AMA COMMUNITY UPGRADING PROFILE: NIMA-MAAMOBI DRAIN AREA





Millennium Cities Initiative
EARTH INSTITUTE | COLUMBIA UNIVERSITY

Volunteers in Community Empowerment

Voice

Land Vielenie

Credits and Acknowledgements

This assessment report is the product of a collaboration between the Accra Metropolitan Assembly, the Earth Institute Millennium Cities Initiative, and Volunteers in Community Empowerment (VOiCE), a community service/youth group from Nima-Maamobi.

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Part I

Current Conditions and Perspectives for Development





BACKGROUND: THE ACCRA MILLENNIUM CITY INITIATIVE

In 2010, the Accra Metropolitan Assembly entered into a partnership with the Millennium Cities Initiative of the Earth Institute at Columbia University aimed at identifying more beneficial and inclusive forms of urban development in Accra. This partnership established the Accra Millennium City Initiative.

The role of the Millennium Cities Initiative of the Earth Institute at Columbia University (MCI) is to research and advise selected Sub-Saharan cities regarding those areas in which they are furthest off-track from achieving the Millennium Development Goal targets and to recommend targeted, cost-effective interventions and strategic investments that can accelerate progress in these areas. In Accra, the focus has been on the deficient municipal infrastructure and public service delivery in this vast and growing city, as well as urban environmental management (Goal 7), including "slum" upgrading, and stifled labor markets. Under the auspices of the Millennium City program, some of the city's poorest communities would be selected for projects to improve living standards, including improved access to municipal services - physical layout, water and sanitation, environmental health, economic development, etc.

The joint neighborhoods of Nima-Maamobi East were selected for priority intervention,

given their long history as one of Accra's most deprived areas. Nima-Maamobi East was given priority over Nima-Maamobi West as its physical layout is in much poorer condition, with a greater housing density and virtually no road (or other) infrastructure. In general, its rates of population growth and physical development were overwhelming, given that no spatial planning and little adequate municipal service provision had taken place. This condition is largely due to past tendencies on the part of city authorities to neglect the area, given its status as a zongo. A zongo translates as a "stranger's quarters," a term typically applied to migrant communities from Northern Ghana and other West African migrants of Hausa and other origins; such communities have usually grown in an unplanned manner in which squatting on land occurs to at least some extent.

In the case of Nima-Maamobi, a custodial land arrangement was enacted between the Odai Kwao and Futa families in which migrant settlers were allowed to inhabit the land under revolving leases. Despite this arrangement, Nima-Maamobi was for a long time considered an illegal squatter settlement, with a reputation as a place undergoing rapid physical and social decay, rife with dangers arising from crime, both petty and organized. This has had a stigmatizing effect for many of its residents, particularly the youth, as we will explain later in this report. The important point is that there has been very little investment in municipal services in the area, particularly in Nima-Maamobi East. Mindful of this, the AMA

has worked towards improving service provision in these neighborhoods, in collaboration with MCI and other development partners, including local NGOs.

MCI has conducted assessment work in Nima-Maamobi East for two years. The first project conducted by MCI, in collaboration with the AMA Department of Urban Roads, was an assessment of potential road extensions in Nima East, using preliminary Geographic Information Systems (GIS) data and key informant interviews collected in the summer of 2010. With this information. the AMA approved its first set of road works in Nima East, including the urgently needed connection between the Nima Welfare Clinic and Kanda Highway. This project was followed up by another assessment for improving layout conditions in Nima East, including a "generative structures" concept design. These designs were submitted to the AMA for consideration in future development plans in the Nima East area. This work, following the years of advocacy by opinion leaders and youth groups, has helped generate awareness of the potential found in Nima and the investment needed to see it become a reality on the ground.



FOCUS: NIMA-MAAMOBI DRAIN

Building on the gradual momentum from the Millennium City program, the Ministry of Water Resources, Works and Housing (MWRWH) identified the drain running through Nima-Maamobi East for upgrading. This drain known by locals as "Gutter" -- separates Nima East from Maamobi East. The drain was originally a stream running through the entire Nima-Maamobi community, but the section running through Nima-Maamobi West was lined with pavement in the 1990s, as part of an infrastructure upgrading project. It was believed that the government would turn the stream into a drain, since streamflow erosion was getting dangerously close to housing structures, and that then the rate of flow would stabilize. Long-time residents report reduced flood risks. However, drainage works were not carried over to Nima-Maamobi East, due to financing constraints. As a result, the channel remained half stream (East side), half engineered drain (West side), and erosion along the embankment in the East side continues. Further, residents defecate in the stream and throw in large amounts of solid waste, reflecting a severe solid waste management problem in the area.

The MWRWH has now financed drainage works to be completed along Nima-Maamobi East. The stream will be converted to a drain, which will be slabbed (covered shut). The rationale behind the slabbing is that it will eliminate open defecation and the dumping of solid waste and will allow for easier maintenance of the drain.

The Hydrological Services Department (within the MWRWH) is responsible for oversight of the drainage works. The contractor, Caspain Energy, has been commissioned for drainage works and backfilling to create a right-of-way (ROW) for roads on both sides of the drain. The roads would be necessary in order to conduct routine maintenance of the drain. It is also expected that the neighborhoods' residents, as well as passersby and customers entering or exiting the Nima-Maamobi area, will use the roads. The AMA Department of Urban Roads (DUR) is responsible for financing and conducting road works once the ROW is set.

The MWRWH, along with the AMA DUR, expressed interest in using the opportunity of the drainage and roads work to further improve both the standard of living of nearby residents, by improving access to key municipal services such as liquid and solid waste management, water supply, etc., and the prospects for economic

encountered

development along the new roads. The visioning for this calls for a spatial design concept plan for introducing mixed-use, multi-story development along the envisaged roads. The AMA approached MCI with hope that it could assist in facilitating this process, in order to achieve improvements in living standards and economic prospects for local residents and entrepreneurs, as well as to "open up" the neighborhoods to the broader urban economy.

MCI'S ROLE

The Millennium Cities Initiative, therefore, is collaborating with city authorities and the Nima-Maamobi community leaders to conceptualize a redevelopment strategy along the drain area, taking advantage of the new ROWs for infrastructure works. There are a range of different approaches to take for the drain area that can integrate local economic development with spatial planning and design. MCI's most beneficial contribution would seem to be a presentation of the range of options in the form of an array of scenarios for the key stakeholders to consider when deliberating the way forward for developing the drain area. Such stakeholders include the residents, opinion leaders, youth groups, women's groups, entrepreneurs, and politicians within the Nima-Maamobi area, the AMA, the MWRWH, the Ministry of Local Government of and Rural Development, local NGOs, civil society groups and universities.

The scenarios submitted in this report reflect assessments of opportunities and constraints for spatial and economic development along the drain area and provide a set of design options for stakeholders interested a healthier and more inclusive form of development for the Nima-Maamobi area. These scenarios correspond to each possible allocation of ROW space - that is, 10 meters, 15 meters and 20 meters on each side of the drain. Of course, each scenario presents its own set of trade-offs, all of which are important to highlight and discuss. Ultimately, we hope that the assessment methods, designs and overall process can inform guidelines for future upgrading projects across Accra.

This report does not provide detailed, shovelready construction documents for redevelopment of the drain area. That would be the role of local contractors, to further evolve MCI's concept designs, should stakeholders wish to do so.

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LIMITATIONS TO **OUR ASSESSMENT**

obstacles Significant during our time doing work in the drain area. While conducting our assessment, residents approached us asking if their houses were going to be demolished and if they were going to be compensated financially for their loss. This reflected insufficient inclusion of residents in the deliberation process for this project. It is true that the HSD and DUR held a meeting with community leaders to inform them of the drain project, and that the leaders welcomed the project. However, the residents along the drain were not informed if their houses would be affected. After making a series of inquiries with the HSD, the contractor, the Ayawaso East Submetro office and the local assemblymen, we came to learn that that a costing analysis of the affected houses and subsequent compensation was actually never conducted. As such, there was no documentation of provision for compensation of homeowners. Accordingly, we were not able to have consultative forums with homeowners, tenants and business owners along the drain about their preferences for development, since the authorities had never discussed the matter of compensation with them. Unfortunately, the result is that our engagement with the neighborhoods was limited to focus groups with local entrepreneurs, contractors, youth groups and women's groups; a small forum with community leaders, and individual (nonstructured) interviews with some residents. These consultations provide very important practical information, and we are confident that their perspectives are well captured in this analysis. But our analysis is missing the vital input of homeowners. The issue of resident inclusion and compensation remained problematic from November 2011 until 30 March 30 2012, the last time we placed an inquiry.

THE STRUCTURE OF THIS REPORT

This report is structured as follows:

Chapter 2 presents the situation analysis, or current conditions along the drain area, including land administration, layout issues, housing, access to municipal services and the local economy.

Chapter 3 outlines the community's vision and expectations for the upgrading process, as told by the local community-based organization Volunteers in Community Empowerment, or VOICE. The chapter is written by the leader of VOICE, Shaban, a Nima native and resident.

Chapter 4 shows options to enable improvements in access to such key services as water, sanitation, waste management and pedestrian mobility as one penetrates further into the dense residential areas of Nima-Maamobi. In this chapter we present a street framework that may enable such service expansions.

Chapter 5, Prospects for Local Economic Development, discusses the potential strategies for promoting existing economic activities, as well as paving the way for emerging or new entrepreneurship and/or employment opportunities. The emphasis is on using newly acquired ROW space to harmonize various potential investments through local economic development planning.

Chapter 6 outlines the goals and objectives for the redevelopment of the drain/road corridor.

Chapter 7 presents the development scenarios and design guidelines. As stated earlier, MCI submits these scenarios and guidelines to the AMA and local stakeholders for their thoughtful and practical consideration.



This section provides a summary of the current state of the Nima-Maamobi drain area, commonly known in the community as "Gutter." A focus is put on access to municipal services, as it is the prominent challenge not only in the Gutter area but in Nima-Maamobi as a whole. Before we present our findings on conditions in Gutter, we provide some contextual information regarding conditions in the broader community. We then focus on specific issues found in Gutter.

LAND ADMINISTRATION

The land that comprises Nima-Maamobi is governed using a custodial agreement at least 70 years old, between the Odai Kwao family (the owners of the land) and the Mallam Futa family (the custodians). Under this agreement, people (mostly migrants) have been allowed to settle under a lease arrangement. Aside from this, the nature of land rights in Nima-Maamobi is ambiguous, due to a lack of documentation of occupancy agreements. This has given rise to shady deals and fake permits, which have exacerbated quarrels over land, with different parties claiming right to the same plot.

An ongoing dispute between the Odai Kwao and Futa families over how land is being allocated in Nima is worth nothing. Regardless of the ambiguity surrounding land rights, though, it is generally not contested that residents of the community have the right to live there.

LAYOUT ISSUES

Spatial planning or "layout" is almost non-existent in Nima East, posing considerable challenges for the Zone 1 area in particular, where housing density is among the highest in Accra. Even with its current density, structures continue to be erected overnight wherever there is space and may block pedestrian pathways. The lack of road infrastructure not only affects mobility; it but also severely constrains access to such critical municipal services as water supply, sanitation and waste management.



Nima, like many unplanned settlements, has a very poor drainage system. As is the case in most Accra neighborhoods, the drains found in Nima are mostly open drains. Apart from the government-built drains running along the highways, the drains within the community have

been built by individual homeowners. Because of this optional, individual citizens' approach to solving the neighborhood's drainage problems, drains in the area tend to be badly constructed,

or, in some cases, there are none.





The lack of a proper waste management system, coupled with the open nature of the drains, has made the drains an option for waste disposal in the community - especially in the Nima-Maamobi Gutter, where the drains are choked with plastics and other waste materials. Hence, during heavy and prolonged rains, it is common to find pockets of flooded areas, especially in the Zone 1 area, rendering them conducive to breeding of mosquitoes and other disease-causing parasites. It is no surprise, therefore, that malaria is the most prominent ailment recorded at clinics and the hospital, followed by upper respiratory tract infections, diarrheal and skin diseases, accidents and intestinal worms, in descending order of frequency (Songsore (2008)).

Transportation

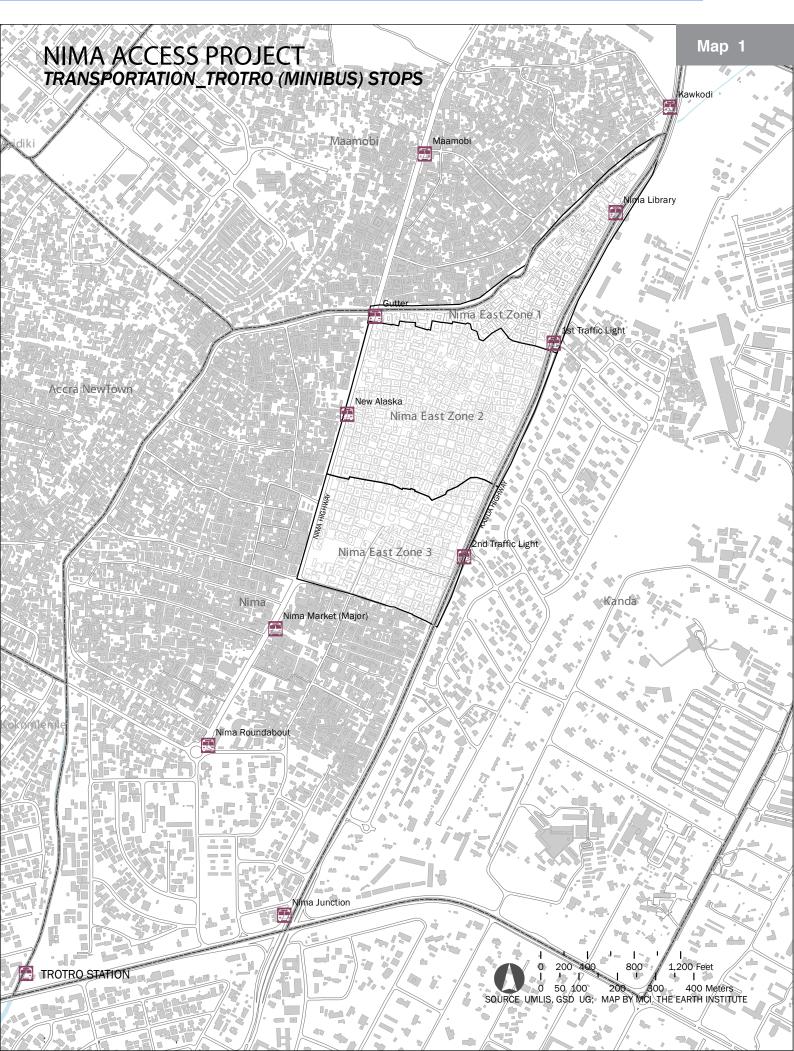
Residents deep within the residential areas of Nima Zones 1 and 2 have to walk to one of the highways to take a tro-tro (mini-bus) to work or go about the city. Maamobi East is a bit better serviced with roads. Map 1 shows the tro-tro terminals within the area. In general, Nima-Maamobi is very well serviced by transportation services as it is a key destination for many traders, customers and residents in Accra. Those residents in Nima East Zones 1 and 2 who are car owners have to park their car along the highways and walk to their homes.

Recreational Space

It should be obvious at first view that a critical challenge found in Nima-Maamobi is the severe lack of recreational space.

Recreation is a very important part of community life in Nima, a fact clearly manifested during weekends. The recreational needs of adults and youth, males and females are different, but the common challenge confronting them is the lack of space. During the weekend it is common to see "no way" signs (especially between the hours of 2 and 6 pm local time), particularly on the few connecting roads in the community; this is done informally, just to create a venue for occasions such as weddings, outdoorings and funerals. This sometimes happens close to the highway, causing serious traffic congestion. There are two soccer fields across Kanda Highway. Soccer is enjoyed by most male youth, whom one will spot heading to play on nearly a daily basis. Due to the absence of space for a game, these young men are forced to move into Kanda or New Town to play.

Adults and teenagers are not the only ones faced with the problems of recreational space. Due to lack of space, children are also forced to play on the roads and/or in very crowded and dangerous alleys. Many children therefore get injured as a direct result of the dangerous conditions in the areas where they are forced to play. During one of the focus group discussions, the women all agreed on the need to find space for their social activities and for the children to play. They were quick to point out that once the drain is covered after construction, the space created could be used for such community ceremonies as marriage,



naming ceremonies and funerals. In the words of one of the women, "The thing is that if because of one marriage ceremony we block the road, it really disturbs, and so since the top of the drain will be covered, it could serve as a place where such ceremonies could be held!"

HOUSING

Nima has a mixture of housing typologies, the dominant type being compound houses, which average between 5-13 rooms or household units. Households may include both extended families and renters. Individuals or households occupy single rooms but share activity space and services. A central courtyard is the common space for cooking, washing, sitting, playing, etc. They usually share a common bath and toilet, if at all, except for some few cases where the landlord and his family have one exclusive to themselves and a shared facility for the other inhabitants. Apartment buildings are also increasing in recent years and are found mainly along the two highways. They are usually mixed-use residential/ commercial and this only confirms the increasing need for mixed use, multi-story buildings in the area. Other housing types include detached, semidetached, flats and improvised homes (kiosks).

Overcrowding

Overcrowding is mentioned by Songsore (2008) alongside water, sanitation and hygiene, solid waste, pests and pesticide use, food contamination, household air pollution as one of the great threats to human health and the environment in the Greater Accra metropolis. Crowding in Nima like most 'slums' is a problem and the average number of persons in a room ranges from 3-12.

Because of overcrowding and a high demand for rental units the cost of housing has increased significantly in the last few years. In many cases new rooms have been built within the courtyard or original rooms have been subdivided to try and accommodate the growing demand. These additions put a strain on the functionality and overall living conditions of compound houses. Many rooms lack proper windows and ventilation. Additions also reduce the courtyard

space and often break up the area left into small, less functional spaces.

Housing Extensions/Alterations

Most houses don't have a lot of extra space internally so alleys are seen as an expansion space. Without any maintenance or management of the alleys (the only circulation routes available in the neighborhood) residents appropriate parts of alleys for their own use; everything from toilets and water tanks to commercial kiosks. Since most homes/rooms were not built with toilet rooms (historical night bucket rooms have been appropriated for other purposes since they were made obsolete) residents often build toilet extensions into the alleyways. Commercial kiosks are built along popular pedestrian routes where there are the most customers. This means that exact alleys needing the most space for circulation are those most threatened. These extensions further inhibit the already limited accessibility of the neighborhood.

In the strain for more living space many freestanding wooden structures have been built on small areas of unused land. This is very common along the bank of the gutter where there is space between the back of the house and the gutter. In some cases, waste is used to reclaim some of the land lost to erosion for the construction of many of such wooden structures. These structures are often poorly built and in bad condition. Also, the combination of tenuous construction and their location at the edge of the eroding gutter is very precarious.

Construction Materials/Methods

The materials used for these houses include mud with cement plastered outer surface, sandcrete blocks and concrete and wood. The mud units are the typical old buildings that were constructed in the 50s, 60s and 70s. The houses with sandcrete blocks and concrete are (for the most part) new buildings that have been put up to replace the old mud houses, which are weak and collapsing, or when there is the need to extend some part of the house to create more room. Wooden structures are also quite common and are one of the main causes of the narrowing of alleys.

The builders or local contractors employ very simple architecture and design. They also use cheap (mostly second-hand) materials and employ the simplest methods.

There is interest and money in Nima and Maamobi to repair and improve structures, but many logistical obstacles obstruct private development. The first is financial since Nima has long been perceived as poor/dangerous area and businessman and landowners often lack proper documentation for collateral. The other is physical, due to the lack of space in the neighborhood. There is very little free land or unused structures where new buildings could be built. It is also difficult to get construction materials in and out due to the lack of road and even harder to find a place to store materials/equipment near the construction site. The additional cost of manually bringing in construction materials is often passed on to the client.

Most new structures are single story and made of cement block with long span metal roofs. Although current construction materials (concrete and cement block) are standard throughout Accra, contractors often use lower grade materials for construction in Nima and Maamobi since residents can't afford more. This means using sandcrete or lower grade concrete blocks, lower grade aggregate in concrete, and little or no reinforcing steel.

Even with a high demand for housing, especially rental units, most landlords who have money to invest in building improvements will invest in new or converted commercial space rather than additional housing units. This is especially the case for houses that border the highway and other access roads in the community.

There is an interest in vertical growth, but very few multistory buildings exist. There are three reasons for this. One, the structure of most existing one-story buildings can not support additional floors. Two, the cost of new multistory construction is prohibitively high. Three, most people do not have the resources to relocate while a complete rebuild is done. Also, in many cases, a single housing unit may belong in parts to several siblings who may not agree on such a development plan. When new structures are built they are designed to support 3 floors in the future even if only one floor is built in the first phase. They are also designed to include modern indoor amenities and multi-room apartments.

ACCESS TO PHYSICAL INFRASTRUCTURE SERVICES

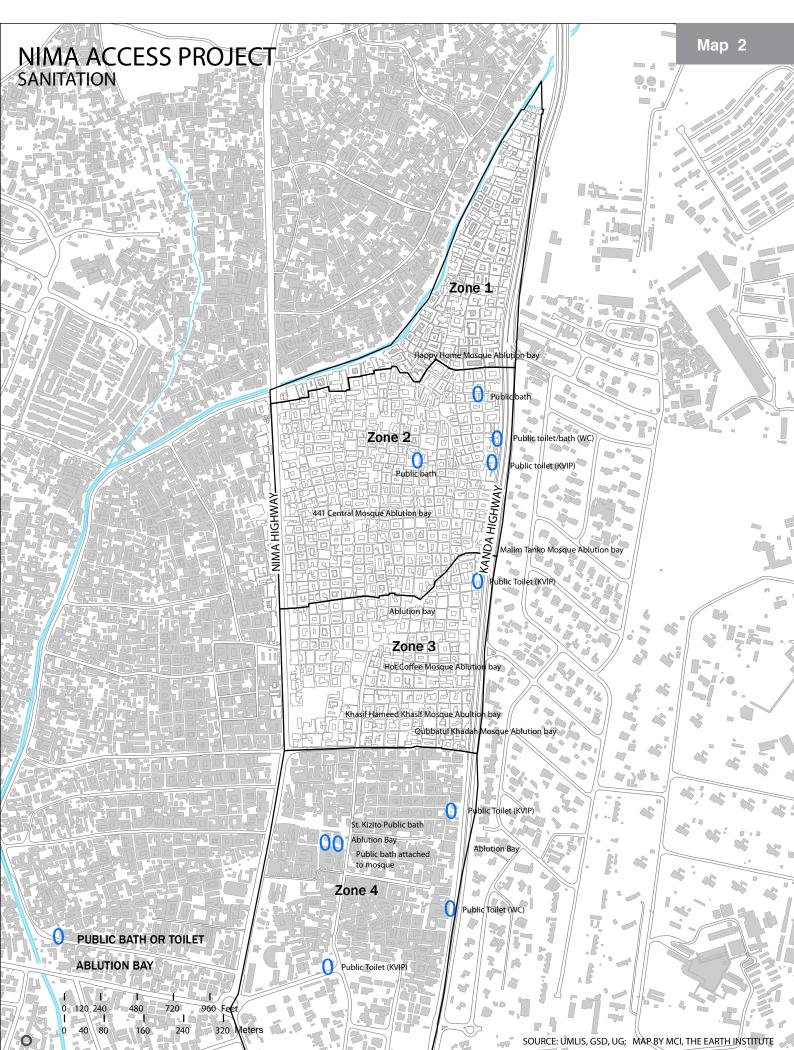
Sanitation

By far the least adequate municipal service in the Nima-Maamobi area are the neighborhood's services, including sewerage sanitation infrastructure and toilet facilities. There is no sewerage infrastructure in the community or in the majority of houses there.

The majority of residents without access to an in-house toilet use public toilet facilities as the best available option. Map 2 shows the location of toilet facilities in Nima. The drain area is located in Zone 1, where there are no public toilet facilities. Two public toilets located in Maamobi East near the drain area, butthese are in poor condition, as they are not well-maintained despite heavy use. Long queues form during the early hours of the morning and in the evening. Access to toilet facilities is a specialchallenge for children, as the section of the public toilet facility reserved for them is often out of order.

The poor conditions at these few public toilets, coupled with the long lines, pushes some residents - adults and children - to resort to open defecation, especially in Gutter, and also to what has come to be known as "Nima bombs," or black bags stuffed with feces. Residents throw their Nima bombs in the air, which then tend to land on buildings or in corners of the community.

The use of the drains for defecation, especially by adults, has a cultural and attitudinal dimension. Women mentioned, in the course of focus group discussions, that some neighbors claimed it is more enjoyable defecating in the drain, with fresh air blowing around them.



Any intervention in terms of sanitation should therefore aim at eliminating and stopping the practice of open defecation, which will dramatically reduce health hazards posed by this dangerously unsanitary practice. It should also be pointed out that although the covering of the gutter will protect the community from the contaminated drainage, it will further strain the limited sanitation facilities since so many people used that area for defecation.

Solid Waste Management

Solid waste management continues to be an urgent issue in Nima-Maamobi, despite the marginal improvements in collection reported by residents. There is currently no existing skip within the Nima East area itself, except for the ones at Kanda, Nima West close to the Nima highway and the one at Gutter on the highway itself. See Map 3.

As a result, most residents, especially those closest to the drain, indiscriminately throw their garbage there. Others further off also tie their refuse in plastic bags, which they tend to leave in deserted corners, thereby causing an environmental mess with its attendant health and sanitation consequences. Existing drains are therefore often clogged with waste material, leading to a proliferation of vermin and disease vectors in these communities (MCI, 2010). This is especially the case in the Zone 1 area of Nima East, where the big, open and unpaved drain runs. This situation is exacerbated by the lack of proper layout and access, which makes it difficult for any serious intervention to be implemented. For example, the newly introduced house-tohouse collection system (AMA, 2010) has been very difficult to implement in the area, due to the lack of both access and proper layout. The factors accounting for the waste management problem in the area therefore include:

- Poor conceptualization of sanitation and lack of adequate sanitary facilities
- Ignorance and irresponsibility on the part of individuals, households and the community in general
- Lack of community action and springing up of unauthorized temporary structures
- Continuously increasing number of squatters and migrants

Absence of fee-based service provision in the area

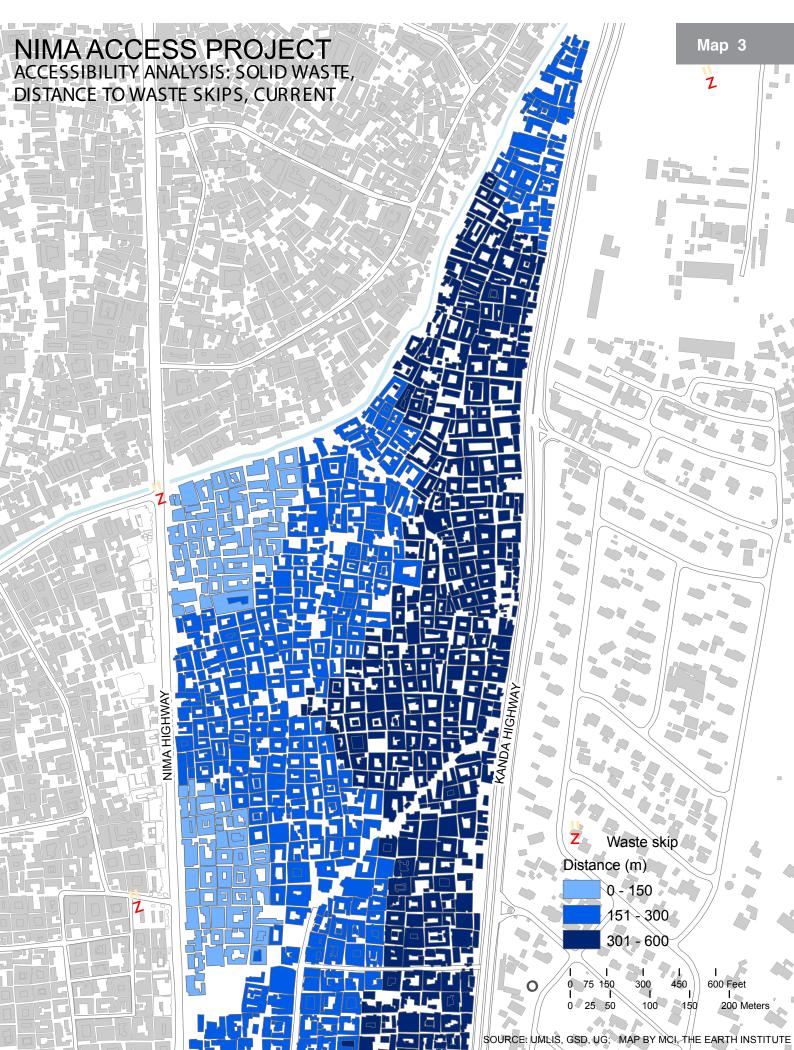
Water

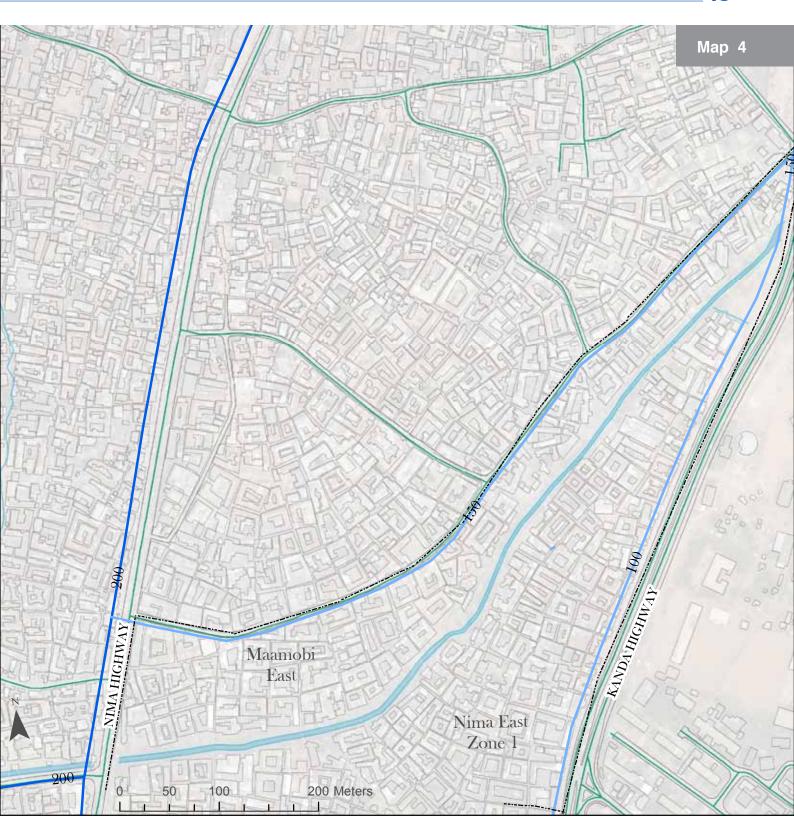
For decades, the Nima-Maamobi area has had trouble with access to safe and readily reliable water. Piped water infrastructure is limited mostly to the GWCL lines running along Nima Highway, Kanda Highway and Kawkudi 'Avenue', as well as and nodes designed for individual connections. See Map 4.

The cost and complexity of installing private water line from the periphery road to a residence in the core of the community has limited the number of official connections. Residents with access to water nodes have reported that they have varying degrees of pressure. The limited water network in Nima may be due in part to the rising and falling relief of its terrain in relationship to Maamobi, Kanda and Accra New Town (MCI 2010). As a means of improving access, some residents install in-line suction pumps to draw a little more water from what manages to enter the distribution system in Nima (MCI 2010). This practice, in turn, disrupts supply for other residents relying on the main lines. The inability to rely on piped water networks has necessitated the reliance on water vendors as primary or supplementary providers of water. Coupled with the distances from house to vendor and the layout constraints, the reliance on water vendors has given rise to employing water porters, who fetch water for households for a fee (MCI 2010).

The network of illegal pipes connecting to the main water supply system, installed out of necessity, due to the limited "official" water supply network, are a serious health hazard. Many of them run through extremely dirty and germ-infested alley gutters, exposing the water to bacteria and other disease-causing organisms that are passed on to users. It is not uncommon for breakouts of diarrhea and other diseases to be transmitted through this secondary network.

Despite the obstacles, residents report an actual improvement in accessing water, as is evident in the number of water vendors and water tanks dotting the area. Problems remain with regard to availability and reliability of supply, prompting





CURRENT WATER MAINS: Nima-Maamobi Drain Area

Legend (Diameter of water main pipes)

- Water Main (Over 150mm diameter)
- Water Main (150mm diameter or below)

water vendors to buy extra tanks and other large storage containers so they can store a lot more when the taps are running. Several boreholes, mainly in Zones 1 and 2, also add to the water supply chain: during the shortages so common to the area, residents can rely on them, rather than having to travel such long distances to get water.

Electricity

Residents interviewed indicated that electricity is not an urgent problem for them. In houses with home-based businesses, electricity is used to facilitate operations, e.g., provisions shops, tailoring shops, etc. The main problem with electricity remains the many illegal and dangerous connections, posing the danger of fire outbreaks capable of causing significant loss of life and property.

ACCESS TO HEALTH AND SOCIAL SERVICES

There are two small clinics in Nima East, including the Nima East welfare clinic. These clinics deal with very minor ailments and conditions, catering especially to the pregnant and nursing mothers in the community. These two clinics are woefully inadequate, considering the size of the community, and they lack the equipment and personnel to deal with complex emergencies, when community members requiring urgent care must be carried to a nearby referral hospital (including, as possibilities, the 37 military hospitals, the Maamobi Polyclinic and the Ridge hospital). It is often difficult to get patients from the community to these health centers, especially during heavy traffic, and also because of the lack of a direct connection to the highway, resulting in people being forced to circumvent the community in order to reach these facilities. This situation is exacerbated by the lack of access within the community. It is not uncommon for patients to have to be carried on someone's back through very narrow routes in order to find a roadside cab, thereby prolonging the time it takes to get the patent safely to the hospital and resulting in countless avoidable deaths en route.

For cultural and sometimes financial reasons,

some community members rely on local herbs and consult their traditional doctors. When things become complicated, however, they then resort to the clinic or hospital, often going to the hospital only when their situation seems hopeless. Literal access to quality health care, therefore, is a serious problem confronting the community.

Although Nima includes a significant Christian community, the neighborhood is generally known as an Islamic or Muslim community, a perception clearly reinforced by the enormous number of mosques dotting the area. Apart from serving as houses of prayer, the mosques, which are largely built from community contributions and grants from some Islamic donor organizations, also improvise as places where local neighborhood meetings are held and/or as makeshift Islamic schools. The spaces for the construction of these mosques are generally donated by some landlords, as appreciations to Allah.

Islamic schools and secular schools both operate within the community, with several sites running both Islamic and secular programs within the same venue. Schools within Nima are mainly privately owned and so are profit-oriented and therefore quite expensive, compared to the fewto-nonexistent public schools. Interestingly, the schools cater to only the early to mid-schoolaged children and not the senior high school levels. Children who qualify to attend senior high therefore need to find schools outside the area, as there are none within the community. The dearth of senior high schools either in the area or close by is likely one of the reasons why a lot of junior high graduates fail to continue, as their parents are unable to afford either the transportation to distant places or the boarding fees. One resident lamented this problem, wishing aloud that the community would concentrate on building senior or technical schools, rather than the mosques they always seemed to be building. "Who is worshipping in these mosques," he asked rhetorically.

GUTTER

This section details MCI's findings on the current state of the natural and built environment along





Gutter. Here, we present new, quantifiable information on crowding conditions and access to water, sanitation and electricity services within the houses directly adjacent. This includes GIS analysis, photo-documentation and data from a rapid assessment with residents closest to Gutter.

Elevation

Map 5 shows contours along the drain area and adjacent neighborhoods, using ArcGIS Geostatistical Analyst (Inverse Distance Weighting/Prediction Output).

The edge condition of the gutter varies on either side and along its length. In some places one side of the gutter has a very steep edge, over four meters above the bottom of the channel. In other places, the edge slowly slopes down to the bottom, with barely two meters' change in elevation. Right now, this just means that homes built on the edge are adjusted to accommodate these variations. However, this will become a challenge when the drain is slabbed, infilled and the road right-of-way created, since the two sides will then meet, and the slope of the road will need to be fairly constant.

Proper embankments and stairways will have to be planned in order to transition from the existing neighborhood conditions to the new right-of-way. This means the right-of-way created will need to be widened where necessary, to accommodate these embankments. This has been done along Kanda Highway (where the embankment happens at the edge of the sidewalk) and along the gutter in Nima West (where it happens between the road and Gutter). However, neither condition is desirable: in Nima West, the drain is open, and the embankment allows runoff to flow into it. In the new proposal, the drain will be slabbed so that this cannot happen. The embankment along Kanda Highway has created a barrier to economic activity, since buildings are physically and visually cut off from potential customers along







ELEVATION CONTOURS: Nima-Maamobi East Drain Area Calculated using ArcGIS Geostatistical Analyst

Inverse Distance Weighting Prediction Output*

Legend

	38 -	28	—— 18 —	9.57 —
	. •	30	20	10
*Refers only to contours within neighborhood boundaries (dotted black)	42	— 32 —	22	
	44	 34 	24	
Source: AMA U	16	36	26 —	16

UMLIS; Geological Survey Department; Earth Institute MCI. Map by Earth Institute MCI (2012).



ethod used to negotiate elevation change in Nima West



Method used to negotiate elevation change along Kanda Highway

the highway. Since the new road is meant to foster new economic activity along the corridor, it is important to connect the road and adjacent buildings. Solutions will be explored further in the design proposal chapter.

Drainage

Gutter acts as the main drainage of wastewater and storm water out of both Nima and Maamobi. It is unlined and unmaintained which has led to severe erosion and pollution/contagion. Only a few formal drains have been constructed by the government to channel water from the neighborhoods into the gutter. They do not have adequate capacity or coverage to handle the amount of water flowing from the neighborhoods. This has lead to the construction of many informal drains that are easily eroded and are not large enough to handle major storm runoff. They are also uncovered and a major source of potential contagion in the community. The network of "informal" drains along Gutter is illustrated in Maps 6, 7 and 8. Map 6 shows the key drains that runoff to Gutter, including width measurements

of the drains. Map 7 distinguishes between primary drains (built by AMA) and secondary drains (self-built). Map 8 shows whether the drains are lined or not. Many drains have lining that "break off" along due to erosion.

Access: Layout and Transportation

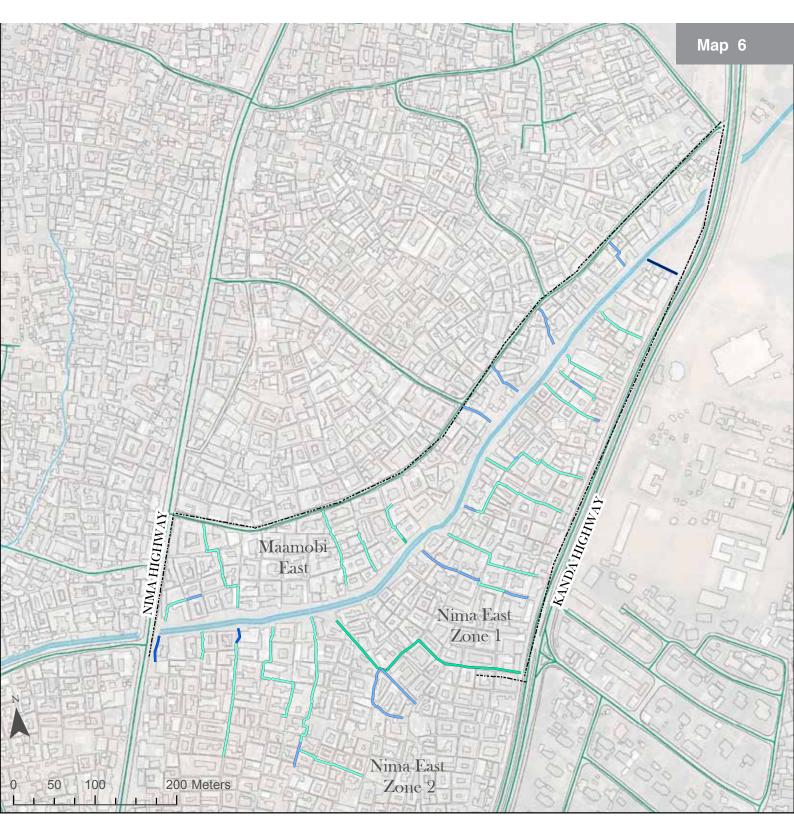
Most of the poor conditions of concern in this report are directly tied to the lack of layout and access. Improving access would make it much easier to improve other conditions.

Vehicular – Roads only run at the periphery of the Gutter area: Nima Highway to the west, Kanda Highway to east and Kawkudi Avenue to the north. There is a north/south road through Nima, but it dead-ends before entering the northern half of Nima East.

Pedestrian Networks - As there is only one incomplete road for the passage of vehicles beside





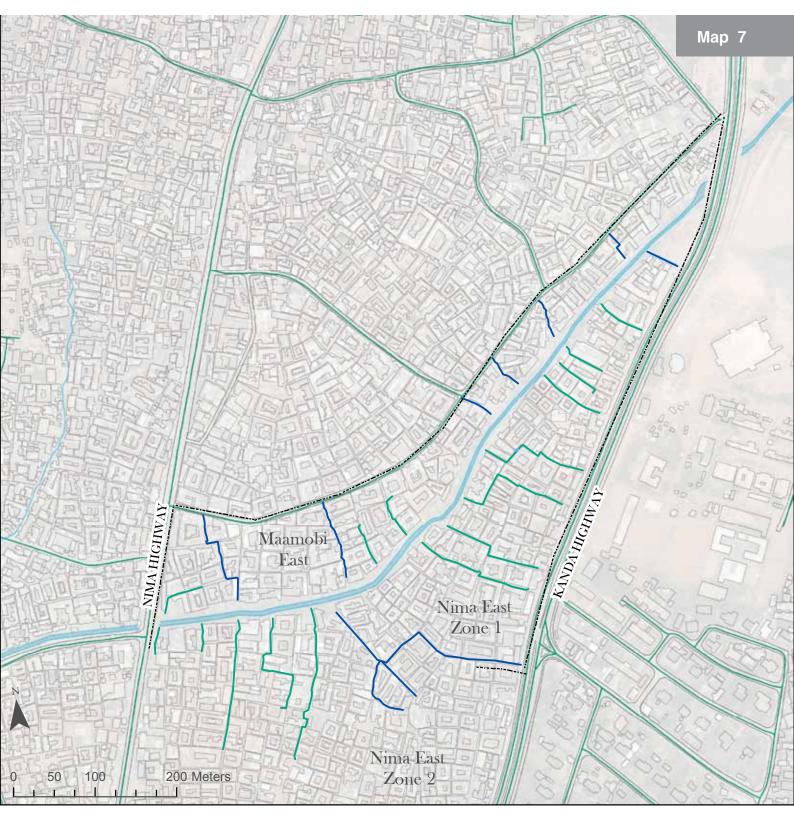


CURRENT DRAINS WITH RUNOFF TO GUTTER:

Nima-Maamobi Drain Area

Legend (Width in meters)





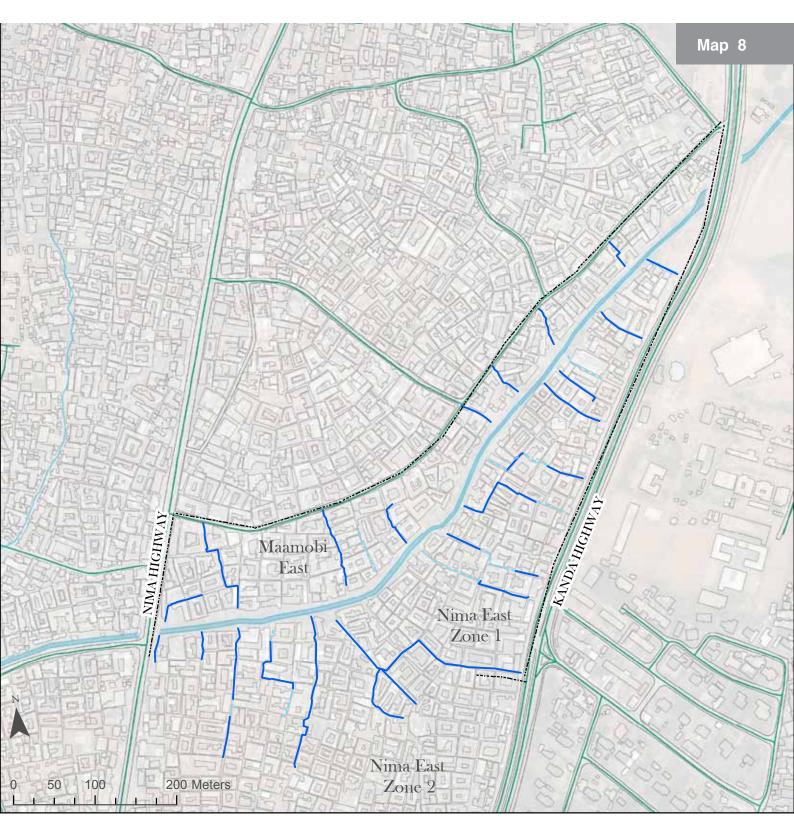
CURRENT DRAINS WITH RUNOFF TO GUTTER:

Nima-Maamobi Drain Area

Legend

Primary

Secondary



CURRENT DRAINS WITH RUNOFF TO GUTTER:

Nima-Maamobi Drain Area

Legend

—— Lined

----- Unlined

the Kanda and Nima Highways, residents rely on narrow pedestrian pathways to move about. Many of these pathways have been narrowed further by encroachments. Poor drainage, inconsistent surfaces and erosion make passage more difficult. Residents cross Gutter on a daily basis, using footbridges and rocks along the stream to connect to the Nima East and Maamobi East communities. Two of the footbridges made of concrete were constructed by the AMA; the other footpaths are made of wood and are showing signs of deterioration - they will need to be upgraded soon. The footpaths experience varying intensities of pedestrian traffic, depending on the time of day.

There are a few other points along the drain where people cross the Gutter on rocks when the water levels are low. Many of these routes are unlit and dangerous for women at night.

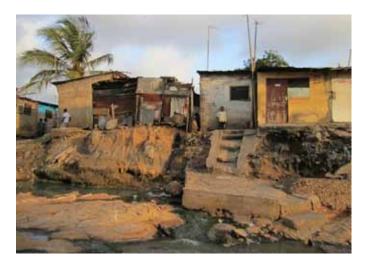
Map 9 shows the network of pedestrian pathways in Zone 1 of Nima East and the area of Maamobi closest to Gutter. The map shows the popular routes residents take to get to work, visit neighbors or reach other destinations. We submit this to the DUR as a reference point for pedestrian circulation within the neighborhoods. The map also shows the width of each alley recorded, which can be referenced when considering how to upgrade pathways. These pathways hold very high potential for improving circulation in the area and small-scale economic activity, if the proper investment is made in upgrading them. They can serve as both attractors towards the new roads, as well as inbound routes for residents stopping off from the new roads. We present the possibilities for improving access to municipal services in Chapter 4, "Prospects for Improving Municipal Service Delivery."

Housing Along the Drain

Our research does not indicate which residents along the drain have legal rights of occupancy, which goes beyond the purview of MCI.1 We focus rather on housing conditions, including inhouse access to water, sanitation (toilet facilities) and electricity.

Erosion of the gutter edge has caused or is threatening to cause structural damage to many of the homes located along the gutter. Many building foundations have been undercut by erosion, which can also be seen along the informal drains that have not been built to withstand the deluge of runoff received. One of the most common structural problems is cracking walls caused by shifting foundations, due to the worsening erosion; this is particularly dangerous, since Accra is an earthquake-prone area.





Crowding Conditions

We gathered data on crowding conditions in order to inform municipal planners and engineers regarding the size of the population sample and its impacts on both the delivery and future planning of infrastructure services. Heads of households and/or landlords in the houses along Gutter (in both neighborhoods) were asked to estimate how many persons live in each room. In some cases, they were able to give the exact amount of people in each room, while in other cases

¹ This information should be obtainable from the Lands Commission, in the Ministry of Lands and Natural Resources.



CURRENT PEDESTRIAN PATHWAYS: Nima-Maamobi East Drain Area

Legend (Pathway widths in meters)

 0.01 - 0.49	 1.50 - 1.9	9 3	.0 - 3.49		4.50 - 4	4.99
 0.50 - 0.99	 2.00 - 2.4	.9 3	.50 - 3.99	,	5.00 - 9	5.49
 1.00 - 1.49	 2.50 - 2.9	9 4	.00 - 4.49		5.50 - (6.01

they gave an average of persons per room for each room. It is worth noting that estimating the number of people in a compound house in Nima-Maamobi is often difficult to do. One resident's response to our question regarding the average number of persons per room was, "berkete," or "uncountable," in local slang. This only gives a picture of the uncertain and volatile nature of the crowding in Nima.

To represent the data consistently, we give a persons-per-room (PPR) estimate for the entire house. Map 10 (page 30) shows the PPR for houses along the Nima-Maamobi gutter, based on our rapid assessment. The map clearly shows that the majority of structures along the gutter have a PPR of greater than 4, with seven structures having a PPR of between 6 and 9. More than 2 PPR and/or five square meters per individual is considered to be overcrowded (Habitat International 2005: 12). Thus, it is fair to state that many houses along the drain are severely overcrowded.





Access to Water Supply

Map 11 shows the presence of in-house water taps in the houses along the drain. In general, there appear to be more houses in Nima without an in-house water tap. However, water may very well come from "homemade" pipe connections. These pipes can run through drains, which pose significant contamination risks, since the pipes are of poor quality and often leak. Assessments should be conducted by the proper authorities to gauge the safety and reliability of supply.

Access to Toilet Facilities

There is only one public toilet within the study area, but it is not properly maintained (cleanliness and functionality) and too small for the number of users (there are often long lines). Map 12 shows the number of houses next to the drain (first row) with at least one in-house stand-alone toilet. Clearly, the majority of houses along the drain does not have access to toilet facilities, and in some cases, those who do have access actually built their own, as extensions to their property next to Gutter.

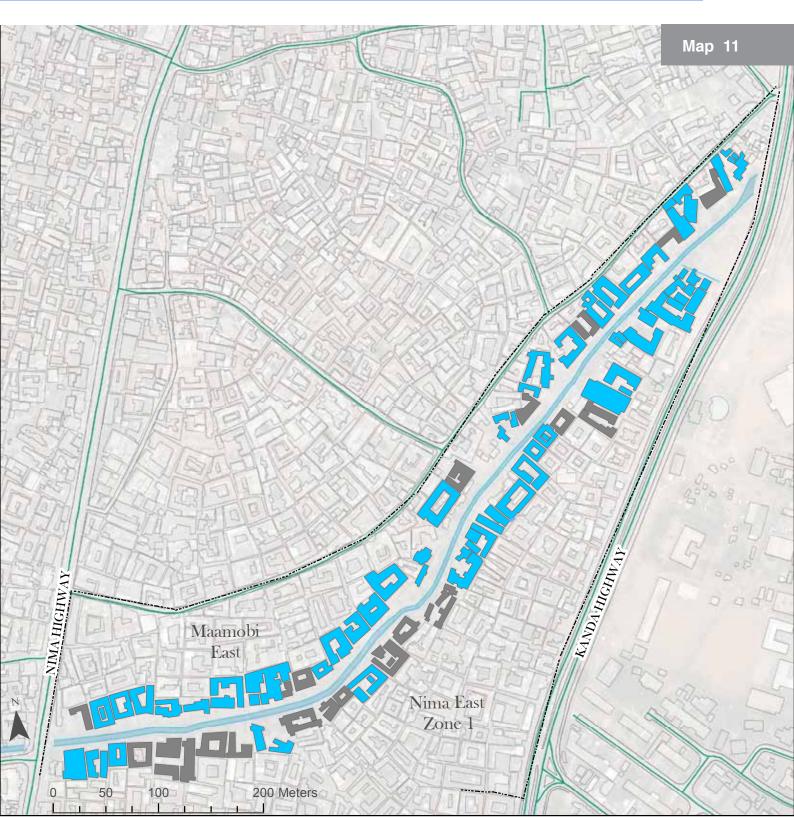
Unsurprisingly, provision of sanitation facilities was a priority issue for our focus group discussants. Specifically, they pleaded for the AMA and partner development agencies to provide new toilet facilities (both in-house and public toilet stations) as part of the upgrading program. They also stressed the need both for regular maintenance of toilet facilities to make sure they are neat, and for running water, so that people can wash their hands after use. This issue can best be illustrated by a female focus group participant's observation:



HOUSING CROWDING STATISTICS: Nima-Maamobi East Drain Area (Only for first row of houses next to drain)

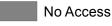
Legend - PPR Statistics (PPR = average persons per room in a house)

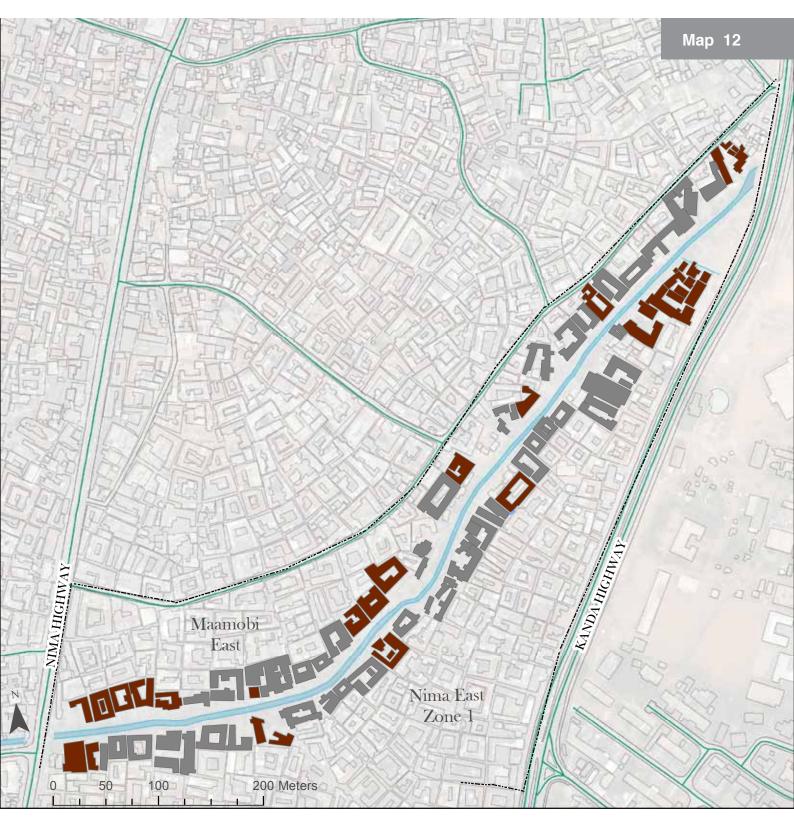
N/A 4 to 5.99
2 or less 6 to 9
2 to 3.99



ACCESS TO IN-HOUSE WATER TAP: Nima-Maamobi Drain Area (Only for first row of houses next to drain)

Legend



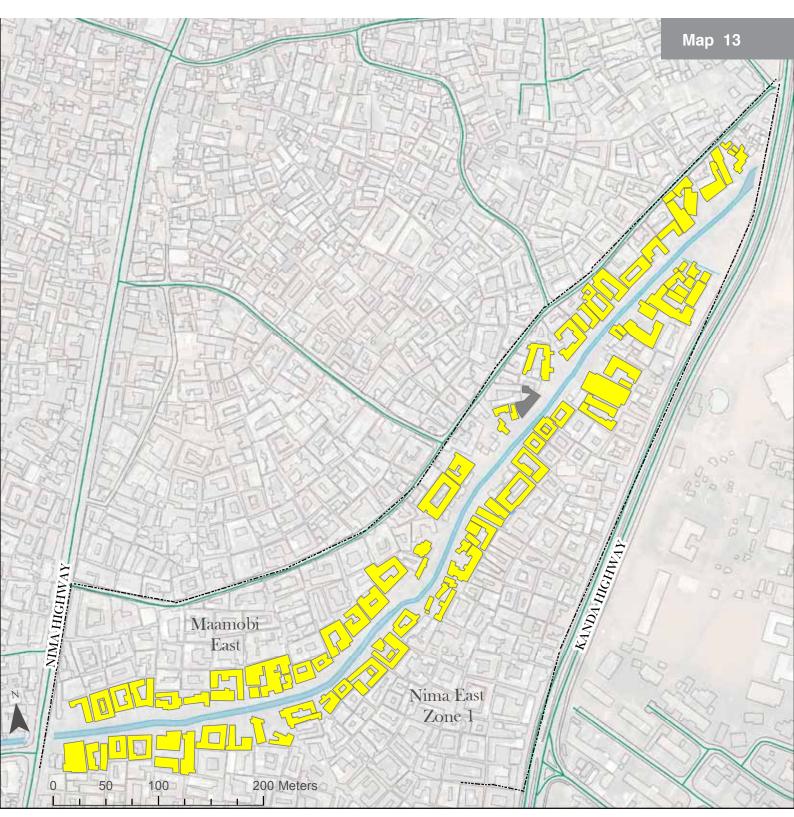


ACCESS TO IN-HOUSE TOILET FACILITIES: Nima-Maamobi Drain Area (Only for first row of houses next to drain)

Legend



Yes



ACCESS TO IN-HOUSE ELECTRICITY: Nima-Maamobi Drain Area (Only for first row of houses next to drain)





Yes

"In terms of electricity, potable water and sanitation facilities, I will say that we do not have as much of a problem with water and electricity and am sure you realized this as you visited the houses in the area. However, the major challenge is with sanitation facilities, 'public toilets'... there are usually long queues at the place. The kids' section, for example, broke down, and so a lot of kids have to do it in the drain. Some adults also, when at night they get stomach problems, do it in plastic bags and throw them in to the drains, which causes an environmental mess. So I recommend that if we can get one such facility closer, it will be very helpful."

Access to Electricity

Map 13 shows access to electricity among those houses situated along the drain. As the map indicates, the vast majority of houses along the drain have access to electricity, though at times intermittently so. This appears to be the case for most of the Nima-Maamobi area. Focus group participants said that in general they did not have any problem with electricity, except for a few houses which opt out, due to their inability to pay the required monthly bill.

THE LOCAL ECONOMY

Though this project focuses on the Nima-Maamobi East drain area as a potential redevelopment area, it is important to consider economic development





along the drain area in relationship to the economic functions found in Nima-Maamobi as a whole, in terms of commercial activity within its boundaries and the broader urban economy.

The center of economic activity in Nima-Maamobi is the Nima "Highway" and the adjacent Nima ECOWAS market. The ECOWAS market reaches peak activity on Wednesdays and serves as a distribution hub for mostly agricultural goods coming from other parts of Ghana and the West African region. Other goods such as second-hand clothing are also sold in large amounts. Nima Highway is situated in a central, convenient area in the city and contains many different types of businesses, mostly in the wholesale and retail trade sector. In the past several years, transnational corporations have opened operations along the highway. businesses include Barclay's Bank, Shell Oil, and Coca-Cola. More boutique hotels, restaurants, internet cafes and hardware stores have also opened as business prospects improved along the road. These businesses reside next to the smaller "mom and pop" provision and clothing stores and kiosks, and various street vendors selling food, drink, and other goods. Demand for space for commercial activity has necessitated multi-story, mixed use development, which is becoming increasingly common.

What is most impressive about the rate and style of growth along Nima Highway is that it occurred with very little municipal service provision (aside from the road itself) and no land use or economic development planning.



Also, a healthy mix of small, medium and larger enterprises has somehow been preserved. One of the main drivers behind the success of Nima Highway is the rapid pace of economic exchange. Across Accra, Nima-Maamobi is known for having cheap wholesale and retail goods, and that translates to quick movement of products and money. This is an important point to keep in mind when considering prospects for economic development, which we discuss later in the report.

In Nima-Maamobi East, the "hotspots" for economic activity are Kanda Highway, Odai Kwao Road (nicknamed "Hot Coffee Road") and the Maamobi "Kawkudi Avenue". Enterprises along these roads cater more to local neighborhood demand and are not nearly as well integrated to the broader urban economy than Nima Highway is, simply because they do not serve as important trade routes as Nima Highway does. Nevertheless, it is clear that roads serve a vital role in attracting business.

Having described the recently evolving economic successes along the Nima Highway, it is important not to lose sight of the fact that such success occurred slowly and without the kind of municipal services that could have made it more prosperous than it currently is. Despite the prominence of its ECOWAS market, and its reputation for being a hub for affordable goods and labor, Nima-Maamobi has been socially and economically isolated from the rest of Accra for decades. Since at least the 1950s, local government has been neglectful of Nima-Maamobi's condition and needs, which include access (layout), proper sanitation, and employment issues (Hart 1973, Owusu et al 2008). This was no doubt due in large part to its status as a zongo. There is also the belief that the government was to use Nima for other purposes and therefore was in a way forcing them out by not improving conditions, in attempt to get them to relocate to Madina (which was established to relocate them), but this strategy did not succeed. In the past few years, the AMA along with local NGOs have made efforts to improve upon those conditions, investing in road works and small-scale water and sanitation projects. We support furthering this process, which should recognize the Nima-Maamobi residents' rights to municipal services, including physical, economic and educational infrastructure. It is especially important that, within such a program, sufficient consideration be given to economic activities taking place in the neighborhoods east of Nima Highway, as they are among the most burdened in the city. We turn to these areas next.





Economic Life in the Residential Areas

For those entrepreneurs or investors lucky enough to own spaces along roads, it can provide stable earnings. Those who do not have access to space along these roads try their fortunes within the residential areas, most often in the form of homebased enterprises. Our research confirmed what most familiar with Nima-Maamobi already know through experience and observation – enterprises within the residential areas are struggling considerably. This includes the drain area, which is located at the heart of the Nima-Maamobi East residential neighborhoods.

Map 15 shows an inventory of economic activities in the neighborhoods closest to the Nima-Maamobi Gutter.

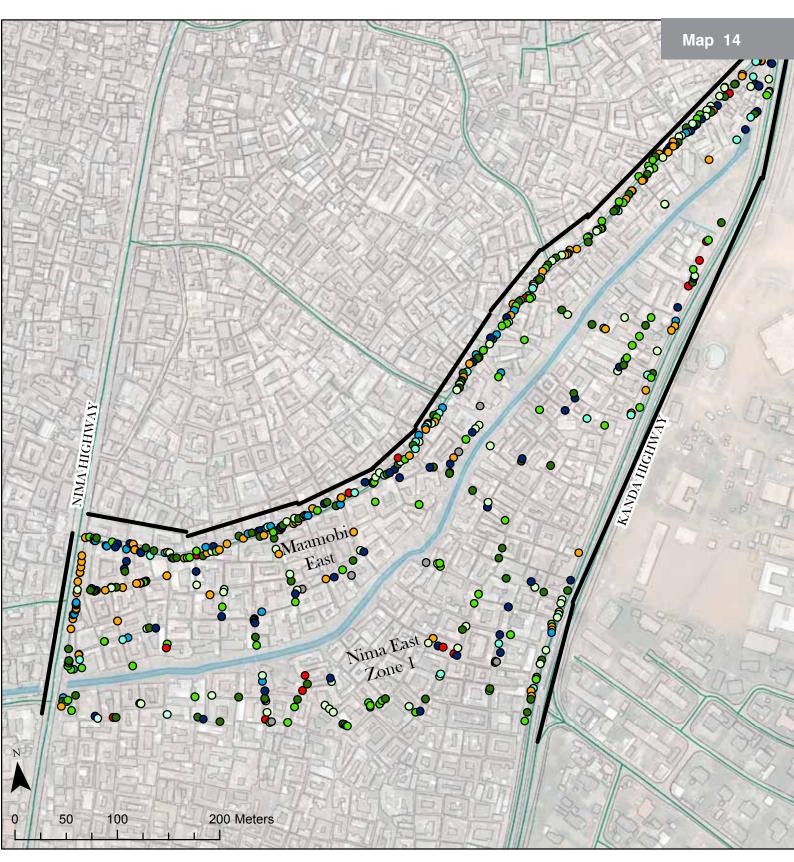


Most of these businesses are micro-firms (5 workers or less) or self-employed without employees, many of them home-based or withinalley trade and working within the "informal" economy. Besides street trade, other predominant activities are provisions sales, beauty services (e.g. salons), food shops and tailoring services. These businesses require relatively low start-up capital and do not require a depth of skills. Worth noting is that artisan services (e.g. electronic repairs, masonry, carpentry, etc.), small scale manufacturing and intermediate distribution services are not as common since most of these activities are located in areas closer to roads and the market.

Of course, there are numerous entrepreneurs and traders in Nima-Maamobi as whole that do quite well and choose to invest in other business activities in the area. Having said that, such cases are likely the minority. Discussions with residents and entrepreneurs indicated that the main economic activities as aforementioned are yielding very "small-small" profits, due in part to excess supply of those services. Often times, both entrepreneurs and other residents take on at least one other job to supplement income. Adult males work mostly in the informal sector with some working as 'watchmen' or night security for companies and government institutions; others are also in the transport business. The male youth however do a variety of work from which they earn a living. Most of these young men, after junior or senior high, are compelled to learn a trade - mostly auto-repairs, tailoring, etc. But most of them abandon this after finishing school (or dropping out) and start up a small-scale business. The female adults are mostly traders or housewives and play an essential role in the sustenance of the home and family. The female youth mostly learn tailoring and hairdressing. Others also sell small wares ranging from cloth, shoes, and other kinds of female items in the market or in the central business district of the capital.

During our focus group, business owners in Nima-Maamobi cited lack of access to capital and physical space as the main challenges facing businesses. These issues should come as no surprise to those familiar with the area. In addition, business owners reported a general lack of interest in buying goods in the area among customers outside of Nima, except for Nima Highway and to a lesser extent, Kanda Highway.

Aside from access to capital, space and customer attraction issues, there appear to be unfavorable conditions for innovation, as evidenced in part by the saturation of certain businesses. Business owners commented that in general, local entrepreneurs consider provisions and tailor shops to be "safer" investments, despite their ubiquitous presence. According to the business owners, predicting customer demand is very difficult in Nima-Maamobi East. Starting a new service, even if it is known in the community to



Nima-Maamobi East Drain Area: **Economic Activities**

- Artisan Service
- Retail Clothing
- Service Other

- Beauty Service & Retail
- Retail Other
- Small Scale Manufacturing

- Food & Beverage Service
- **Retail Provisions**
- Tailoring Service



be integrated alongside investments in land and Local economic development infrastructure. planning, with all stakeholders involved, can harmonize these investments. We discuss these prospects in chapter 5, "Prospects in Local Economic Development".

be needed (such as pharmacies), is seen as too risk-averse if there is no previous evidence of the business activity being successful. There are few examples of emerging services in the community. Such examples include phone repair, internet café, graphic design/printing shops, and collection of recyclable material such as plastics.

Youth and women's groups report a great deal of difficulty seeking work. This is in part due to perceptions of youth from Nima. As one focus group discussant said, "The problem of finding work in Nima and Maamobi especially outside these two areas is that there is a stigma and bad name/reputation for people coming from these areas and so employers will a lot of times refuse to give people jobs."

Frustrations among entrepreneurs and traders highlight an important issue: we should not assume that they start their own businesses out of a passion for entrepreneurship. The reality is that only some enter entrepreneurship with an innovative idea or a keen interest in business. Many people start their own micro-firm as a survival strategy, trying to make more than they would as employees in other micro-firms or as unpaid family helpers. Given the opportunity to earn more decent wages, workers may very well opt for wage employment as their primary livelihood source. The deep concerns that young adults have for their economic futures remind us that despite the positive gains in the community's economy, they remain fragmented from opportunities for upward economic mobility. Investment in skills development and financial services will need to





The Ayawaso East Constituency - and for that matter, Nima -- was one of the neglected areas in the city which had wished for development and upgrading for years. Today, development is gradually taking place in the area, to the benefit of its inhabitants, and the potential upgrading of the Nima-Maamobi drain area, including new roads, is a source of excitement for the community.



The lining, slabbing and maintenance of the Gutter is urgently needed. The poor drain in our community has resulted in severe property loss, and residents may even be forced to move, to escape floodwaters.

THE EXPECTATION AND THE OPPORTUNITIES AFTER THE PROJECT

Environmental Health

The houses near the drain uses it as their refuse dumping site because they don't have access to any other nearby site for dumping, and the Bola Taxis can't get to them because of the lack of a road network. Poorly drained stormwater and household wastewater form stagnant pools that provide breeding sites for disease vectors. Because of this, some diseases are common in the community, contributing significantly to





the spread of such diseases as typhoid fever, malaria and cholera and increasing the possibility of contracting parasitic infections from soil contaminated by feces.

Since the drain will be covered and two side roads will be constructed, the resulting improvement in the sanitation condition will be an important environmental health intervention for reducing diseases.

Accessibility to Health Services

Although the community has a number of health centers scattered around, it is often a problem to convey sick persons, especially pregnant women, to those facilities in time. At times, traffic jams and bad driving results in such unfortunate occurrences as women-in-labor delivering or dying on their way to the hospital. Proper roads



A health consultation clinic along Gutter (mid-right)

will help prevent such unfortunate happenings, affording easy access to all essential social services in and around our communities.

Education

Most students in some parts of the neighborhood find it difficult to get to their various schools on time, due to long daily traffic jams. This affects their academic performance; therefore, building a side road by the newly covered drainage would serve as a convenient detour, ensuring that neighborhood students are able to get to school on time.

This same road could facilitate the delivery of vital public information (e.g., Voter ID, health insurance, eye check-ups, etc.).

Law Enforcement

Crime is not as alarming as it was some years back in Nima, due to the constant combined military and police patrolling, plus the ongoing help of countless volunteers. However, as is the case elsewhere, the area still turns out criminals of various sorts. The proposed side road will help facilitate military and police patrols capable of flushing out these few undesirable elements sometimes victimizing the many law abiding residents in our community.

Commercial Activities

The community members will be encouraged to set up new small-scale businesses that can create more jobs for Nima youth. But there will also need to be something to assist the youth in marketing their businesses properly. A welllocated micro-finance institution can give them loans to upgrade their shops and markets, and an exhibition space in the vicinity will help them showcase and market their wares on a larger platform.

Revenue Generation

We expect that more revenues will be generated for community develpment within the sub-metro as more small-scale businesses are established.



Many small businesses are lined up along the main pedestrian route in Nima East (Zone 1)

CONCLUSION

The community is looking toward a redevelopment capable of creating a healthful environment in which one can live, work and fulfill recreational purposes at the same time. The development should include the culture of the Nimanians, as well as their daily life, and the aspect of their religion (Islamic, Christian) should be factored in effectively.

For the building and its massing, four stories will be appropriate, to reduce the cost of lifts. Mixed-use facilities in the redevelopment of the community would be perfect; for one thing, the city centre of Accra and its linkages are choked with bad traffic, so designing the community as an organism where people can live, shop, entertain, attend school, etc., will serve a good purpose.



We hope the government will consider the above-stated expectations of the people in this community as it undertakes its responsibility to continue with the development now taking place in the community in ways that can both achieve and exceed those expectations.