

Land for Peri-urban Infrastructure in Customary Areas: A case study of Kumasi, Ghana.

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SUMMARY

Access to safe drinking water and sanitation is particularly problematic in slums and peri-urban areas where security of tenure is often not guaranteed. The United Nations General Assembly has declared access to water and sanitation as a fundamental human right (Share The Worlds Resources (STR), 2010). Provision of water and sanitation are essential for the full enjoyment of life by all human beings. These services are provided through urban and peri-urban infrastructure which requires communal or public land. It is the role of local government to provide infrastructure for the delivery of basic services. In areas where customary land ownership is the norm, development is constrained by the inability of local governments to control development. This research is based on a case study in peri-urban Kumasi. The paper presents evidence that functional customary land administration systems are proactive in the provision of land for infrastructure development. Usufruct rights over communal land for infrastructure and services should be demarcated and transferred to the resident community. Enforcement of such a process would facilitate a partnership approach to infrastructure provision in which owners of customary land, national and local government, private sector and the resident community could ensure sustainable delivery of service infrastructure for the urban and peri-urban poor in customary areas.

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1. INTRODUCTION

Infrastructure is a broad concept that includes public investment in physical assets and social services. The desire to increase public investments in urban and peri-urban areas stems from the view that they are key ingredients of long-term sustainable growth and have the capacity to benefit the poor in the growth process (Ogun, 2010). Generally, infrastructure development can directly and indirectly lead to poverty reduction. However, the extent to which infrastructure leads to poverty reduction through economic growth depends on the quality of governance and the institutional setting (Ogun, 2010). This paper is limited to a discussion on efficient land delivery for the development of water and sanitation infrastructure which are considered primary level service aimed at addressing the basic health needs of a peri-urban community.

In a historic vote on 28th July 2010, the UN General Assembly declared that access to clean water and sanitation are fundamental human rights. These rights are essential for the full enjoyment of life and are prerequisite to the delivery of other human rights (STR, 2010). The UN resolution reflects a deep concern for the estimated 884 million people who lack access to safe drinking water and the more than 2.6 billion people who do not have access to basic sanitation (STR, 2010). It is also estimated that about 1.5 million children under the age of five die each year, and 443 million school days are lost, because of water- and sanitation-related diseases (STR, 2010).

Provision of infrastructure for basic services is vital for ordered growth of urban areas (Williamson *et. al.*, 2010). Development of infrastructure for the provision of water and sanitation is problematic in peri-urban customary areas. Such development generally follows informal development and is retrospective rather than proactive. Land is thus not reserved for the public good and service provision prior to development, resulting in problems in acquisition of land for these purposes. This paper discusses how public land for peri-urban infrastructure can be acquired by interested stakeholders and the importance of ensuring that due process is followed in acquiring the land through legal processes and reserving the use of that land for infrastructure development.

This paper reflects the analysis of a case study of water infrastructure development and safe drinking water provision in a peri-urban area in Kumasi, called Appeadu. The case study evidence indicates that land availability for infrastructure development is possible with a partnership approach between local government, traditional authorities and other interested parties such as the local residents.

2. METHOD

2.1 Theoretical paradigm of research

This research is underpinned by the Land Management Paradigm (LMP) of Williamson *et. al.* (2010). This paradigm is holistic, including four main functions of land administration: land tenure, value, use and development. The rights, restrictions and responsibilities (the 3 R's, or RRR's) in land are managed by the land administration system, which should manage the humankind-to-land relationship, and include all stakeholders in land decisions. This paradigm is entirely applicable in the context of customary land administration in Ghana, in which traditional authorities manage all four aspects included in the paradigm in an integrated manner. Although the RRR's of individuals may not be as extensive and variable as those in a freehold system, they still apply, but are administered through a more social system of organization, which is the customary administration structure and its processes.

2.2 Case study research

Case study research strategy is suitable to investigate cadastral systems (Whittal, 2008) as it is used to investigate unique, intrinsic and critical cases in their natural context (Yin, 2003). This approach to research is based on a suite of data collection techniques which provide a deep understanding of the case and result in a narrative description. Multiple case study research can result in a range of possible methods of generalisation (Yin, 2003) and, if well-designed, can yield scientifically rigorous results.

Data collection techniques follow those well-established in case study research (Yin, 2003). These include observation, in-depth interviews with key informants (traditional authorities, officials of service providers and residents) and documentation, if available.

This paper draws on the single case study methodology to analyse a case of a functional customary land administration system in Ghana. The case of Appeadu in peri-urban Ghana is investigated with the aim of ascertaining how land is acquired and administered in order to provide public infrastructure for the provision of water and sanitation. This case forms part of a broader study on functional and dysfunctional peri-urban customary land administration systems and will inform the analytical framework in that study.

3. WATER INFRASTRUCTURE AND THE MILLENIUM DEVELOPMENT GOALS

Safe water supply and sanitation infrastructure serves as a powerful preventative health measure (Kurian, 2010). Investments in drinking water and sanitation yield high economic dividends through the resultant significant reduction in disease, averted health-related costs, time savings in removing the need to collect water far from homes, which usually transform into higher productivity and better attendance at school. These benefits accrue mostly to poor people, including women and children, who are generally more vulnerable than other segments of society (Clarke and Wallsten, 2002; Kraehenbuehl and Johner, 2004; OECD, 2009). The benefits thus also translate into delivery of the Millennium Development Goals (MDGs) as captured by Kraehenbuehl and Johner (2004) in Table 1.

Table 1: Contribution of improved drinking water to the MDGs (Kraehenbuehl and Johner, 2004; produced with the permission of PHB- Brugger und Partners AG)

MDG Goals	Contribution of improved drinking water supply and sanitation
Goal 1: Eradicate extreme poverty and hunger	<ul style="list-style-type: none"> - Reduced sickness of adults and children due to safe drinking water and adequate sanitation results in higher productivity - Reduced health costs which are a big burden to poor families Healthy people are better able to absorb nutrients in food - Higher productivity due to reduced time to collect water
Goal 2: Achieve universal primary education	<ul style="list-style-type: none"> - Better school attendance due to better health and reduced time to collect water - Separate sanitation facilities for girls and boys in schools increase girls' school attendance
Goal 3: Promote gender equality and empower women	<ul style="list-style-type: none"> - Improved health, less care-giving for sick children and reduced time for water collection give women more time for productive activities, education and leisure - Water and sanitation closer to homes reduces risks of assault for women and girls while collecting water or searching for privacy for sanitation
Goal 4: Reduce child mortality	<ul style="list-style-type: none"> - Improved sanitation and drinking water sources reduce illness associated with contaminated water and unhygienic conditions and hence child mortality
Goal 5: Improve maternal health	<ul style="list-style-type: none"> - Improved water sources reduces labour burden and health problems, reducing maternal mortality risks - Safe drinking water and basic sanitation at home and in health-care facilities ensure basic hygiene following birth
Goal 6: Combat HIV/AIDS, malaria and other diseases	<ul style="list-style-type: none"> - Improved sanitation and drinking water sources, and water management in human settlements reduces water-bound diseases and transmission risks of malaria and dengue fever
Goal 7: Ensure environmental sustainability	<ul style="list-style-type: none"> - Adequate treatment and disposal of waste water contributes to ecosystem conservation and to the reduction of the pressure on freshwater resources - Careful use of water resources prevents contamination of groundwater
Goal 8: Develop a global partnership for development	<ul style="list-style-type: none"> - Development agencies and partnerships recognise the fundamental role of safe drinking water and basic sanitation in economic and social development

To achieve the objectives of the MDGs, especially in the provision of water and sanitation in peri-urban areas, requires an integrated approach. Land owners, civil society, municipal and central government should work together to achieve these goals (Allen, 2010) especially in peri-urban areas where most urbanization in the developing world is occurring (Williamson et

al., 2010; Allen, 2010; Davis, 2004).

4 URBANISATION AND PERI-URBAN LAND

4.1 Urbanisation in Africa and informality in land administration

Pieterse (2009) asserts that between 1990 and 2000 the urban growth rate for Africa was 4.53% whilst overall urban growth rates were 4.58%, thus almost all urban growth was in the form of slums. A major factor in the creation of slums is lack of secure tenure resulting from illegal subdivision of agricultural land and construction of dwellings in contravention of planning laws. Thus, although customary tenure as it is practiced now is delivering land for urban development, in the majority of cases this is not done in conformity with planning laws and therefore is contributing to the development of slums with virtually no place for basic infrastructure.

4.2 Urbanisation and infrastructure

Peri-urban areas in the developing world are experiencing the fastest growth of urbanization (Williamson et al., 2010; Allen, 2010; Davis, 2004) and this places a huge demand on urban infrastructure and its development. It is estimated that up to 45% of the 1.4 billion people who will join the world urban population by 2020 will live in peri-urban areas (Webster 2004 in Allen, 2010). This will put a lot of pressure on the already deteriorating infrastructure in these areas and on the pace of its development.

4.3 Access to land in peri-urban areas

Prior to the advent of colonization and the establishment of modern African states, pre-colonial political entities were mostly families, clans, chiefdoms and kingdoms. These employed indigenous ways of accessing and managing land (Okoth-Ogendo, 2008). Land was then plentiful and had virtually no commercial value. Social cohesion was preferred over economic gain. Customary tenure was efficient and delivered secure tenure for land holders in times of peace. However, urbanization and commercialization of land has adversely affected the ability of customary tenure to deliver as it did in the past.

It has been observed that in many cities in the developing world, urban land can either be obtained formally or customarily, and that the customary sector provides much more land to land seekers (including the majority of the poor) than the formal sector (Kironde, 1995). Most often the customary sector is considered informal and usually ignored by governments, planners, service providers and others, because it is poorly understood and hardly documented (Toumlin, 2006; Durand-Lesserve, 2003; Kironde, 1995).

Peri-urban customary land may be acquired in several ways. Firstly, land may be acquired through a group of families organising an invasion in which land is occupied without the consent of the legal owner (Akrofi, 2000; Huchzermeyer, 2006). Areas chosen for invasion are selected carefully. These are normally areas where squatters are likely to encounter little resistance as the land may belong to the state, abandoned or its owners have died intestate. The choice of the area and the preparation for the invasion are the responsibilities of group leaders with the collaboration of some municipal officials, or formal leaders of some sort.

Huchzermeyer (2006) has argued that this form of land occupation is driven by human needs rather than the market processes that determine formal urban development patterns. Secondly, land may be acquired through quiet encroachment where a few households move onto a wasteland, riverbank or some other vacant site (Hardoy and Satterthwaite, 1995). Thirdly, permission to build a house may be received from the landowner or the person or family who traditionally has the right to give such permission (Hardoy and Satterthwaite, 1995). The settler may have to pay some rent, depending on personal arrangements. Most often, however, land may be acquired through sale from the landowner, which may be against customary tenure principles and/or planning regulations (Kombe, 1998; Payne, 1997). These arrangements may perpetuate the insecure land tenure of the original landowner first to the developer/subdivider, and then on to the purchaser. Land tenure can also be less secure when subdividing in an area where subsequent land use is not permitted or when the subdivider fails to adhere to subdivision regulations concerning minimum plot size (Farvacque and McAuslan, 1992). In all of the above cases the urban poor have to break one rule or another to meet their basic need for shelter and it is outside of their capacity to consider basic service infrastructure.

4.4 Characteristics of peri-urban land

Peri-urban areas are those on the periphery of urban development where both rural and urban features co-exist. They are characterized by both agricultural ecosystems and urban ecosystems. Peri-urban land exhibits peculiarities such as high levels of land speculation, rapidly-changing land use practices and the emergence of informal service providers. The peri-urban interface in customary areas is also characterized by an institutional vacuum that makes it difficult to manage the challenges of rapid urbanization. This is exacerbated by weak municipal authority and confused mandates of public, private, and civil society roleplayers.

Peri-urban land is also characterised by rapid subdivision of large parcels of land, formerly used as small holdings supporting subsistence farming. Small plots are created and sold for dwelling purposes or commercial activity. These subdivisions are based on local development plans for the land-owner's parcel(s) only. They are not related to the wider regional plans that incorporate impacts resulting from any neighbouring city or urban area. As such, they are developed in a regional planning vacuum and the impacts on development of infrastructure for water provision and sanitation are not considered. It is taken for granted by the new residents that services will be delivered by extending the existing urban infrastructure.

Rapid land use changes, land speculation and insecurity of tenure, together with a mismatch between population expansion and infrastructure development are hallmarks of informal settlement growth. Informal developments outside of formal frameworks for control and regulation result in narrow roads or pathways, inadequate drainage, no effluent sewers, no provision of clean water or other basic urban infrastructure. Some of the land uses could even be offensive in terms of modern living standards and may be characterised by incompatible uses such as residential houses intermingled with poultry or piggery farms and schools, all in the same vicinity (Allen, 2010).

4.5 The importance of peri-urban land

Peri-urban areas are, despite their problems, important to urban economies. Informal settlements may play a vital role in the provision of housing (Marx, 2007). They are the initial point of access into the urban environment of incoming people because of their relatively low financial cost. Neither the state nor the private sector in sub-Saharan African countries can cater for the influx of people due to urbanization and so peri-urban areas with their associated informal mechanisms meet the land needs for the majority the poor and urbanising people.

5. DEVELOPMENT OF INFRASTRUCTURE FOR THE PROVISION OF WATER AND SANITATION

Water and sanitation services may be delivered in a number of ways, ranging from complete public provision to complete private provision or a mix of these two, including public-private partnerships (Kitchen, 2005). Smit (2005) argues that government bodies cannot do everything on their own; partnerships are essential, especially partnerships between government bodies, community organisations, non-governmental organisations (NGOs) and multilateral organisations. Decentralisation of domestic water supply and sanitation can assist in poverty reduction. It can also, in the longer term, contribute to addressing corruption, but implementers need to make sure that decentralisation leads to increased accountability (Kraehenbuehl and Johner, 2004). Failure to meet the goals of decentralisation is linked to lack of well-functioning local government structures, lack of technical and managerial know-how, lack of appropriate financing mechanisms, and to resistance by central government to decentralisation from central governments (Kraehenbuehl and Johner, 2004). To be effective, Kraehenbuehl and Johner (2004) argue that interventions should aim at:

- capacity building in local governments, municipalities and water organisations,
- making available the necessary financial resources at local level,
- improving the involvement of local institutions in decision making and implementation,
- increasing ownership and public participation, in particular the water users,
- improving the transparency and accountability of local government institutions and water organisations,
- increasing the independence of water and sanitation organisations from direct political pressure and influence, and channelling political interests into a structured and transparent planning and decision-making system.

6. PRIVATE PARTICIPATION IN SANITATION AND WATER PROVISION

In striving to half the number of people without access to drinking water and sanitation by 2015, most developing countries have involved the private sector to some extent. There are a number of reasons for such partnerships: as a source of funding, to improve efficiency in service delivery, to reduce costs, to contribute to long term sustainability and to promote technology transfer (OECD, 2009; Kurina, 2010). However, private sector participation has fallen short of expectations due to a number of reasons. These include poor understanding, by private sector participants, of the risks and opportunities as the water and sanitation sector is highly complex. Firstly, the sector involves high fixed costs coupled with long-term irreversible investment. Secondly, water is a basic need, with important effects on health, gender equality, and environmental management and sustainability. These justify government's intervention in the processes of infrastructure development. Thirdly, water and

sanitation are managed at the local level, exposing the private sector to unpredictable risks. Finally, there is a multiplicity of government agencies involved in infrastructure development, maintenance and service delivery which increases complexity (OECD, 2009).

In peri-urban Kumasi there are chronic and serious water shortages. Due to the inability of the formal supplies to provide safe water, private individuals have stepped in to provide for themselves or even more broadly to the community. Figure 1 shows an informal water vendor who pumps water from a borehole on his premises, stores this in tanks and provides water through a communal facility for sale. The adjacent picture illustrates tanks on private property which are either used to store water from the mains (metro water when available), or from the borehole, for household use.



Figure 1: Private water supply in peri-urban Kumasi

In projects to implement water and sanitation provision, the participation by the poor recipients in both the design and implementation phases is critical in order to leverage the benefits of economic growth in their favour. This ensures that projects are designed and implemented in ways that incorporate the needs of the poor. They can also benefit through direct participation in the construction/execution phase of a project, i.e. through employment on the construction site or through self-help schemes. In the process, capacity building can also be a spin-off of the provision of infrastructure.

Kitchen (2005) asserts that local governments either operate in monopolistic environments or compete with the private sector in the provision of infrastructure, but are not effective at either of these. He argues that local government should partner with, or contract services to, the private sector. Through a carefully compiled contractual agreement, the government should set the terms and conditions for service delivery, funding and quality and establish performance standards. He observes that, in almost all cases, significant per-unit cost savings

have been observed for private sector provision of services due to competitive forces present in private sector delivery which are absent in public sector delivery.

7. FORMAL WATER AND SANITATION PROVISION IN GHANA

Local and municipal government (in Ghana known as the Metropolitan, Municipal or District Assembly) are responsible for a range of public services. Through the Local Government Act of 1993, the District Assemblies (DAs) are mandated to:

- plan/develop/improve and manage human settlement
- grant permits for all physical development
- provide infrastructure and services
- enforce development plans

These are laudable ideals but are difficult to implement due to the informality of land development processes in customary peri-urban areas and the precarious land tenure situations discussed in section 4. They are implementable where government has control over land, where planning laws and regulations are operational and when planning authorities are well-resourced with the necessary skills, finance and technical logistics (Kasanga and Kotey, 2001).

In Ghana, local government does not own land (except where land has been expropriated for a specific use, see section 8.3) and therefore planning can only take place in partnership with land owners. This unsatisfactory situation is exacerbated since local governments are not well-resourced and therefore cannot keep pace with the planning needs of rapidly expanding peri-urban areas. In most cases therefore, settlements in peri-urban areas precede planning. Some traditional leaders, in an effort to maximize profits, dispose of every available land unit without regard to the development of infrastructure for the provision of basic services. In such scenarios, unused land which can be developed for service provision, is scarce.

Through an Act of Parliament, Act 564 of 1998, the Community Water and Sanitation Agency (CWSA) was mandated to facilitate the sustainable provision of safe drinking water and sanitation services to rural communities and small towns in Ghana. Among its functions, the CWSA is to provide technical support to District Assemblies to this end. They are to collaborate with the District Assemblies to encourage the active involvement of communities, especially women, in the design, planning, construction and community management of water and sanitation projects (CWSA, 2009).

CWSA programmes are demand-driven. Needy communities are required to request programme support through their District Assemblies. This is a competitive process and only communities that meet the selection criteria are chosen. Availability of land and transfer of the rights in the land is a crucial requirement. Also, the bidding community should be free from current litigation particularly relating to land, chieftaincy and ethnic disputes. The community is also expected to provide 5% of the total investment cost, as an indication of their ability to operate and maintain the facility after delivery. External support agencies provide 90% of the cost while the District Assembly (Government) provides the remaining 5%.

8. ACCESSING LAND FOR WATER AND SANITATION INFRASTRUCTURE IN KUMASI

8.1 Processes of land acquisition in communal areas with functional land administrations

The ownership of all customary land in the Asante Region is vested in the Golden Stool and this cannot be acquired or sold. It is the usufruct rights which are transferred.

There are a number of ways of acquiring the use of land for water and sanitation infrastructure in peri-urban Kumasi. Generally, it is agreed that in the conversion of land use from agricultural to urban use, the resulting land parcels should be distributed such that the Golden stool (Asante Kingdom), local chief, sub-chiefs, the stool and the community have shares in land. With this arrangement there should always be community land. If any land is 'sold', the resulting community funds should be available for developments such as water and sanitation infrastructure which benefit the new land owners and the community as a collective. However, these processes only function in areas where there is good traditional governance and accountability. In customary areas where the planning schemes are adhered to (one of the criteria of functional customary systems, provision is made for development of water and sanitation infrastructure in the design of the developments, and these are diligently followed.

8.2 Processes of land acquisition in communal areas with dysfunctional land administrations

In customary areas with dysfunctional land administration systems, there are most likely no designated areas set aside for planned infrastructure. Community land may be provided by the allodial owners or by individuals or families donating land to the resident community. If these options are not available the community may entice some members to sell their land rights to the community, for basic service infrastructure. Whether the land acquisition is through a gift, through purchase, or donated, the CWSA requires that correct customary procedures be followed to transfer the land to the resident community. The land should be unambiguously demarcated, should be publicly transferred to the community and the community should take immediate possession of it. Documentation serves as evidence of a valid customary transaction (da Rocha and Lodoh, 1999). In this process, greater attention to the process of documentation of customary land transactions is essential in the provision of adequate tenure security.

8.3 Expropriation as a method of land acquisition

In some instances, both functional and dysfunctional land administration systems will fail to provide land for basic infrastructure that the community deems undesirable. Such a case occurred when traditional leaders and some members of the community were against providing land to the Metropolitan Assembly, especially for landfill sites. They claimed it would devalue their remaining land. An official confirmed that "obtaining land for bulk solid and liquid waste sites is a major problem, no traditional leader wants to release large tracks of land for infrastructural purposes be it landfill site, a cemetery or even a butchery" (Informant 6, 2010). It is essential for local authorities to have access to land for the public good, even if the

local community is not in favour of this. Such land can be acquired legally through compulsory acquisition enshrined in article 20 of the 1992 Constitution of Ghana.

9. CASE STUDY OF WATER AND SANITATION IN APPEADU

Appeadu is peri-urban area about 6 kilometres from the Kwame Nkrumah University of Science and Technology (see figure 2). The area was prone to guinea worm infection which is a water-borne disease, which had adverse effect on the health and economy of the community. Consequently, the Appeadu chief and his elders organised the community through a process of self-help and, in partnership with the then Ghana Water Company Limited (GWCL), extended piped water to the area. However, this supply of water to the area was irregular and, coupled with lack of maintenance of the pipelines, resulted in the community reverting to the guinea worm-infested streams and hence the return of the disease.

Later, in consultation with GWCL, the chief and his elders decided to sink a borehole to supply water. Land was made available for the purpose by the allodial owners. The land was clearly delineated and handed over to the community. This was to ensure that subsequent chiefs will not be able to unilaterally change the use of the land or dispose of it. The area has been declared a community sacred forest and no one is allowed to farm, cut wood or disturb the environment in any way. It is a taboo to visit the area on Tuesdays, thus giving the land a religious significance which "... is how traditionally our fore-fathers preserved our water sources" (Informant 4, 2010). Although considered a myth, such local knowledge has a scientific basis. Stolton and Dudley (2007) have observed that natural systems contain necessary mechanisms to provide clean healthy water, such as the filtering effect provided by healthy forests in watersheds. They argue that, until recently, the main focus of efforts to improve water supply has been in the cities through better distribution systems, treatment plants and sewage disposal. Many authorities are now investigating land management systems that can help maintain pure water at the source (Stolton and Dudley, 2007).

The chief and people of Appeadu have procured a power plant which pumps the water from the borehole to a reservoir in town about a kilometre away. Community members are able to draw water from this reservoir (see figure 2). The reservoir area has also been declared a communal area. Individuals may connect water from the reservoir to their houses but have to pay a fixed monthly charge for this service.

Sanitation is not a major issue at Appeadu at the moment. There are public toilets and those who can afford water flush their toilets to their private septic tanks. The Water and Sanitation (WATSAN) committee of Appeadu monitors the situation to ensure that no septic tank overflows and contaminates the area. A member of the committee who was interviewed could not tell where the liquid waste collected in the town is dumped. All he knows is that the Metropolitan Assembly has a place for that purpose (Informant 7, 2010).

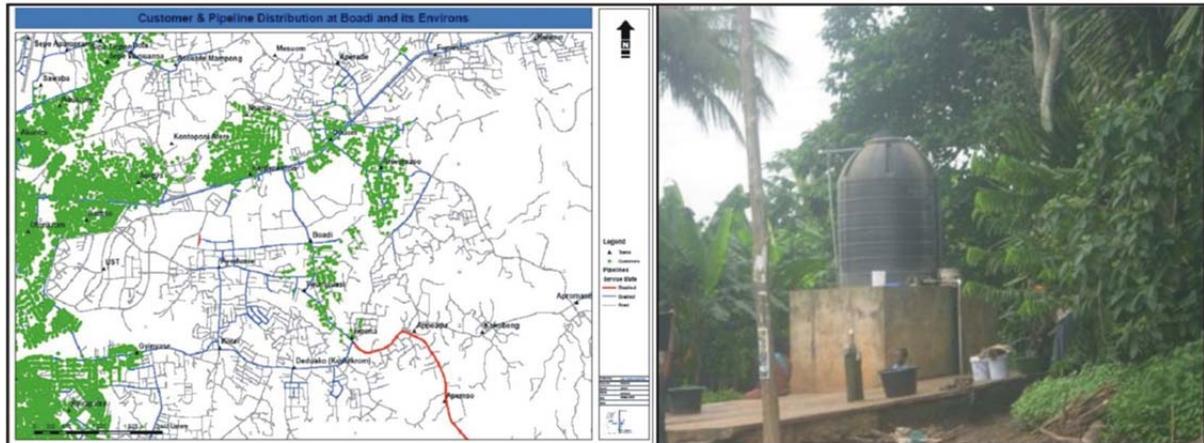


Figure 2: GWCL Pipe Lines and Appeadu Community Initiative

9.1 Maintenance of the communal water infrastructure

The WATSAN committee is responsible for the daily maintenance of the communal water facility. The maintenance team are well-known in the community and act promptly whenever any faults are reported. The fixed charge for households who have water connections to their homes feeds into the funds used for maintenance; community members who fetch water from the stand pipes also pay a nominal fee. When there is an urgent need for repairs above a particular value threshold, the chief and elders are informed. Sometimes community funds from land sales are used for this purpose.

9.2 Benefits of the Infrastructure

There are direct benefits of the community-managed water supply in Appeadu.

- Eradication of the guinea worm disease in Appeadu: the elderly community are appreciative of the chief and members of the town development committee for eradicating the infection from the area.
- Efficient water supply: there is constant water supply. Residents describe the present water supply as far better than when they were connected to the metropolitan mains, with its frequent outages always blamed on breakdown of the booster station supplying the area.
- Increase land values: Appeadu stands out from other customary areas within its environs in terms of its constant water supply. Consequently, developers prefer the area thus pushing up the price of land.

9.3 Lessons from Appeadu

There are many lessons from the Appeadu case which could inform infrastructure development in other customary areas.

- The motivation for the self-help project was propelled by the need to combat a common enemy—the eradication of the guinea worm disease. The lesson here is that there needs to be sufficient motivation for communal projects to be implemented successfully.
- Able local leadership of the chief and elders was critical. These leaders exhibited some

tenets of good communal governance (Akrofi and Whittal, 2011) and were able to mobilise the community and commit community resources (land and community proceeds from land sales) for the construction and maintenance of the water infrastructure.

- Public partnership offered much. The GWSC, on its own, could not supply the community with water continuously due to infrastructural problems. However, partnership between the community and the GWSC resulted in a lasting solution.
- Community managed infrastructure projects build capacity in the local community and make the project more sustainable.
- Local knowledge ‘myth’ should not be brushed aside, but should be investigated and used when appropriate.
- Compulsory acquisition may be necessary to acquire large tracts of land for bulk infrastructure development since traditional authorities are reluctant to realise land for such purposes, since some of these are undesirable and lower land values.

10. CONCLUSIONS

Access to clean water and sanitation is fundamental human right, but currently most peri-urban dwellers in customary areas lack these basic services. Furthermore, access to these services is a prerequisite for general upliftment in a poor community. Access to land for the purposes of infrastructure development can be problematic in communal areas, particularly areas in which land administration is dysfunctional. Due to lack of proactive planning on the part of government to reserve land for water and sanitation infrastructure, and the fact that some traditional land owners do not prioritize infrastructure development, lack of availability of land becomes an impediment to infrastructure provision in customary peri-urban areas. Accessing land for infrastructure development in the later stages of development of customary peri-urban settlements becomes increasingly difficult. Depending on the nature and extent of the land required, it can be donated by or purchased from members of the community. It may also be necessary to institute a mechanism of compulsory land acquisition for the greater good. Whatever the means of acquisition, proper procedures should be followed to secure the land in the name of the community.

The lessons from Appeadu are manifold, but indicate that creative methods of provision of basic services is possible in customary peri-urban areas. Furthermore, such methods can be locally-led and managed, build capacity, meet the needs of the poor residents and, very importantly, be sustainable in terms of continuous and quality service provision and in terms of their environmental footprints.

REFERENCES

- Akrofi, E. O., and Whittal, J. (2011) "Traditional governance and customary peri-urban land delivery: A case study of Asokore-Mampong, Ghana" A paper to be presented at AfricaGeo in Cape Town May 30- 2 June 2011.
- Akrofi, E.O. (2000) "Upgrading security of tenure for the peri-urban poor in Africa" unpublished MSc. Thesis, University of Natal, Durban.
- Clarke, G.R.G., and Wallsten, S.J. (2002) "Universal(ly Bad) Service: Providing Infrastructure Services to Rural and Poor Urban Consumers", Online accessible <http://ideas.repec.org/p/wbk/wbrwps/2868.html>, last accessed 15 December, 2010.
- Community Water and Sanitation Agency, (2009) "Corporate Brochure," Online accessible: <http://www.cwsagh.org/cwsa>, last accessed 5 November 2010.
- Constitution of Ghana (
- da Rocha, B.J., and Lodoh, C.H.K. (1999) *Ghana Land Law and Conveyancing*, DR & L Print and Publications, London.
- Del Mistro, R., and Hensher, A.D. (2009) "Upgrading Informal Settlements in South Africa: Policy, Rhetoric and What Residents Really Value", *Housing Studies*, 24: 3, pp333-354
- Davis, M. (2004) "Planet of Slums" *New Left Review* Vol 26 March/April pp 5 - 34
- Farvacque, C. and McAuslan, P (1992) *Reforming Urban Land Policies and Institutions in Developing Countries*, Urban Management Program, Urban Management and Land, The World Bank.
- Government of Ghana (1998) *Act 564: Community water and sanitation agency Act*, Government Press, Accra
- Government of Ghana (1998) *Constitution of Ghana*, Government Press, Accra
- Hardoy, J. and Satterthwaite, D. (1995) *Squatter Citizen: Life in the Urban Third World*, Earthscan Publications, London.
- Huchzermeyer, M. (2006) "The struggle for *in situ* upgrading of informal settlements: Case studies from Gauteng". Paper presented at the Southern African Housing Foundation Conference & Exhibition, Cape Sun, 9-11 October 2006. Online accessible <http://web.wits.ac.za/NR/rdonlyres/26A2BD65-7B9E-4806-9B3D-DE2495244F31/0/2006struggleforinsituupgradingGautengcases.pdf> last assessed 15 December 2010
- Kasanga, K. and Kotey, N. A. (2001) "*Land management in Ghana: building on tradition and Modernity*" International Institute for Environment and Development. London
- Kasanga, R. K. (2008) *Rapid Urbanisation, Land Markets and Gender Insecurity: The Challenge of Sustainable Development in Peri-Urban Neighbourhoods in Ghana*. Professorial Inaugural Lecture, Kwame Nkrumah University of Science and Technology, Kumasi.
- Kitchen, H. (2005) "Delivering local municipal services" in Shah, A (ed.) *Public sector governance and accountability series: Public Service Delivery*, pp 117 – 152, The World Bank.
- Kombe, W. J. (1998) "The Land Tenure and Land Use Planning, Question in the Urban Peripheries in Tanzania". Presented at the Seminar on Land Tenure and Policy Issues in Land Use Planning, August 17-28,1998. Zschortau, Germany.
- Kraehenbuehl, J., and Johner, O. (2004) *OECD infrastructure and poverty reduction task team: water infrastructure for poverty reduction*. Final Report, BHP - Brugger and

- Partners Ltd., Zurich/Switzerland. Online accessible
<http://www.oecd.org/dataoecd/34/18/36568304.pdf>, last accessed 15 December 2010.
- Kurian, M. (2010) "Introduction" in Karain, M and McCarney, P., (eds), *Peri-urban water and sanitation services: Policy planning and methods*, Springer, pp 1-26.
- Marx, C. (2007) *Do informal land markets work for poor people? An assessment of three metropolitan cities in South Africa*, Synthesis Report for the Isandla Institute and Stephen Berrisford Consulting with Progressus Research and Development, Urban LandMark.
- OECD (2009) *Private Sector Participation in water Infrastructure, OECD checklist for public action*, IWA Publishing, London.
- Ogun, T. P. (2010) *Infrastructure and poverty reduction: Implication for urban development in Nigeria*, Working Paper No. 2010/43. Online accessible
http://www.wider.unu.edu/publications/working-papers/2010/en_GB/wp2010-43/_files/83470208826802337/default/2010-43.pdf last accessed 15 December 2010.
- Ollennu, N.A. (1962) *Principles of Customary Land Law in Ghana*, Sweet and Maxwell, London.
- Payne, G. (1997) *Urban Land Tenure and Property Rights in Developing Countries A Review*, IT Publications/ODA.
- Perdomo, R.P. and Bolivar, T. (1998) Legal Pluralism in Caracas, Venezuela, in E. Fernandes and A. Varley (eds.), *Illegal Cities Law and Urban Change in Developing Countries*, Zed, London.
- Smit, W. (2005) "10 things to remember about informal settlement upgrading," A presentation made at Friends of DAG seminar, Observatory.
- Stolton, S. and Dudley, N. (2007) "Managing forests for cleaner water for urban populations" *Unasylva*, Vol. 58, 2007 pp 39-43,
- Toumlin, C. (2006) "Securing land rights for the poor in Africa-Key to growth, peace and sustainable development", Online accessible:
http://www.undp.org/legalempowerment/pdf/Africa_land_2.pdf, last accessed 10 October 2010.
- Ublink, J. (2008) "Negotiated or negated? The rhetoric and reality of customary tenure in an Ashanti village in Ghana", *Africa*, Vol. 78 No. 2, pp77 – 96.
- Ublink, J. (2007) "Tenure security: wishful policy thinking or reality? A case study from peri-urban Ghana", *Journal of African Law*, Vol. 51 No. 2 pp 215 – 248.
- Williamson, I., Enemark, S., Wallace, J., and Rajabifard, A. (2010) *Land Administration for sustainable development*, ESRI Press, California.
- Yin, R. (2003) *Case Study Research - Design and Methods*, third edition, Applied Social Research Methods Series, Vol. 5, Sage Publications, London.
- Whittal, J. (2008) *Fiscal Cadastral Systems Reform: A Case of the General Valuation Project 2000 in the City of Cape Town* (PhD thesis University of Calgary 2008). Online accessible: www.ucalgary.ca/engo_webdocs/MB/08.20272.JWhittal.pdf, last accessed May 2010.

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- Informant 4, 2010 personal communication
 Informant 6, 2010 personal communication
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