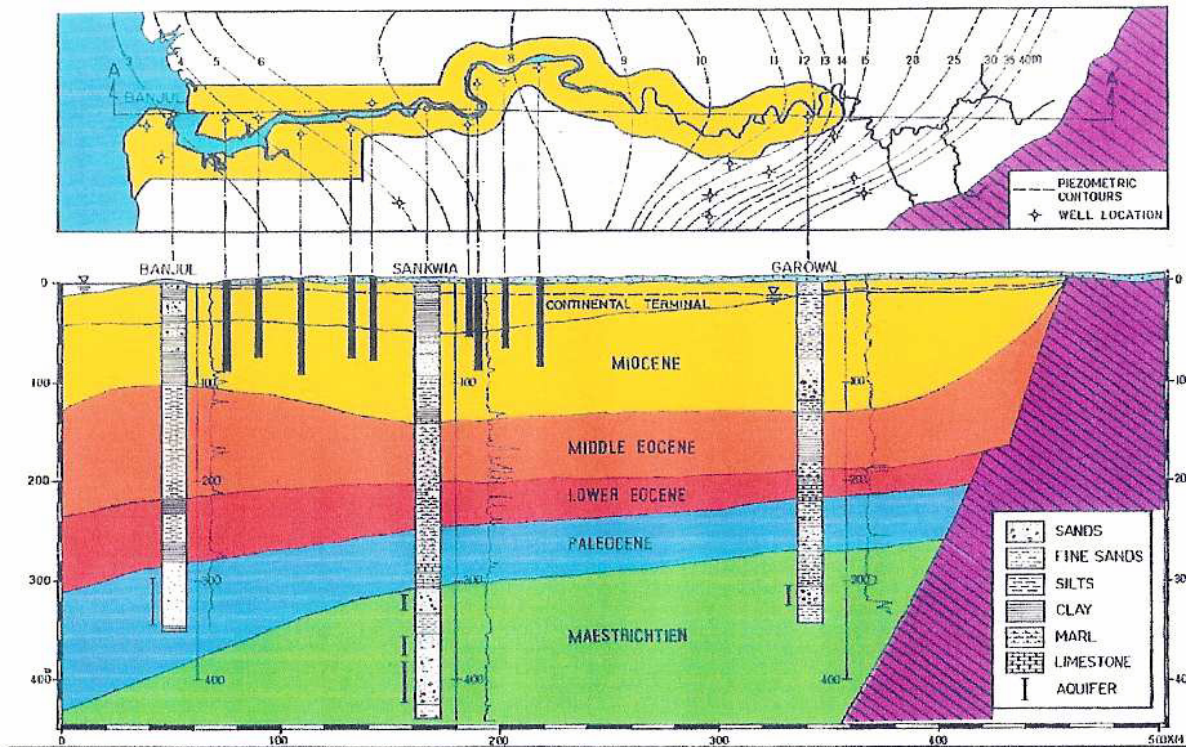
The best ways of spending donor resources to decrease the poverty rate was a major concern in the 1990s but more so was spending it in a way that was conducive to eradicating poverty (Girvan, 2012). Following a series of UN conferences targeting poverty reduction, the following targets were set, half the number of people living in extreme poverty; reduce child mortality by two thirds; reduce hunger and malnutrition by 50 per cent; reverse the spread of HIV/AIDS; and provide universal primary school among others. These were later affirmed at the Millennium Summit in 2000 to be achieved by 2015 (Girvan, 2012). While this pronouncement increased donor aid, only lip service was paid for social investments. Water is also critical to the attainment of several MDG goals without which many of those goals will not be achieved. It is a critical requisite and affects food security, health, energy and power status (African Development bank, 2011). Since the declaration of the MDGs in the 2000s, the country has received significant increases in development assistance in the water sector (The Gambia Rural Water Supply and Sanitation Project Report, 2011). Such efforts led by the European Union (EU), the Islamic Development Bank, the Japanese International Cooperation Agency, The Saudi Fund, UNICEF and the Africa Development Bank have to a large extent increased access to water in rural Gambia but failed to put in place an efficient water resources management system to protect the poor and the vulnerable (The Gambia Rural Water Supply and Sanitation Project Report, 2011). While UNICEF estimates that 86% of the population have access to improved sources of drinking water (UNICEF and WHO JMP Report, 2008), a lot more needs to be done to maintain it. Coverage is estimated to be 91.2% and 79% per cent in urban and rural areas respectively

(MICS, 2005/2006), however the river Gambia remains the second source of water for many communities in rural Gambia. River water is domestically used for drinking, bathing and other household needs thus it is also a major source of water borne diseases. Some socio-cultural and traditions held by some locals on the importance of drinking from the river only exacerbate the situation.

The Gambia is said to be on track for meeting the water MGD, however, my experience traveling throughout and living in the country has taught me that rural Gambia has an acute water and sanitation challenge. Regional disparities to safe drinking water still exist and most of the water project interventions are urban driven and neglect rural areas (Census, 2003). Returns in investment in water are very good. The World Health Organization estimates that every 1US dollar invested in water and sanitation in developing regions generates an economic benefit of \$5 to \$28.6. However, even as the country meets the water target, there are still about 17% and 7% per cent of the rural and urban population respectively without access to water. To have a meaningful progress worthy of commending, the water projects must reach the poorest and less fortunate. This might require more resources, although the possible benefits outweigh the cost. Moreover, for The Gambia to generate the desired improvements on water insecurity, community participation and policy reform must be undertaken. Several of the water projects implemented in rural areas since 2000 have had limited community participation in their planning and implementation, thus putting them at risk of failure and worsening the threat to water security. This is aggravated by the fact that some of the projects use “inappropriate technology”, lack of human resource to maintain them, and experience a lack of rural water supply policy and the adoption of inefficient management strategies.

This is aggravated by the dropping water tables due to drought, unaffordable water fees levied by private companies and broken water infrastructure.

Figure1.3: Groundwater occurrence in the Gambia



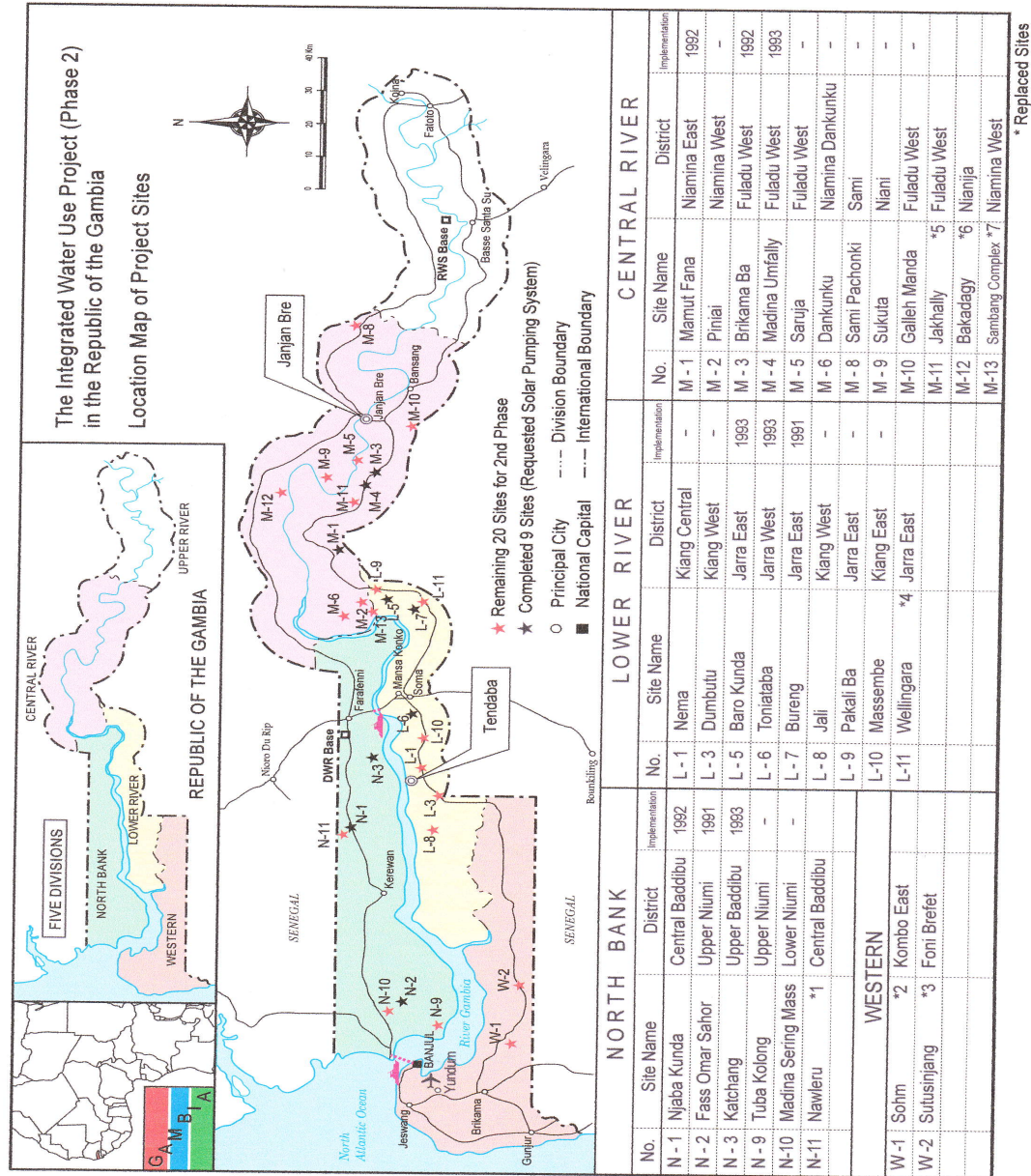
Source: National Report on the Adaptation of Water resources

Solar – Powered Water System Management:

In the last decade The Gambia has witnessed unprecedented increases in solar powered water reticulation systems in the rural area. It is estimated that as much as one thousand systems have been installed and is likely to increase in the near future (Carol, 2008 pp 2). With funding largely coming from bilateral and multilateral partners of the Gambia, emphasis was made on the need for a more inclusive and sustainable plan. The Department of Water Resources facilitated the formation of Village Water Committees

(VWC) to spur community participation. VWCs mobilized their communities, established maintenance funds and charged users fees for water collection in their villages. The Water Resources Department introduced private maintenance contractors to communities and facilitated the signing of contracts between the parties (communities and the private sector) (Carol, 2008 pp. 2) to ensure sustainable functioning of the water infrastructure. In the beginning, parties collaborated effectively and user fees were regularly paid to the private companies. However, the contracts for the most part ended even before they began. Both the communities and the private sector failed to fulfil their part of the bargain. While community resistance was blamed on exorbitant fees paid to the private sector whom they felt were taking more from them than they gave back, the private operators asserted that meeting the maintenance and operation cost from the community was a challenge (Carol 2008, pp. 2). By the end of 2013, Out of 59 sites that signed up for such maintenance contracts only six currently hold such contracts (Pardy, 2013pp. 2). The contracts arrangement failed mostly because they were externally induced and not a viable economic model for the community. General participation was low, local knowledge and experiences were by and large ignored, it was expensive and not flexible enough to incorporate the community dynamics.

Figure 14: Map of Intergraded Water Use Project phase 2 in the Gambia



Source: Gambia Department of Water Resources

Although one of the preconditions to receiving solar – powered water systems mostly from the European Union and JICA (Japan International Aid), was for

communities to agree to a maintenance plan largely with a private sector company. Communities agreed to it because water was a pressing need to the majority of their villages (Pardy, 2014). Even though donor communities and DWR believed that it was the appropriate arrangement to ensure proper maintenance and a self-sustaining water system, community knowledge on their history of water management was largely ignored (Carol, 2008 pp. 4). The contract was adopted from the other CILSS model and adapted to suit the Gambia's situation. Communities were expected to make quarterly payments based on the volume of water used at the rate of D 2.1 per cubic meter with 60% of money collected going directly to the contractor, 10% to the community as an incentive and the final 30% to the collective maintenance fund which is later collected by the contractor and paid into another account (Carol, 2008 pp. 5). Once contracts were signed, the management company was expected to be conducting quarterly sight visits to assess the infrastructure; record volume consumed and issue bills, which are paid for at their next visit. The private sector's technical expertise and operation maintenance of infrastructure was recognised by the Water Resources Department (Gambia National Water Policy, 2006). Even though the plans were in theory very attractive, in practice it was a semblance of another form of exploitation. The Gambia has a long history of market led development. Its development strategies over the past fifty years have been shaped by various short-term, neo-liberal policies largely driven by the International Monetary Fund (IMF), the World Bank and other multi-lateral financial institutions' programs and conditionality's. Post independence economic interference started with the Structural Adjustment Programmes (SAP) of the 1980s that aimed to restructure the Gambia's economy to maintain a positive balance of payment. Although such

interventions have been redefined over the years, market led policies continued to affect social development projects such as water provision to the detriment of a more people centred approach. Its most recent development strategy in the Gambia, the Programme for Accelerated Growth and Employment (PAGE) was also deeply embedded with neoliberal approaches even though in theory it intends to curb the rate of poverty, reduce rural-urban migration, improve agriculture, and to reduce the country's financial debt burden (PAGE, 2013) thus adding to the century old challenge of the neoliberalism approach to development of trying to advance both economic and social development of developing countries and meeting the basic needs of citizens (Petras and Veltmeyer, 2011).

By and large this has failed to deliver its expected outcome. Out of 59 sites that signed up for such maintenance contracts only six currently hold such contracts (Pardy, 2013pp. 2). In addition to that, the amount of money owed to contractors by the communities was unsustainable and was taking them out of business (Carol, 2008). However, the real problem remained to be the use of a market-based approach to solve social problems. Markets are unreliable and subject to the whims and manipulation of corporations. Community participation also goes beyond co-signing a contract and collecting water fees. It is a process of several stages starting with the conception of the project to its closure. Any of the steps missed or conducted alone can affect the entire process. Local management knowledge, culture and history of water management were largely denigrated in favour of conditions imposed by donors. As a result, the marketization of water, which is largely believed to be a common property that should

not be sold in any circumstances, received a backlash from the very communities that signed the contracts.

Gambia Rural Water supply Payment Assessment

In 2010 the Gambian government, supported by the European Commission, commissioned a study aimed at addressing the disparity between communities and private solar powered water infrastructure management companies. The research aimed to understand the willingness of beneficiaries to pay for their water provided services and how much they were able to afford for their water (Fatajo, 2010). One of its key findings is the unanimity across the gender divide in their willingness to pay. Even though there were some disparities in the amount women were willing to pay compared to men, they both agreed that payment was necessary to water sustenance (Fatajo, 2010 pp. 15). The study also revealed that household heads are literate and understand better the importance of water in the health, social, economic and wellbeing of their family. The larger families were willing to pay more than the smaller families since they tended to draw more water from the water sources and water shortage will affect their households more than the others. As an agrarian society, rural communities favoured paying their water fees annually during post harvest and after selling their cash crops (Fatajo, 2010 pp. 19). Households that lived further away from water points were equally willing to pay for the water, thus distance has no influence over people's willingness to pay for their water. Crucial to the study was the efficiency of the piped borne water system. While the majority of the respondents were satisfied with the output of such systems, some of the community had some reservations due to the poor performance of the system and low water output. (Fatajo, 2010 pp. 21). There is no harmonised water payment system in

rural Gambia and some communities charge per head while others use different indicators to determine the cost of water (fatajo, 2010).

The study concluded in general people were willing to pay 30 dalasis (about \$1 Canadian) per month for their water, being slightly over the current arrangement with the private sector based management agreement. As a result, it proposes the following:

- (i) The need to introduce seasonal payment plans
- (ii) The revitalisation and training of local water committees for a more efficient collection
- (iii) The need to sanction defaulters.

The willingness to pay has done very well in bringing out the fact that communities understand the need to raise funds to maintain their water infrastructure as and when needed. However, it failed to ask the right questions that would have helped find answers and address the concerns of the locals. Willingness to pay to a large extent tackles the demands of the private sector and its funders who only understand the market as the panacea for social problems. The true community concerns were numerous. They see their water as a God given right and that the private sector were taking more from them for less work. Carol argued that most of the main maintenance required from the water infrastructure for the period of the first contracts was to be taken care of by the suppliers; thus private contractors collected more money than the service rendered (Carol, 2008). Rather than assessing people's willingness to pay, addressing the management approach would have been more ideal. The private sector's primary interest is to maximise profit thus making money is on top of their agenda. As a matter of fact the communities

preferred management style should take precedence over others. Communities existed before the solar powered water systems and had made their sources of water for centuries, developing valuable management skills. Water in many rural quarters in the Gambia is viewed as common property. Even in communities where water systems are not efficient enough, water rationing depends on family size, contribution towards the system and availability of water. These are all properties of a common property regime, thus peoples' knowledge and management styles must be adopted and applied. Water management must be returned to the people. Communities must be capable of handling minor maintenance and must be empowered to invite experts for major ones if they so desire.

Water Supply Sector Challenges in the Gambia

Climate change and its consequences can have unprecedented impacts on water resources in The Gambia affecting its river water level, groundwater level, and salinity of the water. Even though it is projected to be marginal, global warming affects the Gambia River Basin. Under current levels, evaporation can increase to 10% annually reducing annual flow entering the river Gambia. Furthermore as a direct affect of sea level rise, peak flows will decrease in size and number compared to current sea levels. The river salinity is also expected to increase as ocean water moves upriver and increased duration of water transgression affecting low lying rice fields along the banks of the river and by extension many peoples' livelihood (Njie, 2002). The impact of climate change on the Gambia's groundwater has not been quantified, however, estimates say that the recharging of its aquifer can be very much affected and in the long run its effects can be devastating (Njie, 2002 pp 4).

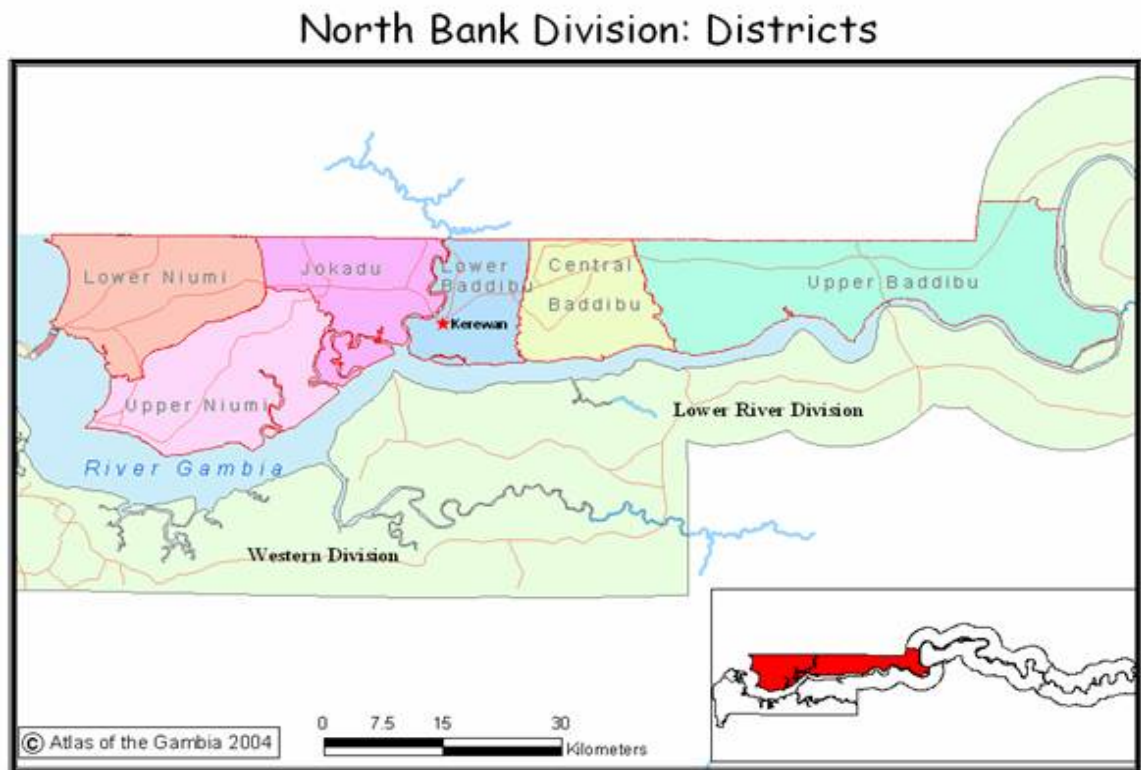
Similarly, and like several other African countries, the sector continues to face several challenges including, no water treatment; limited budgetary funding; low disbursement efficiency; weak institutions; poor leadership; limited cooperation between local and national government; poor maintenance and rehabilitation strategies; unskilled local technicians; no community participation strategies which leads to absence of ownership, thus continuing to require more attention than ever (Banerjee and Morella, 2011pp. 113). While privatization may not be entirely a bad idea, it is paramount that communities are brought on board at an early stage of the project planning and that their ways and methods are used that helped provide and sustain their waters for a long time. Water is a common property and belongs to the people and must be seen that way for any future initiative or planning.

Conclusion

This chapter highlighted the history and the more contemporary policy issues surrounding water management in the Gambia. It explored the transition of water management from the public sector at independence to the introduction of the private sector in management in rural Gambia as well as various common property management practices in both the traditional and more contemporary sense. It also demonstrated the dynamism and intricacies of Gambia's water management system. It laid out various structures as well as its challenges. The next chapter focuses on Fass Omar Saho (Chakho) community as a case study and demonstrates its use of Common Property regime approach to efficiently and effectively ensure water security for the community.

Chapter 3: Case Study of Fass Omar Chakho of North Bank region

Figure 2.1: Map North Bank Of The Gambia



Source: The Atlas of the Gambia

Introduction

This chapter highlights the water management system of Fass Omar Chakho as a case study of common property regime and demonstrates its community financial viability compared to private sector-led management. As a community embedded approach, it also incorporates its social expectations in the way water is governed and it is more cost effectiveness and sustainable. Unlike the private sector-led water management

systems in rural Gambia where over fifty per cent of the communities have either dropped out or have their water system broken down, the community led system at Fass has been in operation since it was handed over to them. Moreover, the community has undertaken various initiatives to increase access to water and coverage to meet its increasing demand. This has by far increased water quality, reduced uncertainties and ensured sustainability.

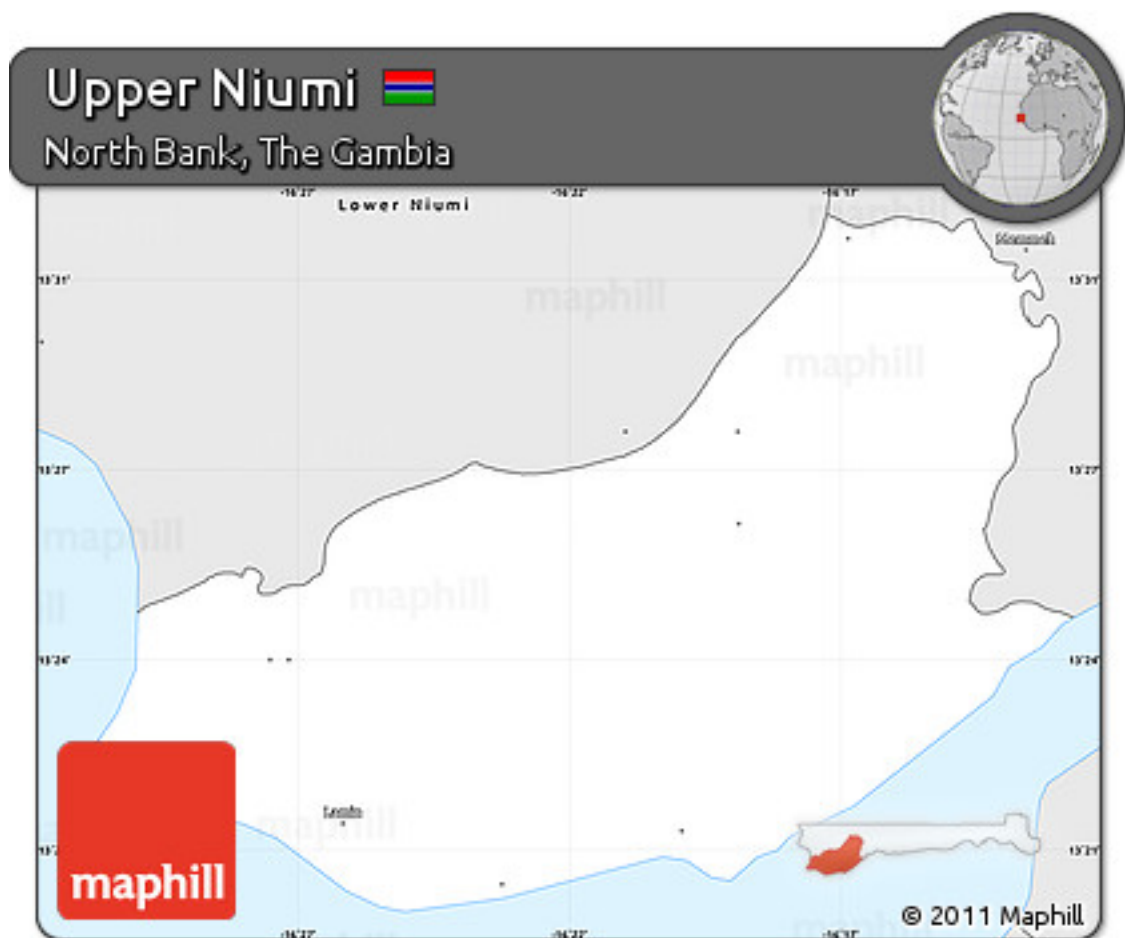
As one of the five local administrative regions in The Gambia, the North Bank Region is in many ways semi-autonomous due to the central government's policy of devolution of power. The administrative head of the region is the regional governor who is appointed by the President of the Republic of The Gambia and is supported by chiefs at district level and village heads (Alkali) and the community level. Decision-making is decentralised and mostly consensual. The main source of water in this region is ground water, partly due to the salty nature of the river Gambia along its banks. Water management, as mandated by the local government act is spearheaded by local authorities which is led by the area council chairman while the Department of State for water resources provides technical advice through its regional officer.

Due to seasonal drought and the encroaching desert from Senegal, the region experiences limited rainfall of between 3 to 4 months annually and 9 months of dry season affecting its water table and shallow wells, habitants of this region require digging further down to access drinking water. For the majority of the year the temperature in the region is above 30 degree Celsius making solar powered water systems a viable technology for water extraction in the area. People in this area depends largely on subsistent farming sustenance and do not keep lot saving.

Since 2002, the region has witnessed significant growth in access to water. Solar powered use as a way to harness water aquifers has increased due to an increase in funding for water projects. Moreover, it has also witnessed a shift in water management from a local led management of water to a private sector led approach. However, such a paradigm shift had interrupted the smooth flow of water in many communities since it affects the people's way of life in relation to their water. While limited initiatives have been taken to address such a challenge, many communities are falling out of the private sector led approach to water management and approaching local authorities for a new maintenance scheme.

Figure 2.2: Map of Nuimi District

Source Maphill, 2011



The Upper Nuimi, as one of the districts in North bank region, is where Fass Omar Chakho is located. It is host to the oldest European settlement in the Gambia that served as a trading post and an eventual transit point for slaves destined to the Americas until the 1820s is found (Atlas of the Gambia, 2004). Mutually beneficial trade existed between the rulers and Europeans until the industrial revolution in 1816, which gave the Europeans more power to dictate their terms and neutralize any dissenting voices (Wright, 2010 pp116). With the use of gunboat diplomacy, less favourable terms of trade were offered and accepted by the people of Nuimi. At this time, traded goods also shifted towards goods as raw materials to supply European industrial needs (Wright, 2010 pp116). Between 1880 and 1900, the scramble for Africa's raw materials had reached its peak leading to formal annexation of territories into European empires (Wright, 2010, pp119). The region also served as a market for cheap European goods that were being mass-produced. By the beginning of the 1940s, the once food self-sufficient region had become dependent on food imports and became a groundnuts based economy forcing farmers to grow peanuts for export to be able to buy imported rice (Wright, 2010, pp 116 -129).

Fass Omar Chakho Community

Fass Omar Saho is situated on Longitude: -15.310139 E and Latitude: 13.443182 N in the upper Nuimi district of the North Bank region of the Gambia. The Wolof ethnic group whose main source of income is through farming and trade mostly inhabits the community. A Community elder estimated its population to about 4000 people (Community elder, focus group discussion, June 2014), however, the 2003 Census of the Gambia estimated it to be about 2600. Just as any district in the region, it has been

in existence for several centuries and has had its fair share in the history of the Gambia's contact with the outside world as indicated above. There also, like other communities in the region, water was a pressing issue. However, with the introduction of a solar-based water reticulation system coupled with a good community based management, water challenge has been significantly reduced and water has become a source of economic good for the community.

Figure 2.3: Photo of a Solar Based Water System



INTEGRATED WATER USE PROJECT (PHASE 2) IN THE REPUBLIC OF THE GAMBIA

Source: Integrated Water Use (Phase 2) Project Proposal

Financial Sustainability of Common Property Regime at Fass Omar Chakho

In 2010, the willingness to pay for a study conducted by the Department of Water Resources indicated that monthly household water costs in rural Gambia to be about GMD 30 roughly \$1 Canadian. Although this cost might seem insignificant, it is a challenge to many of the rural folks who sit at the bottom of the economic ladder in a country where average daily income is less than \$1 per day. Their water management committees collect such payments to mostly finance the services of the private company and pay the caretakers of the water reticulation systems. Communities were expected to make quarterly payments based on the volume of water used (at the rate of D 2.1 per cubic meter); with 60% of money collected going directly to the contractor, 10% to the community as an incentive, and 30% to the collective maintenance fund, which is later collected by the contractor. This latter amount is then paid into another account (Carol, 2008 p. 5), for the management company to conduct quarterly site visits to assess the infrastructure, record volume consumed, and to issue bills which are paid for at their next visit. As a result, most of the funds collected leave their communities. Household heads pay their water fees monthly, in some instances trade-off other family needs to ensure availability of water. However, Fass's water payment modality as one of the cardinal themes of the study was found to be much cheaper, more flexible, people centred and better for community development.

Determining Water Fees in Fass Omar Chakho

Unlike a private sector company that has stakeholders who expect dividend return annually and managers who are under immense pressure to increase profitability, the water stakeholders at Fass Omar Saho are the users who pay user fees to ensure the sustainability of their water resources. They rationally decide on annual water fees based on projected financial need to sustain infrastructure and keep reasonable savings as eloquently noted by one woman; “We decided to reduce the fees by half once because we had some money in the bank that was enough after building 2 other wells in the village” (water management committee, focus group discussion, June 2014). The community agreed to charge GMD 10 annually per head for anyone over the age of 10 years. On average, every household in the community has about four people over the age of 10 years old putting their annual water cost at less \$2Canadian making it much cheaper and affordable for the members. This could be largely attributed to the fact that the local water management committee does not have to meet any financial target or pay fees to another private company. Decisions over water cost were also democratic and every member of the community as a stakeholder had a say in it. The overwhelming majority of the people who participated in the study associated themselves with the statement that “Decisions were always discussed at the community meeting point called (Pencha) and agreed to by people” (Women leader, focus group discussion, June 2014). A Committee member added that decisions of water services are always consensual because they have the same goal. Another woman added that financial dealings are also discussed in the open and everyone know about it” (Women representative, focus group discussion, June 2014). This suggests that when community members are part of the decision making

process regarding water and can be important stakeholders, which empowers them real power to sustain it.

Seasonal payment System

As a subsistence agrarian community, people in Fass depend by and large on the successful harvest and trading of farm produce for their sustenance. Trade season as it is referred to is the most economically active period in the village. It is the time when money changes hands that most long-term investments are made. It is the time when most young men would take their first wives and older men tend to marry second, third or fourth wives. It is also the period the community innovatively collects water rates from its members. The rainy season in the Gambia is between the months of July to August leading to a harvest and trading season around mid-September. The Fass water committee received its collection at this time to ensure success as was noted; “We collect the water payments after people have sold their groundnuts” (the cash crop of the Gambia). At this time nobody can tell you he or she does not have. “However, for those who want to pay earlier than that, we will as well accept their payment. Our role is to make sure that everyone pays for their water” (Water Management Committee member, focus group discussion June 2014). This quote and similar ones by respondents offer an insight into the flexibility of the common property regime and its adaptability to adapt to different social and economic dynamics that play in rural communities. Collecting water tariffs at the time of relative abundance ensured a high turnover rate and increased community savings and re-investments of resources, “We thank God that we have enough money in our account to solve any problem that may arise,” (Opinion leader, focus group discussion, June 2014). This is in sharp contrast to the situation in many private sector led

water management communities as noted in the earlier chapter where there is constant conflict over payment and high rate of arrears and unpaid bills to the private sector.

Interestingly, the performance of the Fass Water management Committee has won the admiration of regional water authorities and other communities. Particularly impressive was the amount of money they kept in the Bank one of them referred to it as the “best approach” in the country. “Even though they receive little or no support from the area council or Department of Water Resources, their management team managed to keep their water system functioning for over 10 years now” (Water Management Committee member, focus group discussion, June 2014). Such an account offers a perspective on the efficiency of the common pool management approach at Fass Chakho and its flexible approach to getting its desired outcome by collecting maximum fees and it also suggests that its success has not gone un-noticed.

Maintenance cost and strategy

The main argument for private sector involvement in rural water infrastructure management in the Gambia was the strategic advantage it has in terms of personnel, technology, partners and other resources to continue maintaining the solar power based water reticulation systems. As a result, communities entered into contract with mostly one company recommended by the Government called Gam-Solar Co. Communities and families were expected to charge monthly or quarterly water user fees based on the meter reading of a particular cluster tap. With maintenance of water infrastructure expected to be the most significant part of a water management budget due to high costs of spare parts, unavailability of parts in the country and lack of technicians to diagnose and fix the

problem, most of the monies collected end up in the hands of the private sector company. Additionally, policy makers' believe that maintaining a solar-based system requires a highly skilled person who is properly trained and was not captured as an activity in this project explains the lack of trained personnel in the communities to maintain the water infrastructure. However, the Fass Omar Saho's approach to water infrastructure's maintenance offers a viable alternative to the aforesaid situation. While other communities in rural Gambia were paying water fees to companies since the onset of their new water systems when it required little or no maintenance, Fass took a conscious decision of saving its water proceeds in the early days after the handing over of the water project a participant noted. This account indicates a proper planning approach on the side of the community and enabling the community to make significant savings for future use if they needed to do so. It was also found that incidents of breakdown at Fass were lesser on average compared to communities lead by a private sector maintenance system with a breakdown rate of one annually after a decade of use. Further studies might be required to establish the factors responsible for such inconsistencies. However, it is worth nothing that private sector companies also get paid extra fees for every minor or major maintenance call they respond to in the community they operate.

Since the inception of their water reticulation system, the Fass Water Management committee has spearheaded the selection and appointment of a maintenance company when needed. The committee invites bids from private sector operators and the winner is contracted to fix the problem within a reasonable time. This pits firms against each other and puts the community at an advantage thus giving them an opportunity to make choices based on cost, time frame and quality one committee member noted. Another participant

also indicated that when they had a major break down of the water system one company offered to give them another spare part for a temporal fix until the part they needed arrived in the country. This was a win-win solution for both parties, thus suggesting that the community has several choices to choose from and has a higher rate of getting a better value for their money. It also puts people at an advantage and limits exploitation that comes with a private sector monopoly. In addition to the reduction of maintenance cost and the avoidance of corporate exploitation as well as reduced waiting time for spare parts, People-lead water management can also be profitability efficient as a regime.

Efficiency and reinvestments

According to many respondents, paying monthly or quarterly water fees to the private sector company who may or may not render any maintenance work, was a key factor in accepting or resisting private sector lead infrastructure maintenance management. Most people saw water as their property and the infrastructure as a gift to them that should not be handed over to a different company to manage on their behalf “We understood that it was a gift to us by the people of Japan through the Gambia Government, and we are happy to manage it ourselves without having to pay monthly a private company who may or may not be servicing the infrastructure as required” (Opinion Leader, focus group discussion, 2014), suggesting that the community doubted the intentions of the private sector and saw very early on that it was cheaper for them to manage their own water. Since the water management committee membership was voluntary, communities had little and sometimes no expenditure of overhead cost to pay, thus giving them a lot more savings. Moreover, the savings are kept in the community for future use rather than being taken away by another company. Although they did not

disclose the exact amount they currently have, the statement that “We have enough money in our account to support us for a long time and thank God that so far we paid all the services we ordered for and are still financial strong” by a committee member was reassuring (Water Management Committee member, focus group discussion, June 2014). The account also validates the people- centred approach as well as their resistance to private led infrastructure management.

As a result of decades long successful water management, the village has seen significant population growth and households also increased substantially. It has a direct effect on the water output of the community leading to the higher usage and more frequent emptying of the water reservoir. However, the water management committee through its savings provided extra water sources in the form of two concrete lined dip wells increasing access to water sources in the community addressing the challenge women had as indicated by a woman who remarked: “We sometimes queue for two hours to fetch water from the borehole especially now that we have more people in the community” adding that some women get their water from the wells instead of having to walk the distance and spend a long time at the taps (Woman rep, focus group discussion, June 2014). Additional measures such as allocating water fetching periods from 6:00 AM to 12:00AM and 4:00PM to 7:00PM to allow boreholes to refill were adopted. These measures did not only indicate the efficiency of their management, it also showed their ability to use their resources to invest at other areas to increase their water output which would not have been the case if the resources were not available.

Increasing Water Access

With the reinvestment and addition of two deep concrete and covered wells in their communities from monies generated from their water fees, potable water was within a reasonable distance, at an affordable cost and available to everyone all year round in the community as indicated by a participant; There are adequate water sources in the community namely the solar powered borehole; hand dug blowholes, a hand pump and a couple of deep wells. While the most preferred water source (solar powered borehole) is always closed around the middle of the day to allow the tank to recharge, other sources like wells are used to supplement community water need. Community access to water was greatly improved by the solar powered borehole donated to the community by Japan and Gambian government but also by the fact that the money raised from it was used to build two more wells deep enough for a borehole system a community member noted.

Water cost is also significantly cheaper at Fass when compared to other communities as noted above and distance from households to water points are also shorter enabling women to spend less time getting water and more time doing other productive work. While in many households men pay the user fees, women are critical to household water provision due to the fact that irrespective of the condition of the water borehole, they ensure its availability and ensure water security. They either get water from the borehole wells or in the event of a breakdown, they walk to other communities or water sources to get water, explained another woman. They get to the tap early in the morning to enable them to fetch water before the taps are closed around the middle of the day to allow the water tank to recharge. At certain times, the women do about five trips between their homes and the taps. Water is often carried on their heads and many a times

with children on their backs, another woman was noted saying. As key stakeholders in ensuring water security for the community, women are also represented in the water management committee, 2 out of the 6 members are women. However, some participants felt that woman representation was low and were less influential than their male counterparts.

It was also noted that access is further enhanced by the fact that infrastructure breakdown rarely occurs at Fass Omar Saho and when it does there are always many companies who are ready to come in and render their services due to the fact that companies are aware of the availability of resources to pay for their services. The shortened maintenance response time is therefore shorter with the community led management than the one led by the private sector.

Improving Water Quality

Drinking unclean water can have adverse health effects in the lives and wellbeing of the community. Unhealthy water can lead to dysentery, diarrheal diseases and even death. Thus, improved water quality in Fass may have led to increased health however data was not readily available to support this claim. Water from the solar powered borehole is said to be clean, taste right, and safe to drink. As a country with an abundance of sunlight all year round, most days of the year there is sunlight to enable the system to function properly. Due to the fact that the water pipes and tank are well protected, the water is safe at all levels of the production line enabling the community to enjoy good quality water. Additionally dug wells are also very deep and provided with cover. However, their colour and taste could change during the rainy season as polluted water washes away (woman

rep, focus group discussion, June 2014). Women recounted that in such instances they boiled or filtered the water before consumption to remove potential harmful substances.

People in the community are cognisant of the fact that water borne and water related diseases are dangerous and can be fatal when consumed. They are capable of identifying the changes in their water's taste, colour and scent however, regular water testing and treatment to accurately determine water safety can only be done by the department of water resources. Although key informants indicated the prevalence of diarrhoea during rainy seasons in the community, they could not be linked exclusively to water contamination without proper laboratory investigations (Policy maker, interview, July 2014).

The water infrastructure at Fass Chakho is dug using international specifications and standards and there has not been an established link between drinking the water and health hazards in the community. It therefore provides a respite for such challenges mentioned earlier. Although the rain can compromise its water quality, water contamination can also occur during storage or transport, thus requiring better care. The water storage tank is cleaned at least once every quarter to avoid dirt settling on its bottom. During the cleaning periods water is obtained from opened wells that are relatively less safe than the regular solar powered water reticulation system (Women rep, focus group, 2014). However, women reported that in such events, water is sieved and or boiled before use. Critical to the families' health are women who always assure the quality of the water because they do not want their families to be sick, another woman noted. Even though women acknowledged having limited formal education on water education, it does not appear to stop them using their local water treatment knowledge to

protect themselves and their families (Women's group, focus group discussion, June 2014).

Reduction of uncertainties

Private sector water cost has the potential of an unexpected increase due to the uncertainties of global trade for spare parts and foreign exchange among others. However, community led water management reduces many uncertainties of water rates due to the fact that fluctuations in foreign exchange would not affect them much because they do not have to pay a dividend to any shareholder outside the country. Uncertainties about their maintenance schedule, terms of contracts and uncertainties about the availability of water in the near future are all curtailed because they are in control and can reduce potential threats. "We have built new wells that can serve us even if the borehole is not working". "We are one phone call away from getting them (water maintenance companies) over to fix our problem because we have the money to pay them" one participant noted. Such accounts more than anything suggests that the community understands the need for water security and are also confident in their potential to deliver it at all times. They have stabilized their water price and are not influenced by market uncertainties or shareholder pressures.

Increasing Water Coverage

Increased access to water at Fass Chakho has also attracted many new residents. The village population has increased substantially thus putting a lot of pressure on the resources. Other communities using private sector led approaches have been struggling with such unexpected population growth. Fass on the other hand has coped very well by

opening up new water sources thus expanding coverage. These new water sources are built closer to newer settlements, which are the farthest from the previous water points. It has also managed to reduce the pressure on the borehole.

“The taps are a bit far and sometimes we only stop at the well. There is no difference between the two (taps and wells) except that it is easier to fetch from the borehole.... When the borehole is closed around the middle of the afternoon to reload the tank, anyone that wants water uses the wells” (Participant in the women’s FDG, 2014)

Perhaps the success of the Fass water management system is attributed to its human factor. The community had a long history of managing of its water with little or no government support in addition to the peoples’ awareness and community resistance to private sector advancements. Whether it can be replicated in another community remains to be seen however, with the common property regime, no two methods are the same, as it is flexible and adaptable to individual circumstances.

The Fass case study indicates that people-lead water management is efficient, financially viable and allows resource usage in the community thus leading to increased access to water. It has also been realised that it is culturally appropriate.

Water Management History and Governance:

For centuries, Fass Omar Saho’s traditional way of life and culture has been preserved by its people and passed on from one generation to another through oral history and day-to-day experiences of living together. The water management system of the community also was observed to have embodied such tradition and reflect the peoples’ relationships, trust and social cohesion. Water management at Fass was influenced by the peoples’ will and their ability to manage their resource as they have always done throughout their existence, which will be reflected later in the text. The first theme of this

study relates to participants narratives around the water management history in their community and how it emboldened their quest to continue managing their own water resources. Highlights of the discussions and interviews were on their water management history and its success over time and the invaluable experience and skills they gathered over the years in terms of governance structures, rules, regulations, mandate of water management committees, selection process, gender representation and participation, separation of powers, maintenance and punishment for lawbreakers but more importantly concerned of private sector intervention in their water management As noted by one respondent, “This sacred duty was passed to us by our parents and we want to maintain it so until we hand it to our children” (Opinion leader, focus group discussion, June 2014)

Traditional Water Governance:

On its own, Fass had successfully managed its water resources since the inception of the village. It had considerable experience in managing both local water sources such as open pit wells and lakes as well as diesel powered generator borehole water systems as early as the 1980s. Their local water management system begins with idea that the founder or head of the village, the Alkali is the theoretical owner of all the resources in the community. A village development committee identified for appointment by the people supports him in his administrative role. Together they identify and appoint a water management committee. Such appointments are presented to the committee during meetings for approval or disapproval. Although in earlier times such committees were entirely made up of men, in recent times the gender considerations are given prior considerations. Women play a crucial role in local water security especially in transporting it from the source to the consumption points. The criteria for selecting

members of the water committee include people who have proven leadership qualities, are respectable, and trustworthy and show a willingness to serve on it.

With such structures in place managing water and ensuring water security for the community has always been a communal affair as one of the participants noted: “We have been managing our water using a generator for over decades without any problem before we were brought this solar powered water system. So we are well placed to continue doing it even with this new system committee”, one member of the group said (Opinion leader, focus group discussion, June 2014)

Similarly, the committee is not only satisfied with its ability to manage its water resources, but also believes in its capabilities to do so. This is very important in terms of community willingness, capacity and confidence in doing the right thing for themselves unlike private sector managed water communities where people’s allegiance and efforts could be misinterpreted to be for the benefit of the private sector. People at Fass water management committee derive their satisfaction more than anything from their parents’ legacy being continued and protected.

A water management committee member described the structures they built over time to enable them not only to better manage their water infrastructure, but also allow them to develop the skills to manage their finances and avoid community feuds. “We have enough experience to run our water affair since we have generator powered for many years which have never stopped working due to lack of fuel and we have always maintained it and kept it working ”(Water Management Committee Member, focus group discussion, June 2014). This indicates that success over time became a major factor in

the community resistance towards a new management order. People were emboldened by their success and did not want to change their winning formula as water was secured at all times devoid of government or private sector interference. Communities have never been threatened with water disconnections due to late payment or failure of contract compliance and did not see the need or wisdom to change.

The mandate of the water management committee was limited to the prevention of vandalism and contamination of water wells in the past but has evolved to more pre-emptive roles such as ensuring community contribution towards the sustenance of the water infrastructure, identification of qualified maintenance partner and liaison between the community and the department of water resources. The committee also appoints a local technical person who opens and closes the tap as per when needed to ensure efficient usage of water. It also appoints mostly women collectors and monitoring groups for different taps in the community. In terms of water committee members' tenure of office, as an entirely voluntary committee, membership is maintained as long as they have the trust of the people (Opinion Leader, focus group discussion, June 2014)

Community Members as Stakeholders:

In addition to the democratic approach where members of the committee are identified and decisions are taken respectfully and collectively by the people, skills and past experience, participants spoke about the equity of their management system, as everybody in the community was a stakeholder, had equal opportunity to voice their views, to nominate people, to propose or oppose price hikes and to participate in decisions about the excess money generated from their water system. "We decide how

much money was needed to build other water sources and each agree to increase our annual contribution for the year and build those wells” one participant noted. The sense of ownership of the water resources is very strong across the board. Almost every respondent believed that the water was a divine gift for his or her community. Statements like those highlight the community perception of their water resources as well as their coherence. Perhaps it also explains their strong belief in that they have an inherent right over their water and that it cannot be entrusted in the hands of another sector that could charge them more for a service than they can handle for themselves (Opinion leader, focus group discussion, June 2014).

Similarly, participants also indicated that although the water committee was expected to come up with the rules and regulations governing community water, such rules are only adopted after being accepted by all and were every easy to change if found not to be addressing peoples’ concerns. As an opinion leader noted, “This is how it has always been in the community for a very long time and no one can have a monopoly of such important decision and luckily, we have always agreed because we all want the best for our selves and our community” a proud looking water committee member noted with many other participants nodding their heads in agreement (Woman participant, focus group discussion, June 2014).

This section has demonstrated the strong local history, knowledge and perception about water management and how it influenced their quest to uphold a common property regime rather than usher in a new regime led by the private sector. The next section explores the cost effectiveness of the common property regime at Fass Omar Saho and highlights its viability for rural communities.

Cultural Appropriateness and Flexibility

Although the Fass community and the region have suffered significant economic and political damage due to lengthy economic policies of the colonialist and post independence economic policies, its social relations and relevance remained intact. Relationships and community are considered more important than economic capital resulting in a very strong community social safety net for all. Participants in the study provided a different point of view of looking at water management that included but was not limited to social, political, economic and cultural matters. It established that social and cultural relevance to local water management are as important as economic factors in ensuring water security. Such an approach is seldom considered in mainstream water management or considered in the same realm as private sector led or public private partnership.

The culture of reciprocity

Members of the community have very close relationships with each other not only because they cohabited for decades, but also because they intermarried, supported each other in time of need and have been each other's keeper for a very long time. In the process they have built a solid bond of friendship, and family as well as a social and economic safety net. Members of the community are seldom referred to by their names. Instead they are referred to in relation to their age, for example the children will refer to an old person in the community as grandpa or grandma. Family or individual favours are remembered forever and are passed from one generation to another. During ceremonies, praise singers remind people of the good deeds of their parents and grandparents, which

make them happy, and make them, want to do the same. “So when someone comes to you and ask for a favour to pay for his or her water you do it in secret without anyone knowing,” Noted (Water Management Committee member, focus group discussion, June 2014). This account affirms that the culture of sharing and caring are strong pillars of this community and has survived for over a century. It is at the centre of all community activities, visible or not. It further suggests that even though this community seemed heterogeneous from the outside with different ethnic groups and subcultures, it is homogenous on the inside and acts solidly as one unit. While people whom for any reason could not afford to pay their water fees are supported by others, it is also noted by women that even though there are rules and regulations to prevent people who fail to pay for their water use in time from fetching water, no one has ever been denied the opportunity to collect water in this community. Such significant testimony indicates that access to water for this community is universal, as access is not denied to people due to payment delay or arrears owed. It also shows that community support is critical to protecting the interest of the poor as well as ensuring water security for all.

Fast In Conflict resolution

Many communities in rural Gambia who have breached the terms of their contracts with private companies could be dragged into lengthy mediation or legal actions are taken against them. However, the use of the legal system or outside arbitration is a non-starter in many rural areas. As noted above, communities are closely related and problems and conflicts are expected to be resolved locally in a rapid and effective manner. The use of law enforcement such as police or the judiciary can lead to irreparable damage in families and the community at large. As such it is not encouraged.

Historically at Fass, problems have been solved through dialogue with the help of elders. Older people are revered and command a lot of respect. As a result they used their social leverage as needed to solicit payment of water for members of the community and solve problems when required to do so. The council of elders sits over cases and makes judgments based on the information they have. Conflict resolutions are swift, mutually binding and are mostly permanent judgments. A respondent noted that; the water committee was made up of respected old people in the community who command everyone's respect so when they speak people listen. "Any problem we have is solved within the community on the day". Conflicts are therefore addressed swiftly; decisions are made fast and people get back to their routine of fetching water. This is important in rural communities as it helps maintain community values and cohesion while delivering justice. Instead of people having to endure the humiliation and stereotype of being drag to court that could take a long time and drain resources, justice is delivered in a fass and swift way. Sittings are conducted in a friendly, culturally appropriate, efficient, and traditional manner, thus making everyone comfortable while issues are addressed.

Religious relevance of water

The main ideological schism between the community-led water management model and the private sector-led model is on the ownership of the water resources. Fass is a very religious community where the overwhelming majority of the people make their five daily prayers and strongly believe in God. There was a strong feeling of water being a gift from God that should not be sold but required protection. To most respondents, the benefits of accessing water were beyond the fulfilment of domestic water needs. It also helped them fulfil their religious and spiritual obligations. Water is used in naming and

bathing in the death ceremonies and it is also used for performing ablutions as necessary preparatory requirements before facing their God or gods or praying. An old man in the group puts it “Water is the first thing you need when you come to this world and is the last thing you need before you leave this world.... Without it you cannot fulfil your faith requirements ... Water is just life” (Community elder, focus group discussion, June 2014). Perhaps this statement more than anything offers a brighter insight of community resistance to private sector led management. It shows how sentimentally attached they are to their water resources and feel that its being handed over to a private sector could amount to a sacrilege. Another religious scholar added that God said in the Quran that: “We sent forth the winds that fecundate. We cause the water to descend from the sky. We provide you with the water – you (could) not be the guardians of its reserves.” [Quran 15:22] which he interpreted that water should not be for sale as it is a gift of God (Community elder, focus group discussion, June 2014).

Community values, customs and traditions cannot allow water management system that exploits them instead they opted for one that was economically more viable and respected their way of life. Their management style reflects the community held view that water should be a tool for commerce for anyone to profit from as providing water to those in need can land you in heaven in the hereafter.

Conclusion

This chapter indicated that common property regime, as it is the case in water management at Fass Omar Chakho is a more financially sustainable model of community water management. It maximizes payment rates, reinvests money in the community and

increases water access. It is also a participatory approach and enhances the values of good governance. It reflexes culture of the people and respects their values without compromising standards. Its appropriateness, efficiency and effectiveness at Fass Omar Saho is well documented. It has also shown that in considering local management of water approaches communities must be involved because their concerns could be beyond financial and sustainability benefits but can also have sentimental value they attached to the commodity in question. Not only has Fass Omar Saho community always managed their water effectively, they also have a transparent, fair and compassionate governance system where people are identified and approved by the general public to serve in the water management committee. The management system echoes the community strengthens and social immunity against external threats. Finally, the water management at Fass was also sustainable as it is self-supporting, self-financing and has ensured water security for all thus, it is safe to say that it is a more financially viable and an effective alternative to private sector-led water management in the Gambia.

Chapter 4: Conclusion and Recommendation

This final chapter discusses the meaning, interpretation and implications of the findings of this study in relations to contemporary water management practices. It starts by summing up the results of the previous chapter in light of common property regime. It will go further to highlight, its strengths of the community-led approach as an efficient community based financial model and where it worked, its potential of been replicated in other communities and towns. It will also discuss the policy implications vis-à-vis the private sector-led water management in rural Gambia and indicate how such problems are avoided in the common property regime.

The community-led water management has avoided several of the challenges currently facing the private sector-led water management in the Gambia which includes but is not limited to: payment failure by community, infrastructure breakdown, delay in maintenance, and conflicts within the communities, low community participation and support and water insecurity and low profit to the private sector. As indicated in the previous chapter, community participation is very high, payment rates are also high and decisions are taken through a process of consultation. As a result, people feel they belong and take full ownership of the water project. The study has also indicated the cultural appropriateness of the common property approach, as it does not interfere with traditional roles and responsibilities. Gender and old peoples' roles in the community are respected and the culture of social support and a community safety net is safeguarded. People who cannot pay for their water are either supported by others or allowed to pay around harvest time when resources are in abundance. It has also shown to be an all-inclusive process. Its flexibility to allow payment at times when people are in the position to pay for their water

is also another success factor of such a regime. Farming is the main income earner in the community and the harvest season is the time when most communal financial transactions and activities take place as shown in chapter 2. It is the time when men and boys get married and it is also a time that people can comfortably pay for their water without any trouble. Furthermore, it has proven to be much cheaper compared to fees paid for by other communities with alternative models. People at Fass Omar Saho pay as little as one dollar or maximum two dollars per annum whereas other communities spend an equal amount or more per month. On top of that, communities keep the monies collected and sometimes invest in new water projects to ensure better access to water and security whereas other communities pay a private sector company who takes their money away. More importantly, common property management of water respects and incorporates local knowledge in managing local water issues thus giving it legitimacy in the eyes of the people; thus it has a turn over rate of almost one hundred per cent with almost every member of the community paying for their water at periods when they can afford to do so. It has also proven that when communities manage their own finances, it gives them a competitive advantage when negotiating with maintenance companies for infrastructure repairs and profits are reinvested in the community. Furthermore, its problem solving method is swift and effective.

While the global resentment of privatization of water and water management has been growing over the years, more people see water as a human right that supports life, which should not be left in the hands of the market to control. However, proponents of water privatisation argue that there is not a fact to show that privatisation of water limits access. They see the public sector as an agency that has failed to provide clean water to many poor people, which the private sector can fill in as a more pragmatic agency. They

also argue that there is enough water for everyone but the problem to access is that of production and distribution which requires investments that the private sector brings on-board. However, such a facile argument lumps all other alternatives like common property regime as a public sector form of water management; thus exacerbating an already complex problem of water management. A common property regime is not the same as public sector management. As Ostrom describes it, the government manages public sector while people who are the rightful owner of their resources manage common property.

Despite the admission from government and the private sector that the private led water infrastructure management in rural Gambia has not worked as more than half of the communities enrolled in the programme have dropped or breached their terms of contract by refusing to pay, the private company and service provider continues to advocate for further expansion of the programme and lobby for government support in forcing communities to pay for their services. Such measures fail to address the core problem of water supply in rural Gambia and risk been thrown away by communities. Water privatisation continues to receive a social bashing as it continues to fail in the delivery of its promises. As a result, it renders the common property regime more relevant to the discourse of rural water management in the Gambia. Common property regime in this instance gave people and communities the ability to organize themselves without hindrance and address their common problem. More than anything and despite many challenges, it acknowledges and adapts to local knowledge, methods and practices that have survived for several decades to ensure water security.

On the other hand, public sector water management is based in the urban centres entirely and far from the reach of the rural poor. It continues to be challenged by rural

urban migration and population growth. While it may offer some semblance of people legitimacy, the Gambia National Water Policy mandates it to provide water services to the aforementioned areas thus limiting its scope and reach. The public sector decision-making process and heavy bureaucratic protocol also hinders its efficiency to some extent. Decision-making processes are long and can sometimes take years to be finalised. As countries get more consumed into the global village, crises elsewhere can have dire consequences on projects thousands of miles away affecting funding and financing of public water projects, maintenance and sustainability; thus making public management of local water supply less attractive adding to other criticisms levied against public sector management. Furthermore, the neoliberal based institutions and several other donors continue to insist on market liberalisation including water related services giving more backing and support on private sector involvement. It has also become a global fad for governments of developing countries to indicate some level of privatisation when seeking for funding to increase their chances of success.

Even though the common property regime at Fass Omar Saho has a track record of good water governance, participatory and inclusive, cost effective, culturally appropriate and sustainable, relevant authorities in the water sector seem not to be keen about changing the current dominant rural management approach. Given the recommendation of the willingness to pay study it is unlikely that communities will escape from the grasp of the private companies. Rather than addressing the real reasons for the failure of the current water regime, the willingness to pay survey sought to understand the willingness for people to pay for their water thus bringing out solutions that puts the parties back on track again to continue the same exploitative system as the rural poor saw it to be. As a result, the private

sector will continue to have a foothold in rural water infrastructure management at least in the near future; thus the vicious circle of water insecurity and infrastructure breakdown and communities refusing to pay is likely to continue. This goes to show that there cannot be any meaningful improvement in rural water service production, distribution and maintenance without a strong government backing through its policies and pronouncements. Governments must represent the aspirations of their people as custodians of sacred resources and allow the communities' way of life to thrive.

Unless there is a complete overhaul of the current practice of private sector-led water infrastructure management that has arguably exploited the need for water security of the rural poor and raked several thousands of dollars for companies and individuals involved, the rural water gains brought in by the MDGs related water projects will continue to be threatened. It is easy to presume that projects can work effectively and bring about the desired change, however, when tested, the field theories can sometimes be in conflict with practice. Private sector contracts to manage water infrastructure often take effect when water systems are new and requiring little or no major maintenance. It is irrational to charge communities a premium at this stage of the contracts let alone all the additives that comes with it such as movement fees, contribution to any maintenance on top of their monthly fees. The contracts last between five to ten years during which time most communities as indicated in the GAM-SOLAR report 2014, either drop from it or refuse to pay, thus putting their water flow at risk and or even being at risk of being dragged into unending negotiations.

Not only does such practice threaten water security in rural communities, it also takes away from the poor whose continues dropping into the poverty trap and hunger due to

climate change among other things continue to be evident across the country. If unchecked, the next wave, the next wave of contracts could involve allowing private sector companies to deny communities their basic right to water if they fail to pay or miss on timely payments. This will affect women, children and the poorest of the poor in rural Gambia the most but also will have dire health implications the people at large. Unless people feel they are managing their own water, their cooperation with the current private partner model will continue to face challenges.

While a suggestion of total banning of the private sector in rural water infrastructure management might be very radical which this thesis is not suggesting, the revisiting of their role and responsibilities is of paramount necessity. The building of the infrastructure and major maintenance work on water infrastructure requires highly skilled personnel and specialised expertise, which the private sector can supply, based on national market rates and standards. Using the Fass Omar Saho's model where private companies compete for contracts from the people, gives communities a strategic advantage to pay the best price and for the best material. This should be adopted in other communities where applicable.

Perhaps community resistance is required for a meaningful change. While this does not by any form or shape suggest an uprising or rioting, people led choice of management approach that exists at Fass Omar Saho was attained not only by virtue of the community awareness, but also through lengthy negotiations with the government and resistance to the proposed private sector led management after the water project was completed and handed over to them. They insisted on meeting water authorities in Banjul the capital city and put forward their case based on their desire to manage their own water. The community was well aware of the project being a grant, which they interpreted as a gift

from the people of Japan to the people of the Gambia and were not willing to pay any intermediary to manage it for them. They also believed in their skills and experience gathered after several years of managing their water with a high success rate. This goes to show that an informed community with a strong will and experience can have an influence not only on the water their resources are managing, but they also can affect government policy. This indicates that although methods of infrastructure management were externally induced however, with resistance and strong will it can be defeated.

Given the UNICEF and WFP definition of improved access to water, which is: “The percentage of the population with household connection, public standpipe, borehole, protected dug well or rainwater collection” (Joint monitoring team, 2010), it is safe to say that Fass Omar Chakho has improved access. Using common pool management approach to their water resources they have added additional water sources not only to cater for its increasing population but also to enhance water security. Common property approach to water management has avoided conflict with service providers like the private sector by managing its own affairs rather than sub-contracting it out. The big question remains how can the success at Fass be replicated elsewhere or will it be suitable for big metropolitan cities and urban areas where people are not as closely related as they are in villages or might not have any historical link.

The core values of common property regimes include their flexibility and adaptability. Even though every community is united, and diverse, there are some homogeneous traits that hold them together for the most part. However, its success as a rural method of ensuring water security should be supported by the government through a rural water provision plan and strategy that puts the plight of the people first before private interest

with the goal of establishing a rural water policy that mirrors the best practices of common property model of Fass Omar Chakho. Interestingly, the frequency of water infrastructure breakdown at Fass Omar Chakho is much lesser than that of the other communities using the private sector-led water infrastructure management system however, establishing factors responsible for such occurrence is a subject for further study.

Particularly important in water management at Fass Omar Saho is also the role of women. They play a crucial role in appealing to power and lobbying for the water borehole from the government, which culminated in the building of the solar powered boreholes water system. They participate in the day-to-day management, payment monitoring and protection against wastage of water. As a cohort who suffers the most when there is water scarcity in the community due to their socially ascribed role of providing water for the household, they spend a lot of their daily productive hours providing water for the household. As a result, the issue of gender roles and responsibilities is said to be an important component to its functionality.

Therefore a secured access to water in rural Gambia requires a management approach that factors in the local knowledge, water management history of the community, cost effectiveness, cultural appropriateness and community leadership because, communities have the history, knowledge and track record of success in managing their water with limited cost without a feeling being cheated or exploited. The community led approach sees resources as belonging to the people and allows them rightful ownership and management and as a result, water sources are secured.

Although private sector led water management remain to be the predominant approach in communities with solar based water system, a radical shift is required to give

back water to its rightful owner, the people and government should focus on its basic mandate of supporting communities through its policy framework as well as technical support. However, adapting such an approach in big cities and town with a diverse population with no history or connection together might not be very feasible. Similarly, the approach could raise problems because it has the potential to take out of business some private companies with the expertise of boreholes and solar technical ability thus making it harder to find partners when it needs some maintenance job done. Additionally, record keeping and monitoring of payments are weak because most of the transactions are based on trust which subjects it to fraud especially in larger communities or cities.. Furthermore, water quality testing is not administered due to the fact that water education is low in the community and many perceive water to be clean only if they cannot see dirt with their eyes. Woman participation is also said to be symbolic however, their male counterparts make the real decisions. Such practices much be improved for justice and fairness. Also limitedness of the technical ability of the members of the committee can be a challenge in the long term. Finally, the study has demonstrated that community-led approach can be sustainable and at the same time be an effective financial model for rural communities thus, should have a big policy implication for rural water management in the Gambia and beyond.

Future Research

Water management is the latest frontline between capital and people. Surrendering it without resistance will send a detrimental signal about common pool resources and send a wrong message that everything in this world is available for sale to the highest bidder, which could mean relegating the poor to their graveyard. This study is a story of a small battle in a very small in Africa, but can be important lessons from which we can have a

greater understanding of community power over water management. Even people who use a neoliberal approach can learn these lessons as they did with Structural Adjustment programs of the 1980s. Historically people have always managed their water and have enough experience and knowledge to do so. While communities seem heterogeneous from the outside, they hold in many ways several homogeneous traits built over time on a solid foundation of trust and reciprocity which when utilised properly can serve as a basis for any effective and efficient community project including water, thus putting people before profit.

As the results have indicated, common property regime is an efficient financial model for communities and does work when it is internally induced. So it is safe to say that ensuring community water security requires participatory approaches that involve people and supported by a meaningful government rural water supply policy to ensure consistency and standards with the aim of building community capacity to manage and maintain their infrastructure, to ensure accessibility, affordability and above all sustainability for future generations is the hope for water security. However, the size of the community, its population density and isolation from central administrative pressure might have also contributed to its success. A further study of a larger population with diverse background and different history might be required to determine its adaptability as well as universality.

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Annexes

A. Interview guide for Water Management Committee

History:

Who do you believe owned and owns the water in your community?

What was the primary water source in this community?

How did you manage your water in the past?

Have you had challenges in the past managing your water?

How efficient or not was that management method? Why/Why not?

Who funded the water current water system (s), When was it built?

Water Governance:

How are you selected in the Water Management Committee?

How long can you serve in the committee?

What are your roles and responsibilities?

Are you paid for serving in this committee? If so how much and if not what do you gain serving in it?

Do you give feed back to the community is so how?

Partnerships:

How involved were you in planning, Implementation and sustenance of water project in your community?

Who do you work with to ensure that water is always available to your community?

How involved is the private sector in maintaining your water infrastructure?

How has government influence or not your decisions?

Who determined the choice of technology for the water infrastructure?

Infrastructure Management:

What process takes place when identifying a site and putting up of water infrastructure in your community? (Who did what, when and where)

How much do household heads pay monthly for their water?

How is that money spent?

What do you do with savings gain or losses from the fees?

Maintenance? (who does it, how often is it done, how much does it cost)

Others:

Intended and unintended benefits of the water project?

How often does your water quality tested?

Annex B. Interview Guide for Water Resource Officials/Managers

Mandate, Role and Responsibility:

What is the policy for Local Water Infrastructure management?

What is the mandate of the department of water Resources?

Who are the main donors to the Gambia?

How much has been spent on water projects since 2000?

How many boreholes were built since 2000?

What is your proffered method of infrastructure management in rural Gambia?

Who are the beneficiaries?

How are they selected?

How does department identify beneficiaries?

What role does you play in the public/private maintenance agreements?

Who drafts the agreements?

Working with NGOs

Who coordinates the NGOs and philanthropies based water projects in the country?

How **often** is the water department consulted?

What is the role of the private sector in the water management?

What are the challenges you face as a department?

How often are rural water sources tested?

Have there been water borne diseases outbreaks in rural Gambia in the past 5 years?

Who determines the Choice of technology for rural Water supply and why are such choices taken?

Who determines the location for boreholes in rural communities?

Is there adequate human resources to manage such technology?

Who determines the management committees or strategies in Rural Gambia?

How are water related conflict between communities and private contractors settled?

WATER AND EDUCATION

Have you ever learned about water and health from school, the radio, the newspaper?
Books etc.? If so which ones?
If yes, what are the things you have learnt?

Private Sector

Who manages the Solar Water Infrastructure in rural Gambia?

What is their mandate?

How are such companies selected?

How are they introduced to the communities?

How participatory was the process of entering into contract with the communities?

Who draws the contracts?

What happens when either party does not fulfil the terms of the contract?

Is it a profitable venture for the companies involved?

How many other companies are engaged in such ventures?

Do communities have alternatives?

Have communities had a history of managing their water in the past?

Please fill free to add any other detail that might be relevant to this study

.....
.....
.....

Thank you very much for answering my questions

Annex C. Interview Guide for opinion Leaders

General Issues:

What is the population of the community?

What are the ethnic and religious make up of your community?

How many Water points do you have in the community?

Who provided them?

When where they provided?

Are they adequately providing your water needs/why/ why not?

Who built/financed them?

How are they maintained?

ACCESS TO WATER

Where do you get your drinking water?

Who owns the sources of water?

Does everyone have access to these water sources?

Does water cost money and if so is it expensive?

How much time out of your day do you spend getting water?

Who determines the cost for getting water?

Where else do people get drinking water?

How long do people walk to get water when the wells break down?

WATER QUANTITY

Is there always enough water to drink?

Is water available at all times of the day?

Is your drinking water clean and safe?

How do you know if water is safe to drink or not?

When water is not safe to drink and why is the water that way?

What happens if you drink unsafe water?

WATER AND HEALTH RISKS

Do people ever get sick from drinking unsafe water?

Do people get sick more often at some parts of the year than others?

What kind of sicknesses do people get from drinking bad water?

WATER AND TECHNOLOGY

What are the available water infrastructures in the community?

Who determines the type of technology to be used for the infrastructure?

Are there available human resources to maintain the technology?

How often the infrastructure does breaks down?

Are there alternative technologies that could be used?

WATER MANAGEMENT

Who manages the water infrastructure in the community?

How are they appointed?

What are their roles and responsibilities/duties?

Have these committees been active during the last agricultural season?

How often do they meet?

When does their mandate/ duties begin and end?

How efficient is the water system in your community?

Are they compensated? If so, in what form? How much? By whom?

Do you pay for your water? How much on a monthly basis?

What penalty is levied on people who failed/could not pay for their water?

What is the penalty for someone caught stealing water? Polluting water?

Who maintains/repairs the water wells? How long do they take before they are repaired?

WATER AND CULTURE

Is there any cultural significance of water in your community?

Are there important or special beliefs about water and water sources?

What is the importance of water in your life?

Annex D. Interview Guide for Women Group

Participation:

How much do you have in the decision making process of water projects?

How many women are in the management committee?

What influence do you have on determining the user fees that should be charged for water?

What power if any do you have over where the borehole should be placed?

Water Quantity and Quality

Is water available every time and everyday in your community?

How clean is your drinking water?

How safe is your drinking water?

What are the preventive measures you take when water is deemed unsafe?

Have a family member being sick from drinking the water?

Transport, Storage and Usage

How do you transport water from the water point to your house?

How many trips do you take everyday between your houses to the water point?

How and for how long do you store water at home?

What are the main uses of your water?

SEASONAL VARIATIONS

Are there some times of the year when there is more or less water than other times?

Does the quality of the water change at different times of the year? (Colour change, taste, and smell)

General:

Who provides water for the family?

Do women miss out of other economic ventures because of that?

What are the main and secondary sources of water in your community?

Are the user fees reasonable and affordable for you?

How much time in the day do you spend getting water?

What is the distance between the primary and secondary sources of water?

What happens when the head of a household fails to settle the monthly user fees?

How often does water infrastructure breaks down?

What challenges do you face when your water infrastructure breaks down?