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An examination of the entwinement of development and flood risk in four settlements

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Introduction

With respect to both demographic densification and expansion of the built-up environment, the Greater Accra Metropolitan Area (GAMA) is among the fast-growing urban conurbations in Sub-Saharan Africa (United Nations 2016). While immigration to the city area certainly contributes to its growth and expansion, residential mobility from more central locations to the urban fringes and natural population growth are of equal importance. According to recent estimates from Ghana Statistical Office, GAMA contained a population of approximately 4.6 million (2016) (Akubia and Bruns 2019, 16). The history of Accra’s change from being a colonial market place to a modern city and capital is multi-faceted and covers various elements of planned construction of housing and infrastructure and visions for urban planning to market-based incremental growth beyond formal planning (Yankson and Bertrand 2012). The economic crisis of the 1970s and early 1980s was halting the until then gradual growth of the metropolis, while the Economic Recovery Program/Structural Adjustment Program and liberalization of the economy and housing market subsequently stimulated new and continuous growth beyond formally urban land and into customary (rural) land (Gough and Yankson 2000). The combination of economic growth, not least in the informal economy, little enforcement of urban planning, including acceptance of land deeds on indigenous land, and infrastructural investments in e.g. roads, all stimulated the incremental growth into the peripheries. GAMA has thus experienced huge land use changes that comprises continuous urban land uses at distances of more than 20 km from the city centre (see map below).

Accra’ central business district (CBD), located in and around the city’s old centre not far from the sea, has continued to be the central node for most economic activities. Thus, physical mobility and accessibility to central urban locations are important parameters for securing livelihoods and reducing vulnerability of peripheral communities (Esson et al. 2016; Møller-Jensen, Kofie, and Allotey 2012). However, mobility and livelihoods are challenged by an insufficient transport system, unsustainable spatial development practices and increased frequency of extreme weather events. These challenges as well as how urban accessibility and the mobility of urban residents vary geographically and socially are at the core of the CLIMACCESS project¹ to which this working paper is a contribution. The working paper focuses on four peripheral settlement locations and

¹ see https://ign.ku.dk/english/climaccess/
presents their respective urbanization processes, livelihood and mobility characteristics and experiences with flooding. In this way, the paper illustrates the marked variation between and within locations that make up Accra’s peripheral settlement locations, and at the same time, it will serve the purpose of contextualizing a household survey, planned to take place during March 2021. Subsequently, more qualitative data will also be collected. In the rest of this introduction, we 1) place the four settlement locations within the context of the GAMA and its development; 2) outline the data collection procedures for this report; and 3) introduce and explain the structure of the four settlement profiles that constitute the bulk of this working paper.

Four settlements in the Greater Accra Metropolitan Area

When characterizing Accra’s recent development, most contemporary analyses are referring to the Greater Accra Metropolitan Area (GAMA) (see map 1.1). The notion of GAMA, introduced in the late 1980s, covers the existing Accra Metropolitan Area (AMA), Tema Metropolitan Area (TMA) and the large, then essentially semi-urban area administratively called Ga Rural (Owusu 2015; Yankson and Bertrand 2012). GAMA evolved as a key response to the challenges of the growth and sprawl of the area, and within the context of Ghana’s decentralization programmes, it has undergone continuous fragmentation into smaller local government areas (municipality districts). What used to be Ga Rural was split into four Municipalities (Ga West, Ga East, Ga South, and Ga Central) in 2012, and in 2018 these were split further to add Ga North. At the same time both, AMA and TMA have undergone further decentralization into sub-metropole districts. Sometimes, analyses of GAMA refer to an even larger area, the Greater Accra Region, which besides the 12 districts portrayed in map 1.1, includes 4 more districts to the East.

Important to realize, though, is that GAMA is not a legal unit. The authority for urban planning has been decentralized to the respective municipal districts and not countered by any formal GAMA-wise planning authority. Hence, the notion of GAMA should be treated as a catch phrase for the functional region undergoing urbanization and not a governance entity that coordinates city growth and the growing demand for services. Considering GAMA as a functional region, there is however scope for extending the area covered in map 1.1 to include the rapid urbanization of the areas to the west of GAMA, especially Kasoa and its surrounding areas, now declared a Municipality, and districts to the North, such as Akwapim South and Nsawam Adoagyiri. A fact that can be realized
from recent analyses of urban expansion (Akubia and Bruns, 2019; Koppelaar et al., 2018; Møller-Jensen et al., 2020). In this report however, we refer to GAMA as it is delineated in map 1.1.

Map 1.1: The districts of GAMA after the 2012 decentralization process and the latest carving out of Ga North District from the 2012 Ga West district. Source: Author’s map representation – see also Figure 3 in (Owusu, 2015). Please note, that the delineation on the map of the Ga North Municipal Assembly is based on the district’s own representation. Due to ongoing disputes in certain locations over where to draw the line, we have not been able to access an official shape file with the formal delineation of the new district. Also, note, that the map does not indicate further subdivision of the Accra Metropolitan Assembly into six Sub Metropolitan District Councils.

Being concerned with the climate change related flood impacts on livelihoods in Accra, the CLIMACCESS project seeks to avoid repeating established narratives that predominantly focus on particular challenges related to coastal flooding. Instead, the project is concerned with flood effects of heavy rainfall and its outcomes on the ground, directly and indirectly, via the natural and constructed drainage systems and the surface run off. Rivers and tributaries running from the interior towards the sea (mainly from the North towards the South) transcend the GAMA area. The impacts of flooding thus vary considerably according to location. However, even residents of non-flooded areas might be impacted by the effects of flooding in various locations beyond. Hence, in

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consideration of these flood vulnerabilities and the continuous urban expansion in GAMA, the study is designed to cover livelihoods and mobility challenges from flooding of households residing in peripheral areas primarily away from the coast.

From map 1.2, it can be seen that the densification of urban settlements has extended far from the coast and also that densification beyond the zone of 8-10 km from the city centre gradually decreases. However, urban expansion is more complex, as not all areas in the same zone urbanize with the same pace: e.g., interior areas away from arterial roads are urbanizing later than areas close to the roads. The latter can be realized from longitudinal analyses of the urban expansion, showing

3 This image is created based on visual interpretations of a Segmented Sentinel-2 Imagery and Google Earth satellite data. The ‘degree of urbanization’ is categorized based on densities in residential housing and other building structures – categorized as: 1) Full urbanization = 75-100 % urban; 2) Medium-high urbanization = 50-75 % urban; 3) Medium-low urbanization = 25-50 % urban; and 4) Low urbanization = 5-25 % urban. Thus, this categorization does not include data or assessments of population densities. The methodology and how it can be compared to other assessments and visualization are explained in detail in Møller-Jensen et al. (2020).
how the quality of road infrastructure, former/existing restrictions on land uses, physical landscape parameters, territorial demarcations etc. all contribute to forming the pace and direction of urban expansion (Møller-Jensen et al., 2012, 2020). These insights have been considered when selecting the four settlement locations of Accra for this study. Thus, the overall selection represents different histories of peripheral urban expansion. While two of the settlement locations, Santa Maria and Glefe are ‘old’ peripheries (fringes of urban expansion in the 1990s and 2000s) the two others, Adentan and Pokuase, are characterized as being located towards the current edge of Accra’s full urbanization. The detailed urban expansion processes of the four settlement locations are visualized in the subsequent settlement profiles making use of data from the Atlas of Urban Expansion Dataset^4. Map 1.3 shows the location of the four areas within GAMA and the selected neighbourhoods under scrutiny.

Map 1.3: The location of Adenta, Santa Maria, Pokuase and Glefe in the GAMA, including the location of the selected neighborhoods for the CLIMACCESS study. Source: Author’s map representation

Table 1.1 on the next page summarizes the main characteristics of the 4 settlement locations (and 10 neighbourhoods). All four areas are named according to their popular location names and only in the case of Adentan, we find an overlap between the district name and the area on which we focus.

^4 http://www.atlasofurbanexpansion.org/data
Using these area names as an entry reflects how they are often referred to in conversations with authorities when discussing trends in urban expansion, Glefe, being a smaller and very congested neighborhood, is an exception. Glefe thus represents the ongoing expansion and densification of low income and poorly serviced areas close by the sea, affected by lagoon backwater flooding effects. The overall differences between the four locations are their distance to the city centre, time of urban expansion and the social status of residents, stretching from Glefe, being low income, to Adentan being a middle to high-income area. However, when zooming in on local neighbourhoods some diversity arises, such as particular physical features e.g. degree of consolidation, densities of housing, quality of road networks away from the arterial roads, elevation and flood propensity – and related to these also social characteristics. Also, for the benefit of the survey, the ten neighbourhoods have been delineated to ensure as much homogeneity within these as possible (in terms of livelihood strategies, mobility patterns, income levels, tenure forms, geographic location within the city and transport network), and as much difference between them, to cover local and city-wise diversity. In this way, the research (also) contributes to requests for more place-based intra-urban research on urban growth and expansion and how it intersects with urban governance (Oteng-Ababio and van der Velden 2020).

Data collection

Data for this report was collected by the CLIMACCESS research team\(^5\) in the four selected settlement locations during two rounds of fieldwork in January and December 2019, followed up by a few interviews in January 2020. In total, 45 formal interviews have been conducted. In all settlement locations, the following key informants were interviewed: traditional leaders, leading assembly representatives, representatives of resident associations, local opposition politicians, planning officers, GPRTU spokes persons, and NADMO officers.

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5 The field trips were organized by Professor Martin Oteng-Ababio and Professor Paul Yankson, Department of Geography and Resource Development, University of Ghana (UG). The following researchers have participated in data collection: Manja Hoppe Andreasen, Jytte Agergaard, Lasse Møller-Jensem (University of Copenhagen) and Martin Oteng-Ababio, Paul Yankson, Abubakari Abdallah (University of Ghana) and Richard Yao Kofie, Albert Allotey, Prince Gyekye (CSIR, Ghana).
<table>
<thead>
<tr>
<th>Settlement location name</th>
<th>ADENTA</th>
<th>SANTA MARIA</th>
<th>POKUASE</th>
<th>GLEFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>District location</td>
<td>Adenta Municipal District</td>
<td>Ga Central Municipal District</td>
<td>Ga North Municipal District</td>
<td>Accra Metropolitan, Ablekuma South Sub-Metropolitan District, Mpwase Neighbourhood</td>
</tr>
<tr>
<td>Overall characteristics</td>
<td>Peripheral, less accessible, middle-high income <strong>EMERGING</strong></td>
<td>Semi-central, highly accessible, low-middle income, <strong>CONSOLIDATED</strong></td>
<td>Peripheral, highly accessible (several main roads and alternative routes), socially mixed <strong>CONSOLIDATED + EMERGING</strong></td>
<td>Semi-central and poorly accessible</td>
</tr>
<tr>
<td>Approximate distance to Accra</td>
<td>17-20 KM</td>
<td>6-8 KM</td>
<td>15-20 KM</td>
<td>5-7 KM</td>
</tr>
<tr>
<td>Selected Neighbourhoods</td>
<td>Frafraha</td>
<td>New Legon</td>
<td>New Legon Hills</td>
<td>Santa Maria</td>
</tr>
<tr>
<td>Degree of urban densification</td>
<td>High</td>
<td>Medium-low</td>
<td>Medium-low</td>
<td>High</td>
</tr>
<tr>
<td>Physical characteristics</td>
<td>Medium elevation - close to main road, not flood prone, consolidated</td>
<td>Medium elevation - interior, more consolidated, flood risk along streams and river banks</td>
<td>Medium elevation - interior, newly developing, poor/non-existent roads, flood-prone</td>
<td>Low lying sink - flood-prone, several streams, close to main road</td>
</tr>
<tr>
<td>Socio-economic characteristics</td>
<td>Middle to high</td>
<td>Middle to high</td>
<td>Middle to high</td>
<td>Low to middle income</td>
</tr>
</tbody>
</table>

Table 1.1: Summary characteristics of selected settlement locations and neighbourhoods for the CLICLIMACCESS study. Source: authors’ résumé.
In addition, focus group interviews with women’s groups, commuters and transporters were also conducted. All interviews were recorded and transcribed and when necessary translated from local language to English. The field visits also served to collect relevant local data such as local development plans, NADMO reports etc. Likewise, the field visits included extensive walks, independently and with key informants, to observe and document important characteristics of the built-up and physical environment, including flood prone residential areas and infrastructure. This documentation includes GPS track logs, drawings and photo eliciting. All materials have been stored in a common repository shared by the CLIMACCESS researchers, analysed with the NVIVO software, and coded for the use of this report.

The structure of the four reports
The four reports follow the same structure. First, we introduce the site location and its placement in the municipal district of which it is a part and outline in short, the biophysical characteristics and the history of cultivation and human settlement in the area. Second, we outline the demographic characteristics of the settlement locations. These figures are based on statistical data for the municipal district since data for smaller units have not been available. In some of the reports, we have been able to supplement with lower level data for population or income generating activities. In spite of this dependence on district data, we assert that the data nevertheless serve the purpose of an approximation of how the settlement sites differ. Third, we present the local histories of spatial expansion and consolidation of the built-up environment. These are supported by maps that clearly show the particular locations of the neighbourhoods under study, and qualitative data provide insights into their different histories and characteristics. The characteristics and differences between neighbourhoods are further explained in the fourth section, where we focus on roads and transport infrastructure, and discuss how these affect people’s mobility and if and how they experience accessibility constraints. The fifth section is following up on the issue of accessibility by adding insights on flood risks and how this is entwined with urban expansion, including the expansion of the local road system. The final section provides a short summary.
The Adentan Settlement

Introduction

The Adentan Municipal District is a district in the GAMA, located in the Greater Accra Region of Ghana. The municipality lies 10 kilometers to the Northeast of Accra Central, specifically located on latitude 5° 43′ north and longitude 0° 09′ west, and has a land area of about 92.84 sq. km (see map 2.1).

Map 2.1: Placement of Adentan Municipality District within GAMA. Accra Central is located near the coast where the three main roads meet. The purple line on the base-map shows the border of the Greater Accra Region.

Historically, Adentan was a dispersed settlement, inhabited by subsistence farmers from the Ga communities of Labadi and Teshie, who cultivated crops such as maize, cassava, yam and vegetables. These families were later sub-divided into clans and became owners of the Adentan lands, with the head of family of each clan serving as the traditional ruler. The oldest settlements in the municipality are the Adentan village, the Frafraha village and the villages around Ashalebotwe (see map 2.2).
Development in the area began in earnest during the 1980’s, when the Provisional National Defence Council (PNDC) led by JJ Rawlings began construction of a public housing project known as the SSNIT Flats (Social Security and National Insurance Trust) in what is now the town of Adentan East. This caused a great influx of in-movers to Adentan, which continued after the construction of Adentan Housing Down, another housing project. In the adjacent and surrounding areas of the SSNIT and Housing Down developments, individual households started buying land and building houses intended for owner-occupation, primarily low-rise development in the form of detached bungalows and villages. At first development in the area was slow – according to an assemblyperson from Gbentana electoral area due to a wide-ranging lack of sanitation facilities – but as the main road to Accra was expanded in 2012 securing fast and easy access to Accra central...
from Adentan east, the proximity of Adentan to areas such as the University of Ghana and University of Professional Studies, Accra meant that more and more in-movers were attracted to relocate to the area.

In 2008, Adentan attained its current municipal status, as it was carved out of the eastern Tema Municipality Area (now Tema Metropolitan Area) (AdMA 2020b). This led to improvements in water services, construction of public facilities and administrative offices, as well as the strengthening of security services, which further accelerated the influx of new in-movers to the area and spurred a new wave of residential development. It also meant the establishment of a General Assembly (seated in Adentan East), which today is the highest political and administrative body in Adentan. The assembly has four zonal councils, namely Koose, Gbentanaa, Nii Ashale and Sutsrunaa, currently comprising 12 electoral areas, though more have been laid out (ibid.). This subdivision of administrative areas is also indicative of population growth and expansion of the built up area, in that growing constituencies warrant subdivision of administrative areas to ensure that these have a manageable size.

Adentan, like most settlements in the Greater Accra region experiences two types of rainy seasons: the first and major from April to July and the second and minor from September to November. This bi-modal rainfall pattern influence the vegetation cover in the area, which used to be characterized by savannah grass and scattered Nim trees in the South, and Savannah semi-rain forest in the north. Due to human activity, however, the general vegetation of the district was first changed to grassland, which provided extensive grazing fields used in animal rearing, and now, as described above, large parts of the area is covered by residential development.

Adentan also has several streams crossing the municipality (see map 2.2). These streams drain towards the University Dam at the southern border of the municipality, and then run further towards Sakumono Lagoon (near Tema), before they enter the Gulf of Guinea. Over the years, individuals and institutions have constructed several water retention ponds within the area to facilitate farming and agricultural activities. Several of these were built in the 1960s, including the Tessa pond at Adjiringanor, built by Dr. Kwame Nkrumah (President of the 1st Republic) during the construction of the Accra-Tema Motorway (Ghana Statistical Services 2014d). Development of residential
housing units around the ponds has however led to the abandoning of several facilities, but plans to
develop sites for tourism and aquaculture are underway.

Though not endowed with vibrant markets and industries as expected of an urban municipality,
Adentan has seen an increase in small companies, such as banks, construction firms, logistics, and
clothing and accessories businesses in recent years, especially around the municipal capital Adentan
East. A shopping mall has also been established in the municipality as well as a polyclinic (see map
2,2). Still, the area remains primarily a residential area for people working within the Tema-Accra
metropolitan area.

In the remainder of this report, focus is put primarily on three inner settlements in Adentan, namely
the Frafraha settlement, the New Legon settlement and the New Legon Hills settlement. These
settlements illustrate different stages in the consolidation of Adentan. First, however, census data
from the whole municipality is presented.

**Population characteristics**

The 2010 National Population and Housing Census contains the most recently available census data
for Adentan. It shows that in 2010, 78,215 people, comprising 39,366 (50 %) males and 38,849 (50
%) females, lived in Adentan Municipality. Of these 63 percent resided in areas designated by the
census as ‘urban’, with persons under the age of 30 making up more than 65 percent of the
population (Ghana Statistical Service 2014d).

Also evident in the 2010 census is the heterogeneous composition of the population: At this time,
76 percent of the population of Adentan were born outside the municipality, 24 percent elsewhere in
the Greater Accra Region and 4 percent outside Ghana. Of residents born elsewhere in another
region, 26 percent were born in the Volta region and 18 percent in the Eastern Region (Ghana
Statistical Service 2014d). Literacy rates were high throughout the municipality (92 %), with more
than half of the literate population literate in both English and Ghanaian Language. About 9 percent
of the populations were attending higher education beyond the secondary school level.

Going from the level of individuals to the level of households, the 2010 census indicates that
nuclear families consisting of a head of household, a spouse and one or more children constituted
the highest percentage (27) of all household structures in the municipality (Ghana Statistical
Services 2014d). However, in overall terms, several variations of extended families combined
formed 57 percent of the municipal households making extended families the most common household structure of the municipality overall (ibid.).

More than one third (35%) of household members were children, indicating a high fertility rate in the municipality, whereas more than one-quarter (27%) were heads of households, with males (38%) more than twice as likely as females (15%) to be heads of households. Spouses constituted 12 percent and other relatives formed 21 percent of households in the Municipality (see figure 2.1) (ibid.).

The average household size in urban areas (3.8) was slightly higher than that of the rural localities (3.7), but in line with the regional average (3.8). The average number of households per house was 1.5, as 31 percent of households in the municipality occupied separate houses and 31 percent occupied compound houses (ibid.). Other main forms of housing included improvised houses such as kiosks and containers often used for both commercial and residential purposes (14%) and semi-detached houses (8) (see figure 2.2).

Most houses were built with the use of cement and concrete and most roofs were made of metal sheets. Single rooms constituted the highest percentage (90%) of all the types of rooms occupied in housing units by single households (ibid.).

In terms of economic characteristics, the census further shows that in 2010 Adentan had a large economically active labour force with about 3 out of 4 persons aged 15 years and older economically active (Ghana Statistical Services.
Of these, 32 percent engaged in service and sales activities while 25 percent engaged in craft and related trades such as carpentry, mechanics, tailoring, dressmaking and building construction. Occupations that require high skills and many years of training, such as professionals, managers and technicians accounted for 23 percent of the labour force (see figure 2.3) (ibid.).

In terms of industry, the largest proportions of males (23%) were employed in the construction industry while the largest proportions of females (36%) were employed in the wholesale and retail industry (see figure 2.4). In terms of employment status, females (53%) were more likely to be self-employed without employees than males (30%), whereas a far higher proportion of males (48%) were employees as compared with females (28%) (see figure 2.5) (ibid.).

Figure 2.3: Source: Ghana Statistical Service, 2010 Population and Housing Census

Figure 2.4: Source: Ghana Statistical Service, 2010 Population and Housing Census
Consolidation and development

In the last 10 years, Adentan has seen an influx of residents moving from the central areas of Accra to this more peripheral community, which has led to both social and spatial transformations of the area. This development has happened mostly from south towards north and from west toward east, because of the placement of the municipality and its prior connection to the Tema Metropolitan Area (see map 2.3). As such, the most consolidated areas of the municipality in 2017 were the southern parts and the settlements located along the Accra-Dodowa road.

When Adentan gained its municipal status in 2008, the young municipality inherited planning schemes from the former Tema Municipality District, which indicated that most of Adentan should be developed into residential areas. According to a physical planner operating in the area today, this made sense because of the area's peripheral placement in the Tema municipality. Many settlements in Adentan therefore have official development plans, which take into account both issues of accessibility by ensuring open roads, and issues of flooding by ensuing a sustainable run-off of water, and, in comparison to many other peripheral communities in GAMA, Adentan is generally known as a well-planned area. In spite of this, in the last decade urban growth in Adentan has mainly been characterized by sprawling, low-density development, the speed of which seems to exceed the municipality’s capacity for efficient urban planning and for the timely provision of services and transport infrastructure. Resourceful residents have consequently developed many of
the interior settlements of the area, whereas only a few privately developed estates can be said to be systematically planned.

This has led to a situation today in which Adentan can be characterized as an area of planned and serviced islands, interspersed with individually developed areas, where resourceful residents – primarily in-movers from Accra – have taken responsibility for the provision of services such as roads and gutters. This gradual, spatial development is ongoing, and closely linked to the economic and social characteristic of the population in different areas: As Adentan consolidates, landowners...
start erecting houses on land further and further away from the main roads and caretakers move in
to manage these. Gradually the area is provisioned with accessible roads and other services, and
over time, landowners move in to take the place of caretakers, further accelerating development as
land owners are more likely to form residents association and co-finance and lobby for
infrastructural upgrades. The different degrees of consolidation between the three settlements
Frafraha, New Legon and New Legon Hills illustrates this process. As visible on map 2.3, in 2014
the area of Frafraha was largely an urban area already, whereas development in New Legon was
only just beginning, and New Legon Hills was not yet established. In comparison, Map 2.4 displays
the continuous urbanization of Adentan, and on this map all of New Legon is urbanized, though in
different degrees, whereas all of New Legon Hills is now a low-medium urbanized area. An
assemblyperson from the New Legon area describes the development in his settlement this way:

My area is a developing area. So, day in day out, the ratio of tenants to
landlords is just changing. The landlord ratio keeps just coming up, because
day in day out, people are just moving into their own houses and as people
move into their own houses, the tenants also find ways out of the electoral
area. […] The renter- occupants keep increasing also, but the squatters,
those who are occupying it freely, keep dropping…

The assembly member’s comment underscores the connection between the spatial and social
consolidation of Adentan. Renting a single room self-container in New Legon today, he explains,
costs 300-400 GHS pr. month, whereas a building suited for a family costs 1500-2000 GHS pr.
month. This makes New Legon Area – and Adentan in general – a relatively expensive place for
tenants to settle. The assemblyperson characterizes the landowners of the settlement as middle to
high-income earners, whereas some tenants might be low-income earners, even though they are
more likely also to be middle class earners because of the high renting prices. In fact, he says, many
of the tenants in the area are themselves landowners in less developed areas further out in the
periphery of GAMA, who live temporarily in Adentan because of the Municipality’s provision of
electricity and connection to the rest of the city and especially to the CDB of Accra. He estimates
that about 60 percent of the current population in New Legon is pensioners and people who are
getting closer to their pension age, and even though this perception probably reflects the
demographic profile of the people building houses, who have moved in and become active members
of residents associations, whereas the overall population composition is presumably more diverse, his statement further cements the growing affluence of the residents in the area, in that only people who have had formal employment receive pension.

Map 2.4: A dataset based on a combination of the automated segmentation of Sentinel-2 images, followed by a visual inspection of both Sentinel-2 and Google Earth satellite data (VIS) has been used to show the degree to which different areas of Adentan was urbanized in 2017. For a detailed discussion of the methodology behind VIS and the comparability of AUE and VIS see Møller-Jensen et al. (2020). The white areas on the map are primarily university reserve land.

In the New Legon Hills area, on the other hand, tenants and caretakers still make up major proportions of the population and housing is still less consolidated. According to an assembly member from this settlement, changing this is very much dependent on the construction of proper roads to the settlements, as wealthier residents will be reluctant to move into an area they cannot
access without the risk of damages to vehicles or persons. He further argues that development in the area is made difficult by the fact, that during the period when Adentan was a part of Tema Municipality, the area was so far removed from the supervision of the Tema government, that land regulation was minimal. As such, when the Adentan municipality was established in 2008, many areas unsuited for habitation had already been occupied. He states:

After selling all the legitimate lands, as human as we are, you will have people approaching you… oh, I want this portion of land, some triangle kind of land to build somethings small. So, they started selling all those reserved lands that were supposed to be the buffer for the stream and all those things.

Indeed, the continuous consolidation of Adentan has in many places led to an unavailability of land for building on, and one of the major issues facing the Frafraha settlement today is a lack of suitable land to sustain its development, to provide recreational services such as parks and sport centers as well as ponds to collect rainwater and prevent flooding.

Such issues are, however, exasperated by several on-going land-disputes in the area and underlying incongruities regarding land tenure systems and the transformation of ownership. For example, according to the current Queen Mother of the Frafraha settlement, in the 1990’s then Chief Nii Okpoti Adjei Commey prepared a layout for allocating land in the community. He allocated the land as leases, and the relatively cheap land prices encouraged people to settle in the area. Later on, however, the government acquired 700 acres of Nii Okpoti Adjei Commey’s land for estate-development, and, according to the Queen Mother, offered no compensation for the land they seized, causing farmland to be lost without reimbursement.

In several other cases, landowners have bought land allocated as wet lands or filling ponds in the official plans, as also indicated by the assembly member from New Legon Hills. One example of this is disputes between the Lakeside Estate, located in the southern corner of the New Legon settlement, and a number of individual homebuilders in the adjacent areas. Some of these homeowners have built on land that the estate considers part of their land tract, and the estate therefore requires them to pay for the land (in current prices), though the homebuilders claim that
they have already paid for the land, as they bought the land from traditional authorities (many years ago, and very cheaply). Parts of the disputed land are, however, located in low-lying areas near streams, which is considered part of the “waterways” by municipal authorities. Another example is a dispute between individual homebuilders and the state regarding land for the Animal Research Institute, located in Frafraha Settlement. Individual homebuilders have encroached on land that the state considers part of their land tract acquired many years ago from traditional authorities for the Animal Research Institute (part of CSRI). The homebuilders claim that they have also bought the land from traditional authorities, and that the state’s claim to the land is no longer legitimate because land reverts to the traditional authorities, if it is not developed.

What these examples show, is that land disputes are not caused by a ‘lack of land’ per se, but by the ambiguous and overlapping ‘authorities’ controlling and regulating the development of the land. This means that there are multiple ways of acquiring and owning land and even generally legitimate land claims may not be entirely undisputed, spurring conflicts between housing corporation officials and other owners of the land, which still hampers development in the area due to the ambiguous ownership status of the land.

Overall, Adentan is a rapidly developing area, which is visible both in the continuous building up of the area and the influx of residents from Accra. Adentan is furthermore a largely planned area, but on-the-ground development seldom follows the directives laid out by these plans. Instead, individual residents and residents associations accelerate development by investing in their own areas, creating very different degrees of consolidation, accessibility and provision of services in the different settlements of the municipality.

**Mobility and accessibility**

Adentan municipality contains a road network of 562km, made up of 126km paved and 436km unpaved roads (Municipal Planning Coordinating Unit 2016), but as indicated above these roads are not evenly laid out throughout the different settlements. The N4 highway (Aburi Road) is the major road connecting Adentan East to the CBD of Accra in the south and to Aburi in the north, whereas the R40 (Adentan-Dodowa road) serves as the main road for communities such as Frafraha, Ashiyie, Amanfro and Amrahia. Few major roads enter the municipality, however, and inner
settlements such as New Legon and New Legon Hills therefore have fewer access points (see map 2.5).

Transport infrastructure in Adentan is regulated and funded on three broad levels; the national level via the Ministry of Transport, the regional level via funds and projects allocated to development within GAMA, and the local assembly level via the Municipal Transport Unit. It is primarily the responsibility of the Municipal Transport Unit to manage the effective and efficient utilization and maintenance of official vehicles as well as ensuring adequate utilization of financial resources related to transportation in the assembly (AdMA 2020a). Funds for road construction, grading and desilting are, on the other hand, primarily allocated through regional offices and supervised by the National Disaster Management Office in Adentan (AdNADMO). Within the private estate areas,
such as the Lakeside Estate, road construction and maintenance falls under the private estate company.

This complex system means that the extent and quality of the road network varies greatly throughout the Municipality. In 2018, the General Assembly urged Adentan’s four zonal councils to formulate zonal planning strategies for their areas. This led to a series of meetings between the four zonal councils and stakeholders, residents and urban developers in their respective areas, on the basis of which the councils drafted four documents to outline the problems, needs, goals and objectives of the zonal areas. In all four documents, inadequate access roads, poor road networks and a lack of proper drainage were listed as the main infrastructural issues (AdMA 2018a; 2018b; 2018c; 2018d). Furthermore, in the report drafted by the Gbentanaa zonal council, which comprises Frafraha, New Legon and New Legon Hills, the needs assessment recorded a sufficient road network, streets lights and street naming as vital but unfulfilled needs (AdMA 2018a). At the same time however, Adentan generally have broad roads with minimal encroachment by shops and provisional housing relative to many other areas in GAMA. Again, this relates to the social and economic capabilities of residents within the settlements.

The Frafraha, New Legon and New Legon Hills settlements comprises many inner roads, which help residents to join the main highways out of the municipality. Several of these roads are, however, not motorable throughout the year, as the settlements receive limited funding for road construction. As such, despite a bi-annual grading carried out by the assembly to keep the roads passable, potholes and erosion greatly limits motorability in these settlements. When allocating funds for grading, an assembly member from New Legon comments that:

> The assembly allocates about 3 days grading for you and that is all you have in about 6 months and so you have to prioritize. When you have any allocation like that, you look at the public roads. The road that most people use. The way I select my public road is that road that is used by public transport that is the trotro.

The main means of transportation in these settlements are, according to the assembly member, vehicular, and private car ownership is steadily increasing, even though this mode of transportation
still lies beyond the financial reach of many of the area’s residents. Instead, as indicated by the assembly member above, many continue to rely primarily on public transport in the form of local minibuses known as trotros and private ‘dropping taxis’ and Uber. However, according to the assembly member from the New Legon settlement, the trotros plying the inner parts of Adentan are generally in bad shape because of the roads in the municipality, as “… no businessman will want to put his new car on a road that will damage his car in just a few weeks or few months”. As such, in recent time, the commercialization of motorcycles, popularly known as okada, has become the means of transportation for residents who have their homes far from the main highways and those for who want to navigate traffic and congestion, and some areas have become easier to access as a result.

Apart from the motorability of the roads, however, the great number of streams crisscrossing Adentan further impairs the provision of public transport to inner settlements. In fact, according to several assemblypersons, it would take at least 50 bridges to ensure accessibility throughout the municipality, but during the last 18 year, less than 10 bridges have been built. Bridges are important infrastructure, as they ensure that both private and commercial vehicles can enter the different settlements of Adentan and consequently it was only after the construction of one of the largest bridges in the area, the Nsuoa Nano Bridge located at the edge of the New Legon settlement that trotros began to enter this settlement. Before the construction of the bridge, trotros stopped at the stream, which meant that passengers had to alight there and cross the stream via a footbridge. However, as the stream overflew in the rainy seasons, the area could become unpassable for days cementing the need for a larger bridge.

As noted above, Adentan has no major industries, and employment in the area is generally hard to find, especially in settlements far removed from the CBD in Adentan East. Therefore, most residents in the Frafraha, New Legon and New Legon Hills settlements leave the municipality in the morning to travel to work in neighboring Medina, Accra central or the Tema Metropolitan area. Furthermore, the area has no major market, which makes access to the markets in Madina for the provision of foodstuffs vitally important. This creates a mobility situation in which accessibility out in the morning and in to the municipality in the evening are of vital importance to the livelihoods of the settlement’s residents. However, as noted above, the poor state of the inner roads coupled with few alternative routes in and out of Adentan creates vulnerable access-points to these communities.
Because of the close link to Madina, almost all trotros that pass through Adentan go to Madina Bus Station, located near the Madina-Zongo junction on the Aburi road. As such, if a person needs to travel from for example New Legon Hills to Accra central, they will at least have to take two different trotros; one to Madina and one further on. This both heightens the cost of travelling to Accra central, and creates a mobility situation in which people living in the Northeastern parts of the Municipality can easily find a trotro to Madina, but not to the Municipal Assembly, the Adentan Shopping Mall or the Polyclinic. This further encourage people to travel to Madina to do their business, de facto transferring a large part of what should be Adentan’s municipal revenue to Medina. Some residents indicate that this situation has caused the different settlements to be largely self-reliant, and to establish local neighborhood councils, churches and filling stations, which has further weakened the connection between Adentan East, the seat of the Municipal Assembly, and these inner settlements. Because of this, some residents feel the government lack developmental control in the area. This view is expressed by the Vice Chair of the residents association in Adentan settlement, who maintains that electricity is the only service brought to the area by the government:

Apart from that, there is nothing anybody can mention that was done by the government. Yes, this road was constructed by the landlords who sold the land to us. All the roads you see here, they are the people who constructed them.

In response to the assembly’s difficulties with providing motorable roads and sufficient public transport infrastructure throughout the municipality, many landowners and residents associations have taken it upon themselves to ensure accessibility to their areas. Resourceful residents have therefore erected many roads and bridges in the Frafraha and New Legon settlements, probably by utilizing connections to different stakeholders and developers. Indeed, from the four zonal planning strategies it is evident, that several different agencies and stakeholders are involved in the spatial development of Adentan, which means that resourceful residents can push for development through various channels. This has led to a situation in which transport development follows the needs and means of certain residents and associations, which succeed in connecting their particular area to the general road network without considerations neither for the ripple effects of this development in other communities, nor for the overall accessibility within the municipality. This adaptation strategy is however largely dependent on the economic and social capital of the residents in the
different settlements, and in areas with a larger proportion of caretakers – like the New Legon Hills settlement – development is slow, leading to the creation of ‘deserted islands’ poorly connected to the main road network. These ‘islands’ have few alternative access points, which make them vulnerable to disruptions.

As such, the mobility and accessibility situation in Adentan largely contributes to the overall development trends outlined above, in that the road system is developed through local solutions to infrastructural development which in turn creates ‘islands’ of either development, when residents succeed in connecting their area to the main roads, or of desertion or when residents lack resources for road construction. Issues of flooding in the municipality further compounds the difference between such areas.

**Flooding**

Adentan municipality has several flood-prone areas: Numerous smaller streams flow through the area from Aburi Mountains in the north to the Gulf of Guinea in the south, and along these streams as well as in low-lying areas, adjacent wetlands and former water retention ponds, flooding usually occurs after heavy rain falls either within the municipality or in the mountains. When it rains, the inner settlements of the municipality are the worst affected (see Map 2.6).

Map 2.6: Locations of some of Adentan’s flood prone areas. The areas have either been pointed out by NADMO officers or other key informant in the field, or observed during fieldtrips in November 2019.
To prevent destruction caused by flooding, in the last century Adentan had many artificial ponds, which worked as holding areas for flooding. Within the last 20 years, however, most such areas have been left unkept and overgrown or they have been reclaimed for residential purposes, which means that ‘someone’ has drained the ponds and sold the reclaimed land parcels to prospective homebuilders. A recent example of this is a large pond located at the southern end of New Legon, which was drained a few years back in a large blast and the flow of the stream diverted. According to NADMO officers, the draining of the pond was illegally orchestrated by people, who wanted to reclaim the land – according to the local councilor it was caused by the force of the water itself. Regardless, today there is evidence of housing development in the bottom of the drained pond, including large gated villas under construction. Furthermore, apart from the SNIIT Flats and some other private estate developments, very few areas in the municipality have sufficient drainage. Therefore, when it rains, the water cannot easily recede and pours from the overflown streams into houses and onto roads. As such, over the last decade the ongoing population densification of Adentan and the lack of drains and open vegetation places have caused the extent and effects of flooding in the municipality to intensify. As pointed out by a unit committee member from Adentan:

We previously had little effects of floods, but immediately Adentan started to expand, then the floods started becoming severer. The rains have not changed much in frequency and intensity; it is due to the expansion of physical development.

Even though some areas of Adentan can be said to be naturally flood prone, flooding has in this way only recently become a major issue in the municipality. Both residents and physical planners therefore note encroachment on waterways and the filling up of ponds to create land for building on as the main reasons for flooding, coupled with the observation that new estate developers dig gutters that lead the water out of their estates without consideration for nearby settlements, which receive the spill-over water. A good example of this is the Lakeside Estate, which has drains along their interior roads. These drains spill directly onto roads and houses developed by individual homebuilders on the ‘backside’ of the estate, who the Estate company claims have built their houses directly in what should be the buffer zone of the streams. Because of this, many argue that demolition, forced eviction and relocation of settlements are necessary interventions if the problem
is to be solved permanently (cf. Amoako and Inkoom 2018). An assembly member from New Legon comments:

If we want to solve the issue of flooding, we will have to find a way to get rid of all such buildings along the waterways. But that is something that our government will not have the will power to be able to implement. […] It is very, very hard. Because if you want to do it and do it well, you will have to find alternative arrangement for them before you are able to evict them.

Looking at satellite images from Google Earth it is possible to view the spread of build-up areas in the Frafraha settlement over time (see figure 2.6). Below are images of the Frafraha area from 2010 and 2015 respectively, which show the rapid development, as well as the gradual encroachment of buildings into former riverbeds and the filling up of several open areas in the area.

Figure 2.6: Satellite image of the Frafraha area, 2010 above and 2015 below. Source: Google Earth.
When considering this spatial development it is however important to note that most of the people in this way encroaching on former waterways have presumably bought their land from previous owners and construction has been ongoing for several years. The houses are therefore seldom easily movable, and relocation is not possible without severe disputes and protests. Indeed, difficulties have already occurred at Adjiringanor Main Drain, when AdNADMO in 2019 tried to conduct dredging, but was forced to halt proceedings by residence protecting their properties along the drain.

At the same time, several examples throughout the municipality indicate, that the building of local roads without proper drainage, or the construction of bridges, which cannot hold the masses of water that runs through an area, also intensifies issues of flooding. In fact, localized initiatives to handle flooding in one part of the municipality often lead to intensified flooding in other parts. As noted by one assembly member:

> Everybody seems to have a piece of land and he wants to develop the land without taking into consideration where the land is, what can cause damage to society when he/she puts up a building or a wall.

Therefore, the transport infrastructure improvements that residents value highly and often have worked hard to achieve (like bridges across streams), are also contributing to increase flood risk/vulnerability.

As with the provision of transport infrastructure, responses to Adentan’s flooding issues are carried out at many different levels. Some house owners have tried to drill their own gutters and build protective sand barriers around their houses, but with limited effects. Some residents associations are collecting contributions among their residents to build or strengthen bridges in and out of their areas, and in some settlements assembly points have been created to offer safe havens in case of flooding. At the assembly level, desilting is carried out throughout the municipality, but as several members of residents associations have pointed out, the desilting is rarely comprehensive, and because the different assemblies do not coordinate their dredging and desilting, Adentan is often flooded because of spill-over water from up-stream municipalities. According to one physical planner, the Adentan Municipal Assembly has recently started urging landowners to plant trees and
other greenery to allow for water run-off as well as encouraging people to register with waste collection agencies by tying waste collection fees to property rates. Furthermore, on July 12, 2019 and 26 September 2019, AdNADMO undertook a Waste Segregation and Flood Prevention talk at Ogbojo Central Mosque and Ogbojo New Market respectively. The topics treated were waste segregation and its relationship to flood prevention, types of waste and how to manage them effectively and economic gains from proper waste segregation. During the third quarter of 2019, AdNADMO also carried out dredging work along several main drains throughout the municipality. Most responses to flooding in Adentan is thus directed at ensuring that floodwater can recede efficiently without damaging roads and buildings extensively.

One of the reasons for this is the fact that flooding compound already existing mobility and accessibility issues in the municipality. As earlier mentioned, many of the inner roads of Adentan municipality are in poor conditions, and as many are unpaved, they become very difficult to use when it rains. Furthermore, as water gathers in ponds near the access to the main roads, flooding can heavily limit both interior accessibility as well as access in and out of the municipality. According to one assemblyperson, this means that

If you are unable to hit streets like East Legon or the main Adentan-Dodowa highway and the highway connecting Legon, trust me you cannot come out that day. If you are caught up behind these roads before it rains, then you would have to wait for the rains to go down, and the water to cool down before you can come out of the municipality.

Already vulnerable to disruptions because of the limited amount of access-points and poor motorability within the municipality, flooding cuts off access even further, and several settlements become unreachable when it rains. When this happens, pedestrians, who have left their vehicle behind to try to walk through the rain or schoolchildren on their way to school are stranded on the roadside unable to cross the swelling streams. This, first of all, disrupts local livelihoods strategies, as residents risk being unable to leave or return to their home, and second of all effects the general development of the settlement, as unmotorable roads dissuades investors.
Summary: An emerging middleclass suburb

Adentan has grown rapidly during the last 20 years, and the municipality is continuously witnessing a steady population growth. The rapid economic and social development of the area in the last decades has, overall, marked a development away from traditional income activities as well as caused land formerly used for subsistence farming and other agricultural activities to be converted into residential properties and to some extent commercial buildings. This development has largely followed a shift in residents witnessed by several settlements in the municipality with tenants and squatters moving out and land owners moving in.

Today, Adentan’s location just north of Accra at the junction between two major highways has made it a residential hub for workers commuting in and out if the municipality each day. This means, that the area sees a massive flow of vehicles leaving in the morning and returning in the evening. However, due to the large amount of rivers and streams in the area and the poor conditions of the inner roads – most of which are unpaved – mobility within the municipality is somewhat restricted. Indeed, in some of the inner settlements, unpassable roads or bridges often interrupt accessibility and residents and city planners alike regard bad roads as a major developmental issue in the municipality. The lack of funds for road construction within the municipal assembly and the bureaucracy of ensuring funds from regional or national offices further intensify these issues, as does the somewhat lacking provision of public transport in Adentan (important locations like the polyclinic and the Adentan shopping mall are hard to reach from inner settlements, several residents complained that the quality of trotros plying the area is sub-par and the cost of travelling to Accra is heightened by the lack of a direct connection).

Because of these difficulties, many residents and their associations are lobbying or co-founding the construction of transport infrastructures within their own area. This means, first of all, that accessibility in Adentan varies greatly from settlement to settlement, and second of all, that residents can work around zoning plans for the area, by using their personal connections for development. As such, the municipality today is primarily characterized by areas where resourceful residents have taken responsibility for the provision of services such as roads and gutters, interspersed with both comprehensively planned and serviced islands in the form of residential estates and less developed ‘deserted islands’ in areas where caretakers make up most of the population.
This sprawling consolidation of Adentan has had major impacts on issues of flooding within the municipality, because it has led to water retentions ponds being filled and turned into sellable lands, while Adentan’s growing population has encroached on riverbeds and streams. The lack of places for water to recede, has led to more severe flooding events, with water damaging roads, infrastructure and buildings.

Many officials as well as residents regard the permanent solution to such flooding issues to be a forceful relocation of those residents, who have built in waterways. However, this necessarily causes prolonged conflict, especially because of several ongoing land disputes in the area, in which several different stakeholders claim to have ownership rights to the same land – even to land allocated as wetlands in official zonal plans. Furthermore, there are several examples of localized flooding events caused by streams and drains that visibly resourceful homebuilders had diverted from their own land, as well as by bridges over roads, which were effectively blocking the flow of the water during heavy rainfall, probably because the culverts under the bridges were not properly dimensioned. What this means is that the transport infrastructure improvements that residents value highly and often have worked hard to achieve also contribute to increased flood risk and vulnerability.

As such, issues of flooding in Adentan is greatly related to the sprawling spatial development and the ambiguous ownership status of much of the municipal land.
The Santa Maria Settlement

Introduction

Santa Maria, Kwashiebu and Antiaku are settlements located in the southeastern corner of Ga Central Municipality, a district of GAMA formed in 2012. Ga Central lies to the northwest of Accra Central, within latitude N 5°33’21” and longitude W 00° 11’48”, and covers a total area of approximately 49 sq. km (see map 3.1).

Map 3.1: Placement of Ga Central Municipality District within GAMA. Accra Central is located near the coast where the three main roads meet. The purple line on the base-map shows the border of the Greater Accra Region.

Once scattered with small peri-urban farming communities, the areas now assembled as Ga Central began developing into suburban neighbourhoods in the 1950. The development was largely driven by low to middle-income settlers, who appropriated former farmland for residential development and gradually put the indigenous economic base under duress. This continued over several decades, and as the area changed into a densely populated urban zone, several settlements in the area became completely build-up. From the 1990s onwards, especially the area encompassed by the settlement of Santa Maria (see map 3.2) began to receive new settlers, who moved here from northern areas, starting a densification of the southern settlements of the municipality. With the continuous
development of the city of Accra, these settlements are now no longer peripheral communities, but rather central areas in the city (Yankson and Bertrand 2012).

Today, residents of Ga Central use the term Santa Maria to refer to a larger area than the aforementioned settlement itself. This area covers all the densely build areas stretching west from the road then runs from Awoshie to Anyaa, as well as the areas between the official borders of Ga Central and Kwashieman and La Paz (see map 3.2). This is a continuously urban area, with a high population density. It has, however, also become a flood prone area. In the rest of this report, the designation Santa Maria is used to describe this area, whereas the Santa Maria settlement refers to the area marked with red on the below map.

Map 3.2: Layout of Ga Central Municipal District.

In 2012, a decentralization effort was carried out in GAMA, which led to the establishment of new municipal assemblies including Ga Central (Owusu 2015). At the same time, Sowutoum, a former peripheral town, was established as the district capital. Today, Sowutoum has several tertiary education institutions, including Pentecost and Maratha Universities, and a police station.
According to the official website of Ga Central, the municipality encompasses eight other main urban centers apart from Sowutoum, including the areas pinpointed on map 3.2. These refer to old village centers, as most of the municipality now constitutes a continuous urban area. According to the website, the busiest areas by commercial activities in the municipality today are Tabora and in general the area of Santa Maria (Ga Central Municipal Assembly n.d.). The office of the General Assembly is also located near this area (see map 3.2), southwest of Sowutoum. The assembly was established along with the municipality and is the highest political and administrative body in Ga Central. It has sixteen members, comprising nine elected assembly members from nine electoral areas, five Government Appointees, a Municipal Chief Executive and one Member of Parliament (ibid.). Specific assignments are handled through six subcommittees pertaining to social services, development planning, works, finance and administration, justice and security and agriculture. Moreover, the assembly has two Zonal Councils, namely Anyaa and Chantan, whose main functions are to mobilize revenue, implement policies at the local level, and to ensure the participation of the community in the decision-making process (ibid.).

The municipality occupies an undulating landscape interspersed in most parts with plains and gentle slopes, with an altitude of about 76 meters above sea level (Ghana Statistical Services 2014b). The slopes within the municipality are mostly formed over the clay soils of the Dahomeyan gneiss origin with alluvial areas surrounding the low-lying river channels. The northern parts of the municipality lie higher than the southern parts as the environment rises from Santa Maria towards Antiaku and Sowutoum. The natural vegetative cover of the municipality is coastal savannah with two main vegetation types, namely shrub lands and grassland (ibid.). However, the high rate of urban expansion witnessed over the last 40 years have destroyed much of this natural vegetation.

One major stream, the Laffa stream and several major tributaries flow through Santa Maria. They meet in the corner of the Santa Maria settlement, and flow together toward Mallam Junction, where they meet the Awoshie stream. Originating from the Aburi mountains, the Laffa stream enters the Santa Maria area in the hilly areas near Sowutoum and flow through the settlements of Kwashiebu and Santa Maria, while the many tributaries flow down the hill through Antiaku downwards through the Santa Marie settlement (see map 3.2).
Santa Maria has two open markets, namely the Anyaa market and the Chantan market. These are, however, not considered developed market centers and most residents commute from the area to Accra Central, Kwame Nkrumah Circle or La Paz for both food supplies and work, although smaller shops are found many places within Santa Maria. Other infrastructural facilities, such as health facilities, banking facilities and public schools are unevenly distributed in the municipality overall, with most facilities clustered in the Santa Maria area along the road leading from Awoshie to Anyaa and to the west towards La Paz. Similarly, of the 35% of houses serviced by potable pipe borne water in the municipality, most are located at Tabora, Chantan and Sowutoum (Ga Central Municipal Assembly n.d.).

Though the Santa Maria area is the focus of this rapport, the below population figures relate to Ga Central as a whole.

**Population characteristics**

According to Ghana Statistical Service’s 2010 population and housing census (2014b) the population of Ga Central was 117,220 in 2010 with 51 percent females. The census characterizes the entire municipality as urban, which refers to localities with 5000 persons or more. It further notes that in 2010, 34 percent of the population was below 15 years, whereas persons aged 60 years and older constituted a smaller proportion (4 %).

Like most other parts of Accra, Ga Central had a heterogeneous population composition in 2010, with 22 percent of the population born elsewhere in the Greater Accra Region and 50 percent born in other regions. Of those who had moved to the municipality, 47 percent had lived in Ga Central for more than four years at the time of the census. The majorities of residents from other regions came from the Eastern region and the Central Region respectively. Ninety-three (93) percent of the population was literate, with 55 percent literate in both English and Ghanaian languages. Of the total persons aged 3 years and older, 55 percent had attended school in the past, 42 percent were schooling at the time of the census while 7 percent had never attended school.
Looking at the distribution of household members in the municipality, the census shows that in 2010, children constituted 41 percent of household members, whereas 25 percent were heads of households. Of these, 70 percent were males. Figure 3.1 presents the complete household composition for Ga Central, and illustrates the low percentage of non-relatives. In terms of different types of households, the nuclear family compositions (head, spouse(s), and children) constituted the highest proportion (34%) of the household population, while the extended family system (head, spouse(s), children and head’s relatives) had the next highest proportion (20%). The average household size in Ga Central (4) was slightly higher than the regional average (3.9), while the average number of households per house (1.6) was somewhat below the regional average (2.2).

According to the census, more than two-fifths (44%) of the dwelling units in the municipality were owned by other private individuals. Relatives who were not household members owned 11 percent of the dwelling units, with no significant differences in ownership of dwellings based on whether the household was headed by a man or a woman. These numbers indicate that a high percentage of residents in the municipality lived as tenants or caretakers in 2010.

Compound houses constituted the most common type of dwelling in the municipality, accounting for 42 percent of all occupied dwelling units. The second most common type was separate housing, which accounted for 29 percent (see figure 3.2).
Cement blocks and concrete were the most popular construction materials for outer walls, constituting 93 percent of all types of materials used, whereas metal roofing sheet and slate/asbestos were the two commonest materials for roofing. Fifty-seven (57) percent of all households had one sleeping room and the proportions of households having only one sleeping room ranged from 65 percent for households with three members to 8 percent for households with 10 members or more. About seven out of 10 persons aged 15 years and older were economically active in Ga Central in 2010 and the private sector drove the economy by accounting for about 94 percent of the active workforce. Services and sales (38 percent) and crafts and related trade works (24 %) were the most common types of occupation in the municipality, whereas occupations that require high skills and many years of training, such as professionals, managers and technicians accounted for 17 percent of the labour force (see figure 3.3).

In terms of industry, both the largest proportions of males (26 %) and females (47 %) worked with wholesale and retail and repair of motor vehicles and motorcycles (see figure 3.4). In terms of employment status, females (65 %) were much more likely to be self-employed without employees than males (50 %), whereas a far higher proportion of males (42 %) were employees as compared with females (20%). Males (11 %) were however more likely than females (7 %) to be self-employed with employees (see figure 3.5).
Consolidation and development

While the proximity of Santa Maria to Accra Central attracted the interest of relatively resourceful earners looking for land to settle on from the 1950s, Ghana’s return to constitutional rule in 1992 ushered in a new period of development in the area. Following this governmental change, the Ghanaian government heavily liberalized markets, sparking an increase in economic growth opportunities and credit access, which in turn spurred an increase in the acquisition of property. Potential investors sought out investment opportunities in real estate, ordinary citizens felt relatively secure to invest in land, and land value rose (Darkwa and Attuquatefie 2017). In this period, many people looked to Santa Maria as an attractive area to acquire land in, as it was close to the central areas of Accra and affordable. For example, Acheampong’s military government had in 1974 acquired a large track of land in the area for a proposed Olympic Stadium for Accra. This plan had
however fizzled out at the time of return to constitutional rule, which gave the traditional authorities the right to re-sell the land. The availability of such open and un-developed land quickly created a mud rush in the area. The new investment market, however also led to an increased concern with surveillance and physical protection against encroachment, which prompted the emergence of a number of private security service providers who employed illegal means of enforcement to protect land and landed property (ibid.). These security providers were locally referred to as land guards, and whereas up until the mid-80s, Santa Maria had been seen as a place, where settlers could provide affordable housing for themselves and their families, in the early 1990s the area became rapidly known for its illegally built houses and notorious land guard practices. The notoriety of land guards, whose modus operandi included violence to achieve their objectives, was reflected in their ability to forcibly take over people’s property with impunity for resale. As visible on map 3.3, the settlements of Santa Maria, Kwashiebu and Antiaku all became densely populated in this period.

Map 3.3: The vectorized end-products for the years 1991, 2000 and 2014 of the Atlas Of Urban Expansion data set (Angel et al. 2016) has been used to illustrate the growth of Accra city into the area today covered by GA Central Municipality. For a thorough discussion of the methodology behind AUE see Møller-Jensen et al. (2020).
When settlers bought land in Santa Maria in the 1990s, they primarily did so from chiefs and they bought relatively large parcels of land because of the land prices in the area. This however, quickly spurred controversy over the chief’s rights to sell land in the first place, as community members commonly used this land, believed it belonged to the community and therefore could not be sold off by chiefs. A candidate for the assembly member position from Kwashiebu explains:

> Those days, we did not have Ga Central or Ga South. It was just Ga West and they were supposed to have assisted them to build their houses but because of the chieftaincy, the chief, the land guards and whatever, everybody wanted to go and sell their land to different people and they did not plan at all. That is why, now the population is increasing, we are facing the challenges.

As this comment suggests, ownership rights in Santa Maria were largely opaque during the 1990s, which contributed to the practice of land guards and the harsh reputation of the land market in the area. A trader comments:

> The observation that I have made personally is that most of the bad guys that were within the main Accra area moved to this Santa Maria and Sowutoum area to come and do their bad things. It was more or less like a hideout. Even this space that we are occupying, before we moved it has been occupied by this kind of land guards, weed smokers and the rest.

After the initial buying rush, many of the low to middle-income settlers who bought land in Santa Maria quickly started selling off parts of their plots in smaller parcels to make a profit. This led to smaller and smaller plots and with this, a densification of the Santa Maria area. Especially in the Santa Maria and Kwashiebu settlements, this had led to a situation by the end of 2010’s, in which many structures have been erected in inappropriate places, for example near roads or streams, which continuous to hinder efficient development. Indeed, according to a unit committee member of the area, Santa Maria is today characterized by the proximity between dilapidated or makeshift structures put together with recycled city refuse such as cardboard boxes, plastics, sheeting and flattened metal cans, and permanent houses, providing a vivid image of the disparity of the area.
According to residents, however, some prefer to stay in such unfinished structures exactly in order to avoid complications with the government concerning where they have built. Map 3.4 presents an analysis of the degree of densification in the municipality, and shows the high degree of urbanization in the Santa Maria Area.

Map 3.4: The vectorized end-products for the years 1991, 2000 and 2014 of the Atlas Of Urban Expansion data set (Angel et al. 2016) has been used to illustrate the growth of Accra city into the area today covered by Ga Central Municipality. For a thorough discussion of the methodology behind AUE see Møller-Jensen et al (2020). The white area around Sowutoum is reserve land connected to the Maranatha University College.

The above map furthermore points to one of the current issues facing the Santa Maria area, namely the lack of available land. Whereas earlier the area was knowns as a place to acquire land, this is no longer the case, as land has become both expensive and difficult to come by. This also applies to municipal officials, and as such because of problems with retaining land for public infrastructure, neither the settlement of Santa Maria nor Kwashiebu have public housing. Furthermore, several municipal authorities have expressed difficulties with securing land for schools, churches, roads and drainage in the area. For this reason, in the last ten years, Santa Maria have been ravaged by many attempts to demolish illegally built houses, by both official personal from the municipality and by traditional owners and residents associations, as conflicts of interests over the use of land prevails.
However, due to the pervasiveness of land guards, they have been largely inefficient. As such, Santa Maria continuously struggles with the unavailability of land for communal services and facilities, exacerbated by weak enforcement of building regulations and ineffective development control. An assistant planning officer describes the problem:

As a municipality, we should have a spatial development framework so that at the end of the day, we can mark a place where a market has to go, industrial enclave, maybe an agricultural area. Because as I speak to you right now we do not really have area or land for agricultural purposes so people are, just you know, using their backyard for agricultural purposes. […] However, we do not really have full control over development because it is more or less like the chiefs have already sold all the lands so when it comes to development, even the assembly finds it so difficult to get a parcel of land to do developmental projects. So somewhere last year we had to force ourselves to acquire some properties.

Because of this development of how land is traded in the area, many of the settlements in Santa Maria have a high ratio of people living there, who are not landowners. Indeed, several officials estimate that around 50 percent of those living in Santa Maria are tenants or caretakers, which often means young people. The cost of renting a single room is, according to residents, about 150 GHC pr. month and this relatively low cost of renting compared with the proximity to Accra Central, continuous to make Santa Maria an attractive residential area, despite its reputation for somewhat haphazard land practices

Overall, the consolidation of Santa Maria has been characterized by limited development control and conflicts over land. This has led to a situation today, in which Santa Maria is a crowded, metropolitan area, whose close proximity to major commercial hubs continue to attract new residents but whose reputation is still somewhat blackened by the practice on land guards. The area still suffers from a lack of planning, which hinders the preservation of land for public facilities and recreational spaces. Implementing efficient plans have however proved difficult, as land has been sold off and build-upon long before the establishment of the municipality and officials continue to hold limited authority over development in the area.
**Mobility and Accessibility**

Ga Central contains a total road network of about 453 kilometres. Of these, only about 20 kilometres are tarred, namely Anyaa-Awoshie road, the Kwashieman-Ofankor road and small road sections around the Municipal Assembly. Where Anyaa-Awoshie and Kwashieman-Ofankor road meet, they run into Dr. Bursia Highway, which is the main road connecting Santa Maria to Accra Central. Going the other way, both roads also connect to the Nsawam Road, which gives access to the northern areas of Pokuase and Amasaman. Furthermore, George Walker Bush Highway, which connects to eastern Accra and Tema, flanks the municipality (see map 3.5).

Despite its central location, Santa Maria does not offer many employment opportunities for its residents and locals estimate that 80 percent of the population leave in the morning for their livelihoods. Of these, many are traders going to the central markets in Accra, whereas those who remain in the area during morning and afternoon are mostly fitters (auto mechanics), chop bar operators, scrap dealers or teachers.
When moving out of the municipality, both residents within the Santa Maria area, as well as residents of northern settlements rely heavily on the Santa Maria connection. This is because even though Ga Central are flanked by major roads, which should provide easy access to the city centre, reaching these roads are difficult due to the limited amount of stops for public transport and the conditions of the inner roads leading to these stops.

Within the assembly, it is the responsibility of the Urban Roads Department to ensure equity in the distribution of resources for road development and maintenance within the municipality (Ga Central Municipal Assembly n.d.). To do this, the department has several ongoing projects related to maintenance, development and planning, including routine and periodic maintenance projects such as desilting, drain and curb cleaning, pothole patching, minor drainage repairs, culvert repairs, grading and green area maintenance, as well as traffic management activities such as installing street lights, road signs, traffic lights and speed bumps. Furthermore, the construction of a new terminal in Anyaa is under way (ibid.). To fund these projects there are three major sources namely, the International Development Agency (IDA) of the World Bank, Agence Francaise de Development and the Road Fund of the Central Government. Currently, the Road Fund and the Ministry of Finance are funding both periodic and routine maintenance projects following the expiration of the Road Sector Development program (RSDP) (ibid.).

According to several residents, however, the efforts of the Urban Roads Department are not sufficient to ensure easy motorability throughout Santa Maria and for this reason many local resident associations have road upgrade and maintenance as their main objective. In fact, in Antiaku, the chair of a newly formed residents association called the need for better roads the primary reason for forming a property owners’ and concerned residents association in the first place. The need for better roads is closely linked to the provision of public transport services. An assembly member candidate in Kwashiebu explains:

Because of the poor nature of roads in Kwashiebu, we do not have any transport services that is running within my electoral area. At times people go to Santa Maria or the nearby community to take a trotro to their various activities all because of the poor nature of our roads. And the main problem is the Laffa River. It is just last year we constructed a big bridge for those
who are having some cars, so that people can get access to their various homes and their activities.

As this comment suggests, for residents in Kwashiebu finding transport out of their area of residence either means first going by foot to Santa Maria Last stop, the main station in Santa Maria or to Hong Kong or Kwashieman station, which in turn means crossing the George Walker Bush Highway (see map 3.6). This, however, comes with some risk, and when asked about this, the aspiring assemblyperson expressed concern, as he pointed to the lack of available land as another reason for the lack of public transport in Kwashiebu:

It is a threat…these are our worries. The community does not have trotro or bus to convey them to their various areas. You know this is the main problem the community is facing. But besides this road problem, we do not have any social market within our catchment; we do not have government schools within our catchment area. Simply because when they were selling the lands, the chief or those who were the custodian of our land did not reserve any land for the community. So we do not even have a trotro station per se.

These issues are not unique to Kwashiebu. In fact, the proximity of the settlement of Kwashiebu to the hub La Paz would suggest, that this is actually one of the better-serviced settlements in the municipality, despite its lack of stations. Map 3.6 shows the location of trotro stops in Santa Maria. When viewing the map it is important to note that few inner roads connect to the Anyaa-Awoshie road, which makes the Kwashieman road and the stops along it very important for mobility in and out of the area.

Trotros and taxis are the main mode of transportation in Santa Maria, and as private car ownership is low, the lack of public transportation in some areas, like Kwashiebu, is a major concern. Conversely, according to a porter working at the Santa Maria Last Stop station, trotros have been coming to that area for at least 25 years. Trotro services, he explains, move from place to place, and for years, the service only reached Kwashieman. However, as the area started densifying and developing, transport workers moved with the development implementing stops first at Blue Kiosk
and then at Last Stop. Furthermore, within the last 20 years, stops have been established at Antiaku and at Sowutoum. As evident on map 3.6, the constructions of stations is closely linked to the size and condition of the roads as well as increasing demands for transport services from growing populations in surrounding residential developments.

Map 3.6: Stations and large stops in the southwestern corner of Ga Central.

From Santa Maria Last Stop, trotros ply the route to La Paz and to Kaneshie, Circle and Accra. However, the availability of trotros vary greatly over the day, and outside of rush hours a direct trotro to Accra is not likely available from here. Furthermore, according to several residents, trotro drivers going from Santa Maria to Accra tend to divide the route into smaller segments between larger stops, why passengers have to pay several times to get all the way to Accra. Going the other way, residents of Ga Central returning from Accra in the evening will also have to change trotros.
several times before reaching the municipality, and again at Santa Maria Last Stop, if they need to reach Sowutoum or the northern neighbourhoods. This heavily increases the cost of travelling.

Another major issue in relation to mobility in Santa Maria is congestion. Around Santa Maria Last Stop station, businesses such as food ventures, mobile phone repair kiosks and a filling station has been emerging, and today the area is one of the most crowded and busy in all of Ga Central. These crowds create severe congestion, which makes travel time within the area and off the major roads even longer and deters drivers with good trotros or cars from driving past here. As one assistant planning officer puts it:

> The Santa Maria junction is always choked. In the morning, afternoon. It does not have Sunday or weekend.

Without better roads, taking alternative routes is however seldom an option. For this reason, commercial Okada (motorcycles) drivers have started operating in the area, offering transport to the main roads. These provide a form of transport, which can evade congestion and to some extent manoeuvre the bad roads. During flood events, this becomes even more desirable.

**Flooding**

Santa Maria can be considered a waterlogged area. This is because it is packed in between the hills rising in the north and the George Walker Bush highway in the south. At the same time, the area is traversed by a major stream, the Laffa, which creates flooding within the Santa Maria and Kwashiebu settlements, and tributaries, which creates flooding around the Dezeret Hospital and Santa Maria last stop (see map 3.7). When the area floods, mobility becomes even more problematic than described above as alternative routes become unmotorable, which can leave residents stranded. In 2015, the municipal recorded its highest number of affected flood victims, as flooding affected over 12,595 people, including seven people losing their lives.

In Santa Maria, residents remember flood incidents harking back to the 80s, but most agree that flooding has only become a major issue in the area, within the last 20 year. The reasons for this are varied. First, the area suffers from a lack of sufficient drainage, an issue several residents describe as on par with the conditions of the roads. One of the reasons for this lack of sufficient drainage is the limited coordinated efforts to complete an adequate drainage system; instead of a municipality-
guided effort, residents have constructed small drains around their homes. An assemblyperson from Kwashiebu explains it like this:

The problem is that, before you can construct the smaller drain, you have to construct the bigger drain first so you connect all the smaller ones through the bigger ones. But now they have already constructed the smaller ones and leave the bigger ones. All those things cause flooding. Because they direct all the small drains to the big drains while the big drains too have not been constructed or is under construction.

Map 3.7: Locations of some of Ga Central’s flood prone areas. The areas have either been pointed out by NADMO officers or other key informant in the field, or observed during fieldtrips in November 2019.
Second, to make matters worse, poor waste management means that a large amount of waste ends up in the gutters, drains and streams making them even less efficient. Indeed, according to the Municipal Assembly’s webpage, 39 percent of residents dump their solid waste at unspecific locations including vacant lots, drains and embankment of water sources, whereas in total, 61 percent of all refuse generated in the municipality is currently not collected (Ga Central Municipal Assembly n.d.). According to a member of the National Commission for Civic Education at the assembly, garbage collectors (tri-cycles) charge between 3 GH₵ and 5 GH₵ for collecting a small bag of garbage, which is a high price to pay for many of the residents in the municipality. He explicates:

The person may look at the money and keep the garbage and when it is about to rain, quickly the person drops it in the gutter or a place that no one would spot him or her. Therefore, instead of the garbage going the actual place, it ends up choking the gutters that we have around our areas and the water cannot flow.

He furthermore points to the low income of many community members, in that garbage bins are routinely put up and then destroyed for their metal, while bags distributed for waste collections are used to store water within houses. Other problems are associated with those who engage in construction work: According to a Unit committee member, builders often tip their building materials along the shoulders of the road, which causes sand and stone to wash into the streams. Additionally, building collapses occur, as many structures have been constructed in waterlogged areas, why after some time the buildings has become soft and a little rain can cause it to collapse.

As described earlier, such haphazard building practices because of issues surrounding land ownership and administration are considered a historic problem for the area, and both residents and officials recognize building in waterways as a third factors which heavily affects the severity of flooding in the area. A resident, who has lived in Santa Maria since 1992 comments, that even though there was flooding in 1992, the water was quick to disseminate back then as there were few buildings to block the streams. A NADMO official reiterates this:
The main cause [of flooding] is that they have built and blocked the waterway. So to me if we could take a bold step to remove all those buildings from the waterways it will help the community. Because two people or three people should not be allowed to create a problem for the community to suffer. So, they have to put their foot down and take that bold decision to remove the houses which is the cause of flooding because without that the problem will not be solved.

During fieldtrips to Santa Maria in November 2019, this was confirmed as several buildings erected dangerously close to streams were observed, as well as several instances where people had diverted the stream locally in order to build their houses. As the above comment suggest, this often result in the flooding of neighbouring houses.

Figure 3.6: Picture on the left: Narrowing of the the stream directly behind Santa Maria Last Stop due to buildings. Picture on the right: Drain from uphill area that ends abruptly downhill. Source: Fieldwork November 2019.

Together, these different factors creates severe flooding of several nodal points in the municipality, which greatly affects the resident’s possibilities for movement. One of these is the Rasta Bus Stop,
which is located at the edge of Kwashiebu. When this floods, water flows down Kwashiebu Road (see map 3.7) and blocks access in and out of Santa Maria. As mentioned earlier, this is crucial as many residents in Kwashiebu, like in the rest of the municipality, rely on access to the trotros that pass along Kwashieman Road in Santa Maria. At the same time, however, flooding of Kwashiebu Road also blocks the alternative routes out of Santa Maria, especially as all the inner roads are un tarred, and therefore become muddy and unmotorable, and as Santa Maria Last Stop is also in a flood prone area, this can completely halt movement in and out of both Santa Maria and northern neighbourhoods. For this reason, some residents explain, that they enquire about the situation at Last Stop, before venturing there from northern settlements. As such, when central road segments in Santa Maria and Kwashiebu floods, it hinders many people going to work outside the municipality as well as children going to school. Likewise, for the people who stay in the municipality most days, it makes customers unable to reach their shops. This means, that when it rains most commercial activity in Santa Maria comes to a halt. A trader comments:

That is our problem that we are telling you. When it rains, we wait; most of the times we sit somewhere until the flooding subsides before one can move. Even after 2 to 3 days, one has to remove his or her footwear before one could navigate through the water to the destination.

One of the reasons for the severity of the disruption from flooding in Santa Maria is the poor conditions of the roads. When it rains, especially the hilly roads of Antiaku experience severe erosion, which in turn leads large amounts of sand and dirt into gutters and drains, especially around Santa Maria last stop (cf. map 3.7). As such, while the upper parts of Antiaku does not experience flooding of their houses or stagnant water on the streets, rain is still a major issue in the settlement, as is the water that runs down to and flood the neighbourhood around the Dezeret Hospital.

Muddy roads also have harmful effects on motors, which is why many trotro drivers choose to halt operations when the roads flood. Instead of driving to their destination, they stop where the Laffa crosses Kwashieman Road (cf. map 3.7) and let people find their way home from there through the water. A harrowing example recounted by a NADMO officer shows the risk of this:
It was a son and his father. They were coming from work and were trying to pick a trotro to a different place. The first trotro they took had to alight them to pick another. When they were dropped off, they did not realize there was a drain there. So, they stepped in and started drowning. The water was just pushing them. Luckily, the father was able to push his son to grab the metal for people to rescue him and only the father died. That was just last year around February [2018].

Situations such as this, as well as the great cost in terms of rebuilding damaged houses and roads after flooding has caused residents to engage in private flood prevention measures, as well as spurred responses from the Municipal Assembly and NADMO. These activities are however considered largely ineffective for several reasons: Through the Municipal Assembly, planners have tried to create a yearly map of the flood impact from the Laffa River. This map should provide a guide for where and when to carry out dredging and desilting in preparation for the rainy season. Due to limited resources for excavating however, this solution relies heavily on local strategies implemented by resident’s associations or families, why the response varies greatly across the different settlements in the area. A couple of years ago, in a heavily flood prone area of the Santa Maria settlement, the residents did indeed come together to raise money to construct a gutter on their own, an assembly member recounts. Though trying for several years, they were however not able to raise money for more than digging the gutter, whereas buying stones, cements, iron rods etc. to secure the construction was not possible. Therefore, they halted the project and the area still suffers from flooding. According to a traditional leader from the area, sanitation used to be a communal effort and families would do collective work to secure the neighbourhoods. In recent years, he comments, this has become more and more difficult to handle, and furthermore, people have started expecting municipal action. As such, the level of responsibility that the people and the assembly have for issues of flooding in Ga Central is still under debate, which can obscure prevention efforts, though a lack of resources and adequate infrastructure seems at the bottom of the problem as well. A NADMO officer, who laments the lack of coordinated effort, also comments upon these issues:

Every year we do dredging and that is the only thing that helps to reduce flooding in the Municipality as I speak right now. But we don’t have enough
drains to accommodate the rainwater and people too have built on the waterways so it makes it difficult for the water to flow through the right channels. […] We have also tried to identify some safe havens in the Municipality but you know we do not have the facilities or resources to put it in place. We have over 40 safe havens in the Municipality but anytime it rains, before you realize the people will try to help themselves by relocating to their friends, the safe havens are not effective and so the evacuation is very difficult to work on.

In this quote, the NADMO officer again mentions building in waterways as a grave problem for the municipality, cementing the problems the area faces with reclaiming land for the provision of public services like drainage and gutters. Like in other areas of Accra, many people in the flood prone southern settlements of Ga Central see no other permanent and sufficient solution to flooding than removing structures. As mentioned earlier, however, such efforts often lead to conflicts revolving about the ownership status of the land.

**Summary: A working class dormitory town**

Urbanizations processes have been ongoing in Santa Maria for around 40 years. In the beginning, people from Accra central, who sought to acquire land in this – at the time – peripheral area, were the primary settlers, and the area is known to have developed spontaneously around smaller settlements. Around 1990, however, the character of development changed, as land was sold of more intensely and buildings sprung up fast in the area. At this time, a densification of the southern settlements of the area took place, with people moving here from northern parts of the Greater Accra area, as well as from the centre. Simultaneously, the practice of land guarding became prevalent, and the area obtained somewhat of a reputation for being a difficult place to retain land.

Today, the entirety of Santa Maria is characterized as an urban area, though provisions in terms of service facilities and commercial activities vary. A significant proportion of the residents of Santa Maria continue to be low-rent tenants or caretakers who take care of dwellings, until services such as water has been connected, at which point the owners will move in. Because of their precarious situation, these tenants and caretakers rarely have the financial means of facilitating infrastructural work through residents associations. Furthermore, they might not always support infrastructural up-
grades, as these might mean the owners of a house will choose to live there sooner and the current residents will have to move away, presumably to peri-urban areas further out. As such, while Santa Maria continues to densify and attract residents working in Accra Central, the area suffers from limited means to conduct coordinated up-grades, service facilities remain sparse and unevenly distributed.

According to both officials and residents, one major issues facing Santa Maria is the poor conditions of the roads in the area. Most of these remain un tarred, and as such, rain and erosion can render them unmotorable, while transportation providers are reluctant to frequent areas, that require their cars to travel along rough roads. However, as there are limited job opportunities within Santa Maria, many residents rely on access to the central areas of the city for their livelihoods, which means that they depend on the availability and acceptable cost of trotros.

In consort with this, other issues facing the municipality are a severe lack of drains and gutters as well as poor waste management practice. Such issues cause water to have no place to flow to in case of rain, and as such, they contribute majorly to flooding in the area. Many parts of Santa Maria have become flood prone, and as several streams cross through the southwestern settlements, rain can easily cause overflow of canals and waterways here. When this happens, access to the already limited amounts of public transport becomes even more restricted; especially the nodal point Santa Maria Last Stop is prone to stand still during flooding, which greatly hinders the mobility of residents in many parts of the municipality. As such, while Santa Maria looks well connected to the rest of the city due to the several major roads that run through the area and provide alternatives routes for residents, these roads themselves are difficult to access due to the conditions of the roads leading to them, whereas the provision of public transport along these routes are highly affected during flooding.

Since its establishment in 2012, the Ga Central Municipal Assembly has made several promises regarding road up-grade and the implementation of proper waste management systems, and within recent years, several roads have been appointed to be tarred as soon as possible. Construction has, however, not begun on these roads yet.
The Glefe Settlement

Introduction

Glefe, an old fishing community, is a neighbourhood of Accra Metropolitan Area (AMA), the most populous municipality in GAMA, however currently in the midst of a division process. Within AMA, the central areas of Accra city, including its Central Business District (CBD) and main markets, are located. Therefore, the metropolitan area is sometimes referred to as the city of Accra, and it has been the regional capital for the Greater Accra Region as well as the national capital of Ghana since 1877. The municipality is bordered by the Gulf of Guinea, and covers a total land area of 139.674 sq. km (see map 4.1).

Map 4.1: Placement of Accra Metropolitan Area within GAMA. The purple line on the base-map shows the border of the Greater Accra Region.

Since its establishment, AMA has gone through several changes in terms of name, size and number of sub-metros and the area is continuously densifying, especially in its fringe areas. It has six sub-metropolitan districts, which have worked semi-autonomously for years but are now being re-established as municipalities in their own rights with the relevant
administrative structures. One of these is the coastal sub-metropolitan district of Ablekuma South, within which Glefe is located (see map 4.2).

Map 3.2: Layout of Accra Metropolitan Area

Defined by AMA as an informal settlement located in a flood zone (Amoako 2016) and located at 5.3180°N and 0.1001°W, Glefe is situated on a 2 km long sand bar that runs along the Gulf of Guinea. To the north of the settlement, two lagoons, Gyatakpo and Gbegbu, act as boundaries to the settlement of Mpoase (see figure 4.1). The settlement commenced as a small peri-urban fishing community in the period around Ghana’s independence, but the existence of the settlement was not acknowledged officially until the 80s, as the 1984 census, was the first to cover the area. At that time, the census recorded the community’s population as 978 (Amoako 2016), but according to locals, this number is questionably low, just as they conceive of the settlement as older than the state does. This indicates the clash between traditional claims over land and sense of place and formal urban planning, which has defined much of Glefe’s development process (ibid.).
Indeed, while located in AMA and thereby within the central areas of GAMA, Glefe has effectively been a peripheral community through most of AMA’s history, and today the area continues to stand out as a flood-prone area, with poor housing quality and lacking sanitation infrastructure. At the same time, however, the area has low rental prices and reliable connections to the CBD, which has made it an attractive area to move to for low-income earners from other parts of AMA and for in-movers to the Metropolitan area. The community is located at the border of the Densu Delta, one of several lagoons and estuaries that sit along the coast of Accra. Mangroves, comprising two dominant species, as well as salt tolerant grass species are found in the tidal zone of all sand lagoons and river mouths along the coast (Ghana Statistical Services 2014a). Furthermore, the coastline has a series of resistant rock outcrops, platforms and sandy beaches, but because of the close proximity of the continental shelf, strong coastal and wind action cause severe erosion in most places along the coast (ibid.).

As the economic hub of the Greater Accra Region and the rest of the country, AMA has a daily influx of more than two million people who commute to the city for various socio-economic activities. It is therefore estimated that the area has a day population of about 4 million, comprising of both residents and visitors (AMA 2020). Glefe is, however, primarily a residential area, and many residents from here also travel to the CBD during the day. The most noteworthy company in the neighbourhood of Glefe is Pambrose Salt Production Limited, a salt production company known for being the largest salt producer in West Africa (see figure 4.1).

Figure 4.1: Satellite view of Glefe and the surrounding areas, 2020. Source: Google Earth
Overall, known as a marginalized space characterized by poverty, Glefe is a unique community within AMA on the basis of its peripheral location and several ongoing conflicts of interest in the wetland area, which frames the provision of services and infrastructural development in the area. At the same time, however, the settlement allows many people to escape the near homelessness that Accra’s housing crises creates. These factors will be further elaborated in the rest of the report, after a description of the population characteristics of AMA. Population characteristics of AMA is described, as Glefe was a part of AMA at the time of the census and no data for only the Ablekuma South sub-metro exists.

**Population characteristics**

In 2010, Ghana Statistical Services counted the population of Accra Metropolitan Area to be 1,665,086 people representing 42 percent of the region’s total population (Ghana Statistical Services 2014a). The area is part of the old urban centre of Accra, and is along with La Dade Kotopon, Lekzokuku, Tema, La Madina, Ga Central and Ga East part of a combined area categorized as 100 percent urban.

According to the census in 2010, 47 percent of the residents of AMA were born elsewhere. Of those who had moved to the metropolitan area, 15 percent had lived in AMA for less than one year at the time of the census, 26 percent had stayed between 1-4 years while 21 percent had stayed over 20 years. Most in-movers came from the Eastern and Volta regions, and 5 percent came from outside Ghana. In terms of literacy, the census shows that 89 percent of the population was literate, with 52 percent literate in both English and Ghanaian languages. Further, the number of non-literate females (98,439) was more than twice that of males (39,567). Of the people who were attending school in 2010, 38 percent were at the primary level, 18 % were at the JSS/JHS level while 13 percent were at the Senior High School level. More females (26%) than males (23%) ended their education at the JHS/JSS levels while more males (14%) than females (8%) completed tertiary education. In Glefe, disaggregated census data shows that only 3 percent of residents 3 years and older had completed tertiary education in 2010.

Children constituted 36 percent of residents in AMA in 2010, whereas heads of household were 28 percent with 64 percent of heads being male. Figure 4.2 illustrates the complete household composition of AMA, which follows the same overall trend as the composition in Ga Central and
Adentan municipality. In addition, like in Ga Central municipality, the nuclear family compositions (head, spouse(s), and children) constituted the highest proportion (27%) of the household population, while the proportions of people who lived in an extended family system (with relatives of the head of household) either as couples (16%) or as single parents (15%) were the second and third largest proportion. The average household size was 3.7 persons, slightly lower than the regional average (3.9).

The most common construction materials for outer walls were cement blocks and concrete whereas metal roofing sheet and slate/asbestos were the two commonest materials for roofing. Compound houses constituted the most common type of dwelling in the municipality, accounting for 68% of all dwelling units. In Glefe, this number was even higher (81%). Furthermore, on average in AMA 65 percent of households occupied dwellings with only one room, whereas in Glefe, this number was 71 percent. Figure 4.3 shows a comparison between all types of dwellings in Glefe and the average for AMA.
About 70 percent of the population aged 15 years and older were economically active in AMA in 2010. Of those who were not economically active, a large percentage were students (52%). In terms of occupation, 39 percent worked in service and sales while 20 percent worked in craft and related trade, and 17 percent were engaged as managers, professionals, and technicians. In Glefe, however, this last number was markedly lower (see figure 4.4). The private informal sector was the largest employer in AMA, employing 74 percent of the population followed by the private formal sector with 17 percent. In terms of industry, more than a third (35%) of the working population were in the wholesale and retail, repair of motor vehicles and motor cycles category. The most common type of employment status was self-employed with no employees (48%), while many (35%) worked as employees, though less so in Glefe (see figure 4.5).

Overall, these population characteristics cement the notion that Glefe continues to remain a significant component of AMA, yet differs noticeably from many other AMA areas. The lower levels of residents who had completed higher education as well as residents who worked as managers, professionals or technicians and as employees indicate that Glefe had a high proportion of low-income earners. Furthermore, the high proportion of households who occupied dwellings with only one room as well as the high level of rent-paying tenants in the area (62% according to disaggregated data) suggest that Glefe might function as a ‘landing place’ for in-movers to the central areas of AMA, who can find relatively cheap accommodation here before possibly establishing themselves elsewhere in the city.

![Occupation](image.png)

Figure 4.4: Figure Ghana Statistical Service, 2010 Population and Housing Census
Consolidation and development

The settlement of Glefe is located at the border of the Densu Wetland area, through which the Densu River reaches the Gulf of Guinea. This area is known to be extremely exposed because of its relatively low elevation and the presence of poorly consolidated sediment. Furthermore, as the barrier separating the wetland area from the sea is expected to breach, predictions indicate that the wetland will be inundated in the next 80 years (Appeaning-Addo, Walkden, and Mills 2008; Appeaning-Addo, Oteng-Ababio, and Owusu 2011). In 1998, the Densu Delta wetland was declared a protected area as a Ramsar site under the international convention for the protection of water birds (Frick-Trzebitzky, Baghel, and Bruns 2017). Map 4.3 shows the protected area, which includes the sand bank on which Glefe is located. Following this declaration, planning regulations officially forbade development in the area, but house builders have largely ignored both traditional and governmental regulations, and from the onset, the boundaries of the Ramsar site were hardly visible on the ground (ibid.). As such, the area where Glefe is located is in many ways neither suitable nor approved for human inhabitation, but in similarity with other lagoons and wetlands along the coast of Accra, the absence of space accessible to the urban poor in the growing city has caused the settlement to densify gradually over the last 20 years.

The initial settlers in Glefe were anglers from the Volta and Central regions, who moved to the sandbar to take advantage of the expanding local fishing industry. In this sense, the settlement commenced as a small fishing community, and throughout the second half of the last century, fishing remained the primary livelihood activity for people in the settlement. During this time,
however, Accra grew rapidly and in the end of the 1990’s, the eastern areas of the city, stretching towards Tema, had become heavily build up. Therefore, between 2000 and 2014, western areas, including the Densu Delta became the hotspot of Accra’s urban expansion (see map 3). This meant a new influx of settlers to Glefe, supported by a simultaneous boom in the sand-mining industry along the coastlines, which created new livelihood opportunities in the settlement. This influx of people, however, also intensified brewing conflicts in the area, especially regarding how to manage the lagoons.

Map 4.3: The vectorized end-products for the years 1991, 2000 and 2014 of the Atlas Of Urban Expansion data set (Angel et al. 2016) has been used to illustrate the growth of Accra city. For a thorough discussion of the methodology behind AUE see Møller-Jensen et al. (2020).

During the 2010s, dumping gravel, stones, sand and refuse into the lagoons to reclaim land for building on, became a common practice in Glefe. This was in part because of the need for land to accommodate new settlers and in part, because available land between the lagoon and the sea continuously diminished due to the high rate of coastal erosion, which forces coastal settlers to move inwards (see figure 4.6). Indeed, between 2005 and 2011, a loss of more than one meter of coast per year was registered in Glefe (Amoani, Appeaning–Addo, and Laryea 2012).

During this period, housing structures started to improve in Glefe, as concrete became the preferred building material. However, the indiscriminate building in flood-prone zones coupled with sand mining along the coast further exposed the community to coastal erosion and flooding. This seemingly did not slow down development, however, as today Glefe continues to have a high housing density due to the relatively lower cost of accommodation there compared to that of
adjoining communities. Indeed according to several residents, finding accommodation in Glefe is not easy, as houses are rented fast and many people are waiting to acquire land. As one resident puts it:

In terms of neighbours, whiles two households vacate their accommodation, three new neighbours are admitted.

![Figure 4.6](image)

Figure 4.6: Satellite images of the western corner and bridge area in Glefe from 2000, 2010 and 2020. The images illustrate the practice of land reclamation in the lagoons and the inwards movement of the settlement as a result. Source: Google Earth.

As noted by Amoako (2016), the state’s presence in the growth of Glefe has been minimal since it evolved without any officially approved land-use plan until the 1980s, while since then the state has been present only through the election of a local representative at the AMA (ibid.). Additionally, according to residents, it has formerly been a problem in Glefe that once an assemblyperson was voted in, he/she would relocate to a different area because of the difficulties encountered working in Glefe, even though, a well appreciated assemblyperson is currently working in the area. As such, traditional authorities and private owners have almost exclusively sold properties in the area, without the endorsement of city authorities and without the guidance from official planning authority. Conflicts have however also been a prevalent part of traditional rulings, especially with regards to land sales. An opinion leader explains:
When the chiefs started selling part of the lagoon, the portion of the lagoon that had been sold would then be filled with sand by the buyer, who would then start putting up a building. This problem arose because there was a chieftaincy dispute involving about three chiefs. All of them were claiming that they were chiefs hence the challenge of selling the lagoon. We had a Ga chief, an Ewe Chief, and an Ada chief, so they were doing things their own way. So subsequently, the issue was taken to the law court to determine the chieftaincy lineage. A judgment was passed and the Ga's were declared as the rightful owners. Based on that declaration, portions of the lagoon have not been sold again.

Due to these conflicts and the lack of official development plans, residents also complain that the absence of the state has further meant, that there has been little to no attempt by city authorities to provide community infrastructure. Indeed, to this day, Glefe only has one main road running through the settlement and lacks gutters and drains. However, while this is somewhat unusual for a community within AMA, several settlements within GAMA face the same issues, including Santa Maria (as previously described). Furthermore, in the last 2-3 years, Glefe has been given more attention from AMA officials, as several buildings identified as unsafe for human habitation have been ordered to be demolished. The last time such demolition efforts was carried out was in August of 2019, where the homes of several hundred residents were demolished to pave way for the construction of a community center. Such incidents indicate that city authorities have begun to respond to repeated requests for an upgrading of Glefe, but they also create tension between residents within Glefe as well as between residents and officials of AMA. Tensions between residents particularly pertain to the cost of living in Glefe, which can be held low exactly because of the absence of the state, as lacking infrastructure, for example, makes the area unattractive to more high-earning residents. This keeps the prices low and makes Glefe attractive to renters, but it could change with upgrading of the area. Tensions between residents and the state, on the other hand, evolve around the lack of communication and consultation with the community about these demolitions. This strengthens support for local institutions, traditional leaders, and leaders of the various ethnic groups in the area, whose status and powers derive from the existing local governance structure. These local leaders use various communication channels and tools including house-to-house invitations, community-wide information systems and spontaneous groupings.
alongside ethnicity, kinship and religious ties to tackle common problems which then further complicate governance in the area.

One such ongoing conflict involving several local resident groups and traditional leaders in Glefe revolves around the operation of the Pambrose Salt Company. The conflict relates to the socio-spatial consequences of the current uses of the lagoons and wetlands in the area, as residents blame the activities of Pambrose for their exposure and vulnerability to floods. The company began its activities in the early 1990s without any clear state planning decision or consultations with residents (Amoako 2016). In 1999, the company had constructed an embankment around its salt ponds, which partially divide the sandbar Glefe is located on into an eastern and western section and contributes to making the eastern part, where Glefe is, more exposed (ibid.). It has also build a dam in one of the lagoons behind the settlement for its operations. According to residents, this damn is one of the main causes of flooding in the area, which causes displacement, outbreaks of waterborne diseases and the destruction of livelihoods each year. Pambrose, on the other hand, reports to have lost over 1,130 hectares of land in the Delta to encroachers who slowly steal parcels of their land.

As such, Glefe’s development has to a large extent been shaped by disputes over land use rights in the wetland area, and these disputes continue to affect the community – both in terms of localized conflicts between residents of different areas and in terms of disputes resulting from conflicts of interest amongst different stakeholders in the delta. Furthermore, the location of Glefe at the fringe of AMA has further shaped the process of consolidation of the area, as the area first became heavily build up with the westward expansion of the city unlike its neighbouring areas, which consolidated much earlier. These factors, have contributed to Glefe’s peripheral connection to AMA, which in turn have contributed heavily to the exposure of the community.

**Mobility and accessibility**

While Glefe begun as a fishing village, few of the settlements current residents continue to rely on fishing for their livelihoods (see section on population characteristics above). Rather, residents estimate that around half of Glefe’s population travel outside of the settlement for their livelihood activities, especially civil servants and company workers who travel to the CBD of Accra. Of those who stay, most are traders or workers in the sand winning industry. Furthermore, since there is no major market in Glefe, residents depend on major market centers across Accra, such as Dansoman,
Kaneshie and Agbogbloshie markets, for both everyday supplies and for stocking local shops. Therefore, ease of access into and out of Glefe is important to the settlements residents, and whereas the obscure location of Glefe formerly constrained accessibility severely, within the last 20 years, Glefe has become more firmly connected to the transport network in Accra. Map 4.4 shows major roads in Ablekuma South and the position of Glefe in relation to this road network.

As mentioned, the settlement of Glefe only contains a single-track and unmarked road. This road connects the settlement to its northern and eastern neighbours, and as such, it is the main road used to enter and leave Glefe. When the road was constructed, portions of some houses and other structures had to be demolished to make space for it, but all residents agree that this road is paramount to the accessibility of Glefe. The same is the case for the bridge that connects Glefe to Mpoase over the lagoons, as before the construction of this bridge, residents relied on canoes to cross during flood-events or they walked for a distance of approximately 4 km to reach public transport in the settlement of Chorkor. Residents recall the perils, this situation could bring about:

In the past, we had to carry the sick and walk for quite a distance because there were no roads, and cars hardly had access to the place. Pregnant women used to die on their way to the hospital because there were no roads. We had to push them in wheelbarrows.
At first, the bridge was a narrow connection to the settlement of Mpoase but over the years, the bridge has been developed into a short, broad structure that connects directly to Mpoase’s road network (see figure 4.6 above). As such, according to several residents, the bridge has been instrumental in securing the provision of public transport to Glefe, and today several trotro stops are located within the settlement from where trotros ply the route to Accra Central (see map 4.4). According to the secretary of Glefe Ghana Private Road Transport Union (GPRTU), trotros also drive through Glefe to Pambrose and to the community located on western part of the sand bar, though this route (mainly gravel and dirt) is difficult to maintain, since the conditions of the roads causes cars to break down, and only a small, rickety bridge is available by which one can leave Glefe. Furthermore, as Glefe’s main road quickly becomes a dusty, undulating path filled with debris from broken walls in the inner part of the settlement, the regularity with which the inner stops are used is questionable. Below is a screen print of a Public Transport Map in Accra (figure 4.7), created by Jungle Bus, Agence Française du Développement and local Open Street Map communities (AccraMobile3 n.d.). The screen print shows the trotro line running from Glefe Last Stop to Accra Bishop near Makola Market. At the time of data collection for the Public Transport Map (July-September, 2017), this was the only trotro line entering Glefe, which further supports the assumption that few trotros reach the settlements inner stop.

According to residents however, the improvements that the bridge has brought about has made accessibility to the area much more stable and reliant, which they see as one of the reasons for the sharp population increase witnessed in the area in recent years. One tangible way, in which the bridge has improved accessibility to Glefe, is that it provides a way to exit Glefe when it rains, as residents can cross the bridge on foot and thereby reach the trotro-stop at the other side, from where
they can connect with Accra Central. In this way, the bridge has provided stable access to and from Glefe during rain events, which in the past was a great hindrance for residents.

Apart from the main road, running through Glefe dusty and undulating pathways crisscross the community. These are not broad enough for vehicular transport, but residents use them to travel around within the community on foot. Although generally happy about the introduction of the thorough road many residents complain about the difficulties, this limited accessibility to their homes cause and they contend that a stronger road network is needed in Glefe. This will however demand the demolition of more structures, why it is difficult to implement. Rather, residents work to protect the roads they have from erosion and from being destroyed by flooding.

Indeed, several factors make Glefe vulnerable to flooding and the settlement often experience stagnant water on paths and in houses, which severely hinders inner mobility. Some residents mention, that the current assemblyperson has been instrumental in securing support for cleanup and maintenance of the road from the Urban Roads department in Accra, but the limited mobility caused by water in Glefe remains disruptive.

**Flooding**

Glefe’s first reported case of flooding was in 1995, and during the last 25 years, the community has experienced perennial flood events from high tides along the coast and overflow of the two lagoons. Despite the settlements location adjacent to the lagoon, flooding is, however, not a natural issue in the area, but has rather emerged as an anthropogenic problem as a result of different building strategies in the area, while flood-mitigation strategies have been difficult to implement due to the ongoing varied conflicts of interests within the settlement and around the Densu Delta.

According to residents, one major cause of flood vulnerability in Glefe is the booming sand mining industry. As mentioned, the mining of sand for construction materials has been an important business for Glefe’s residents for decades and furthermore, the buildings constructed have been instrumental in improving housing situation in the settlement. At the same time, however, sand mining is a direct cause of erosion and over the years, the practice has created a deflation of the area. A women’s group member explains:
Some years back this place was a little bit high, made up of sand deposits. At a point in time, sand winning activities became rampant and serious depressions have been created. So the land is now bare and turning into some kind of a valley. The effect is flooding from rainfall, sea level rise and flooding of the two lagoons.

The erosion of the area has created many low-lying areas in which water gathers during rainfalls and overflow of nearby waterbodies. This creates pools of stagnant water throughout the neighbourhood, which can lead to outbreaks of waterborne diseases. Furthermore, due to the loss of land to coastal erosion, both old and newer residents of Glefe have been eager to acquire land further inland, which has led to reclamation of the lagoon for land to build on. This reclamation has been carried out by dumping waste and other materials into the lagoons, including materials constructed from sand from the beach. As such, while sand extraction at the beachside contributes to an increased risk of coastal erosion, residents further inside the locality and on reclaimed land in the lagoon use the material to reduce their exposure to flooding and to secure continued space for living. This causes the settlement of Glefe to ‘move inwards’ (cf. figure 4) and creates tension between those at risk from shoreline erosion and those on reclaimed land in the lagoon. The filling up of the lagoons, however, further increase the risk of flooding in Glefe, as these can no longer hold excessive rainwater or water from further upstream and therefore overspill into the settlement. The assemblyperson explains:

One major problem we have here is that when it rains the whole place get flooded. This is because we do not have an outlet into the sea and when it rains, the lagoon has to accommodate much of the water before it drains into the sea. And this lagoon has turned into a refuse dump. We use excavator to pave way for the water to go into the lagoon before the rains sets in. The largeness and wideness of the lagoon has become smaller, making the whole place to get flooded when it rains.

As the comment suggests, another main concern for the residents of Glefe is the absence of outlets and drains for any excess water to leave the area. According to several residents, officials have only constructed two gutters within Glefe in the past 20 years, namely in connection with the
construction of the thorough road, and while local groups have constructed other drains in different places in the settlement, traditional leaders, argue that most of these lack the correct sloping to lead water out into the ocean, why water does not flow through them. Furthermore, years ago parts of the Gyatakpo lagoon was damned in by the Pambros Salt Production Company and a road constructed around the damned in area, which blocked water flowing from the lagoon to the ocean. This led resident to attribute the annual overflow of the lagoons to this dam and, according to Amoako (2016), the state's lack of engagement with this case can be seen as another expression of the it’s absence in Glefe.

In recent years, however, the government has constructed a sea defense near Glefe, to prevent the sea from invading the land, while an outlet from the lagoons has been constructed to prevent overflow. Therefore, several residents agree that issues with flooding has become more manageable in recent years, also supported by stricter regulations of sand mining practices and a complete ban on buildings in the lagoons. As such, while the settlement is still feeling the results of severe erosion and encroachment of the lagoons, these issues have been somewhat mitigated. Instead, residents complain that the opening of the Weija Dam north of the Densu Wetland (see map 4.5) has become a new major source of flooding in Glefe. The Weija Dam on the Densu River was constructed in 1978, the Ghana Water Company runs it and it supplies about 80 % of the potable water for the western parts of Accra. Formerly, when the dam was opened, water flowed through the Densu Wetland and later the Pambrose company lands. However, as the population in this area has increased and roads have been constructed to run through the wetlands, the waterways have changed and water now reaches all the way to lagoons above Glefe. This causes the water to reach levels that surpass the limits of the current outlet to the ocean. As such, poor waste management coupled with limited means of coping with opening of the Weija dam are the main reasons for the continuous flooding of Glefe. A member of the women’s group comments:

> When the Weija Dam opens up their spill over gates, coupled with rainfall, then we experience flooding. In such situations, we call on the Assemblyman who goes and ensure that the channel into the sea is dredged for the inland water to enter the ocean.
Opening of the dam is announced ahead of time, and when this is done, many residents pack their valuables to a safer place and higher ground, including shelves and packed blocks in anticipation of the floods. Furthermore, as the comment above suggests, if the weather forecast shows heavy rain or an opening of the Weija dam is announced, Glefe’s assemblyperson mobilizes a youth group to construct temporary channels to redirect the flow of the Gyatako and Gbagbo lagoons or remove the dam made by Pambros Salt Production Company to separate the lagoons from its salt ponds. This has, however, led to further conflicts between the community’s leadership and the management of the salt company. Conflict also emerge from common household responses to flooding, which include putting sand bags and/or bamboo pegs in pathways of the water runoff, raising foundations, walls or entry points of houses or rooms or constructing self-made drains that divert water flow from individual houses (Frick-Trzebitzky, Baghel, and Bruns 2017). Some of these, however, end abruptly on the main street, creating ponds of wastewater, or they discharge onto neighbouring plots triggering conflict among neighbours. Electrocution and stealing have also been common issue during flooding, and these occurrences explain why police patrol the area during flood events. As such many different factors, including the operations of major companies and the building up of the areas north of Glefe, all contribute to the current flood hazard situation in the community, while both official, traditional and individual actors carry out flood mitigation efforts, with overlapping effects.

Map 4.5: Location of Weija Dam and overview of the Densu Wetland Area.
The consequences of flooding is one of the main vulnerability factors in Glefe, in that flood hazards can shut down the only health facility in the area or suspend access to schools, thus affecting children’s academic performance. Flooding also severely restricts mobility inside the community in that stagnant water blocks both smaller paths between houses – making it difficult and dangerous for residents to reach their houses – and the main road of the settlement – putting pressure on public transport services. Furthermore, the route to Pambrose become completely unmotorable for three days after flooding or every severe rain. Again, several officials and residents mention the assemblyperson as being instrumental in securing relatively smooth transportation during flood events. A GPRTU officer comments:

Sometimes it takes an hour though it depends on the duration of the rain.
The truth is that immediately the Assemblyman observes such situation, he quickly mobilizes the youth to desilt the chocked drains to enable the water to recede as quickly as possible. If this action is not taken, it takes hours for the flood to subside.

Because of improvements noted in terms of both accessibility to Accra and the severity of flood events as compared to early 2000s, most of the interviewed residents and officials considered Glefe to be developing towards a more resilient community. Indeed, one of the members of the women group comments, that while formerly residents where leaving the area because of issues with flooding, improvements such as the sea defense has made more people interested in settling in the area. The implication of the statement in important as it confirms the fact that though Glefe continues to be marginalised, the settlement is critical for the future wellbeing of many urban poor because it provides a refuge. Still, the area continues the struggle with conflicts over land and water management in the Densu Delta, internal battles over land reclamations issues and waste management, and tensions between unwanted government interventions, such as forced demolition, and government neglect in the form of infrastructural lags. These conflicts continues to frame development efforts in the area, and contributes to the continuing flood vulnerability of Glefe.

**Summary: A haphazardly build neighbourhood for the urban poor**

Glefe commenced its development as a small fishing village in the 1960s, but has since then grown into a densely populated peripheral neighbourhood of Accra, generally, lacking security of tenure,
not having durable housing and short of basic services. This development has been largely characterized by conflicts surrounding land use in the Densu Wetland area, as well as an absence of planning regulations and governmental oversight in the first decades of Glefe’s existence as a settlement, which has resulted in the alienation of the neighbourhood and its residents from the rest of the metropolitan area. According to AMA, the authorities see Glefe as an informal neighbourhood not suitable for human inhabitation, why provision of infrastructure has not been a priority. According to residents, on the other hand, the low cost of living and relative proximity to central Accra make the neighbourhood popular among the urban poor, and more people continuously move to the area, which intensifies the need for transport services, health facilities and proper drainage systems. Such conflicting approaches to the status of Glefe continue to form development strategies in the area, which are further complicated by the operations of the Pambrose Salt Company and the protection of the Dense Wetland Area as a Ramsar site.

Despite such conflicts, residents agree that both issues of flooding and of accessibility have been somewhat mitigated in the area in recent years and today the community is a popular place for low-income earners to rent a place to live in the crowded and expensive city. The community is, however, still characterized by low concrete houses connected via undulating pathways. The banks of the lagoons that borders the settlement to the north are used as refuse dumps, and throughout the settlement, waste blocks drains and gutters. Such issues result in stagnant water pools throughout the settlement after rainfalls and cause the settlement to be vulnerable to infectious diseases. According to residents, this happens in particular when the northern Weija Dam is opened to relieve water pressure in the Weija Reservoir (which ironically serves the water needs of the affluent who live in well-planned neighbourhoods). Furthermore, the lack of motorable roads in the inner areas of Glefe, greatly limits inner accessibility and during flood events, trotro services become severely hampered.

As such, Glefe continues to be a vulnerable neighbourhood primarily inhabited by low-income households. The absence of the state has enforced the authority of local and traditional groups and the settlement relies heavily on flood responses organized by youth groups and the assemblyperson in the area. Furthermore, residents are highly skeptical of the city officials plans for clean up in the area, as they on the one hand fear their homes will be demolished without compensation, and on the other argue that authorities prioritizes the operations of the Pambrose Salt company and the Weija
Dam over their safety and land rights. As such, in spite of rapid population growth and major changes to both the infrastructural system and the presence of city officials in the area, Glefe continues to function as a peripheral community and provide a refuge within the central city area.
The Pokuase Settlement

Introduction

Pokuase is an old village turned suburb located 20 km north-west of Accra central. In 2018, the settlement became part of the Ga North Municipality as this was carved out of the Ga West Municipality and officially inaugurated on 15 March 2018. The new municipality is located between latitude N 5°37’0 and N 5°42’14, and longitude W0°19’31 and W0°13’42 and covers a total land mass of approximately 60 sq. km.. Official maps for Ga North are not yet available, and as such the below marking of Ga North on map 5.1 is an approximation based on information from the Municipal webpage (Ga North Municipal Assembly n.d.).

![Map 5.1: Placement of Ga North Municipality within GAMA. The purple line on the base-map shows the approximate boundary of the Greater Accra Metropolitan Area.](image)

Ga North is largely placed around the Nsawan Road, also called the Accra-Kumasi highway, which runs south from the municipality into Accra Central and north through the town of Nsawan to Kumasi. Along this road sits the municipal capital Ofankor, as well as the locality of Pokuase, which is the focus area for this report (see map 5.2).
Commencing as a small indigenous farming village with cottages in the old core, Pokuase has undergone significant demographic and physical changes since the 1980s. Three main drivers account for this development: 1) Rapid population growth, 2) sale of land and rapid development of residential properties on land purchased years ago and 3) construction of the Accra-Kumasi highway in 2007 and the proximity to other popular communities such as Achimota, Taifa and Dome. Over the years, these factors have changed Pokuase from a homogeneous village to a cosmopolitan settlement and a budding Accra suburb with a high demand for land and housing (Twumasi 2012).

In the uphill area right behind the old village, a privately build estate, called the ACP Estate, is located, which residents of Pokuase refer to as a wealthy neighborhood. Besides this estate, however, self-builders have been responsible for establishing most neighborhoods in the locality, and even through some of these neighborhood are named estates, ACP remains the only actual estate in the area. In this report, two such self-builder areas called Ampax and River Estate and
Windy Hills, will be the focus of attention, together with the area Old Village (see map 5.2). In official terms, the designation Pokuase refers to a locality covering Old Village, Ampax and River Estate as well as areas stretching south along the highway from Old Village, but not Windy Hills.

Many of the urban centers in Ga North have long histories; Ayawaso is generally recognized as the first settlement of modern day Gas, who are believed to have migrated from present day Nigeria (Ghana Statistical Services 2014c), and Pokuase has historical significance as the origin of migrants who later settled in Accra. A sacred grove, named the Gua Koo Sacred Grove or the Pokuase Sacred Grove, also used to be located just south of the village and some natural vegetation from this sacred site are still preserved, despite pressure on the area from individuals harvesting its resources at an unsustainable rate and estate developers targeting the land due to its business-friendly location. A mountain range extends from Pokuase to Akuapim and Kwahu in the Eastern Region. This mountainous range, on which the area of Windy Hills is located, presents Pokuase as a valley, and the hilly and rocky nature of Pokuase makes it a viable area for sand winning and stone quarrying (Darko 2014). Two streams flow through the area, namely the Ama Sunkwa and Nsakyii streams.

In the Old Village area, the core of the old Pokuase village, a police station, several banks, churches and guesthouses are located as well as local shops and retail stores. Because of its age and location, Pokuase functions as a regional market, supplying people in the surrounding areas with produce, and as a retail market where sellers off-load goods for resale and distribution to the more central markets. Despite being an old trading center, however, Pokuase lacks proper trading facilities and apart from shops in the old village area, most commercial activity is centered on the trotro station at the Pokuase Junction. Here traders locate themselves in self-made shops between the trotro operations and trade along the western stretch of the highway, which inopportunely is one of the main flood prone areas of Pokuase.

The Pokuase junction is, however, one of the major transportation nodes along the Accra-Kumasi highway and at the moment, a 4-tier interchange is under construction at the ACP Junction by the exit to Kwabenya Road. This major interchange will strengthen the connection between this area and eastern neighborhoods such as the University of Ghana at Legon and the upper-class area of East Legon. While formerly, Pokuase functioned as an independent town, the rapid development
witnessed in the area in the last 10 years has done much to change the village into a suburban town and the growing population and stronger infrastructural ties to the city center has created a situation in which many people now commute to Achimota, Lapaz and the central Accra area for work.

However, although high-income earners have come to occupy several pockets in the locality, Pokuase is still characterized by inadequate sanitation and health facilities and beleaguered by issues of flooding and congestion. It is nevertheless an expressed vision of the newly formed Ga North Municipal Assembly to develop the area into an attractive investment destination, and indeed the formation of the new municipality has created an optimism about development in the area.

Overall, the Pokuase location has a long history and has in recent years seen an influx of wealthier settlers, who have driven a rapid development of the area. This massive development witnessed in the settlement, has, however, not proceeded in a well-planned manner hence posing many challenges including flooding. The haphazard developments have not only disrupted zoning and planning activities in the settlement, but also led to a plethora of unapproved surveyors and planners. As such, the area is still in a developing stage. The development characteristics of the Pokuase will be discussed in later sections of the rapport, after a presentation of census data from the area.

Population characteristics

At the time of Ghana Statistical Service’s 2010 population and housing census, the Pokuase locality was part of Ga West Municipality. Therefore, the following census data will be a presentation of data from this municipality as well as disaggregated data from the Pokuase locality. The Windy Hills community is, however, not a part of this locality.

According to Ghana Statistical Service’s 2010 population and housing census, the population of Ga West was 219,788 in 2010, with 51 percent females (Ghana Statistical Services 2014c). The census further shows, that 65 percent of the population was below 30 years old, with the largest age group being the 0-4 year olds with 12.7 percent. Four years later, an urban transport project report made by the Department Of Urban Roads estimates the population of ‘Pokuase and its environs’ to be about 20,000 (Addai-Yeboah 2014).
Out of the total population, 67 percent of the residents of Ga West were born elsewhere in the Greater Accra Region or other regions in Ghana or outside Ghana. Of these, 25 percent came from other municipalities in the Greater Accra Region, which means that compared to the other survey areas, many resident in Ga West were indigenous or from other parts of the Greater Accra region. Fifteen percent of the in-movers had resided in the municipality for less than one year, 35 percent had stayed between 1-4 years while about 10 percent had resided in the municipality for at least 20 years at the time of the census.

Of the population 11 years and above, 92 percent were literate with 56 percent able to read and write in both English and a Ghanaian language. Of the population aged 3 years and older in the municipality, 56 percent had attended school in the past while 37 percent were attending school at the time of the census. Of those attending school at the time, 41 percent were in Primary School, 18 percent were in Junior High School while 12 percent were in Senior High School and 6 percent were at the tertiary level of education. For the Pokuase locality, the same numbers were 45 percent in Primary School, 20 percent in Junior High School, 12 percent in Senior High School and only 4 percent at the tertiary level, indicating a slightly lower level of education than the municipal average.

In terms of household composition, the census show, that in 2010, 39 percent of household members were children, 26 percent were heads of households and 12 percent were spouses, following the same trend as in the other three survey areas (see the other reports). Furthermore, the disaggregated census data for Pokuase locality show, that 33 percent of residents lived as owner-occupiers, whereas 43 percent were renting homes and 23 percent lived rent-free in 2010. The data further shows that 47 percent of households lived in one-room dwellings, and 30 percent had two rooms, whereas 3 percent had seven rooms or more (see figure 5.1).

Compound houses constituted the most common type of dwelling in the Pokuase locality, accounting for 59 percent of all occupied dwelling units. The second most common type was separate housing, which accounted for 23 percent (see figure 5.2). Cement blocks and concrete were the most popular construction materials for outer walls, constituting 89 percent of all types of materials used, whereas metal roofing sheet and slate/asbestos were the two commonest materials for roofing.
About seven out of 10 persons aged 15 years and older were economically active in Ga West in 2010. Services and sales (38 %) and crafts and related trade works (23 %) were the most common types of occupation in the municipality, whereas occupations that require high skills and many years of training, such as professionals, managers and technicians accounted for 18 percent of the labor force. Figure 5.3 shows the employed population aged 15 years and older by occupation and sex in the municipality, and compares it to the disaggregated data from the Pokuase locality. The figure shows, that the distribution between occupations in Pokuase follows the larger trend of the municipality, as well as of the other survey areas. In terms of employment status, the disaggregated census data for Pokuase show that the largest proportion of workers (56 %) were self-employed without employees (see figure 5.4) and that the private sector drove the economy, with 77 percent of workers employed in the private informal sector (see figure 5.5). As stated, these figures represent the situation in Pokuase as it was in 2010, but because of the rapid development witnessed in the area in the years since, many of these indicators have presumably changed significantly, as will become evident from the rest of this report.
During the early 1980s, most of the residents of Pokuase town engaged in agricultural activities. The surrounding areas were cultivated land, and the population was made up almost entirely of indigenous Ga. Throughout the 80’s and beginning of the 90s this slowly changed, as population...
growth led to a densification of the old town, widespread mining and quarrying of large deposits of sand and stone materials contributed to the growth of a significant construction industry and a small commercial center was developed in the area here designated as Old Village. At the same time, the chiefs started selling off the land, and construction was begun on the gated community of ACP.

Despite these early developments, however, Pokuase remained a separate town from the Accra-agglomeration until recently and residents agree, that the development of Pokuase has been remarkably slow, especially compared to the town of Amasaman to the north of Pokuase. In fact, it was not until 2007, when the stretch of the Nsawan-road from Nsawan to Ofankor, passing Pokuase, was expanded to a 4-lane dual carriageway that development started in earnest. The expansion of the road into a dual carriage highway boosted investment in the area; private builders were attracted to the site and construction started expanding along the road. As visible on map 5.3, the result was a rapid expansion of the built-up area within the municipality during the early parts of the 2010’s.

Examining the Pokuase locality more closely, however, reveals that the density of the built-up area varies greatly from community to community (see map 5.4). In the Old Village and stretching eastwards around the Kwabenya road towards Legon and the center of Medina, the land is densely built up, as several communities along the road have been erected in recent years to accommodate the rapidly expanding population in Pokuase. A resident’s association chairperson from a newly build but highly consolidated area next to Old Village explains:

I have been here for the past few years. The area was not developed. It is now that we are getting development. In fact, before two to three years ago, this place was not that big; people had their plots all right but they were not coming to develop because it was quite a village. But this past three to four years, we have seen it develop. […] So in another year or two, this place will be like any other place in Ghana that people would want to go and live. […] Electricity is not a problem, the internet is not a problem, and all the essential amenities one can think of are accessible here.
As this comment suggests, development and building up of the area is still very much ongoing in Pokuase, and as visible on map 5.4, most of the land on the western side of Nsawan Road is still only sporadically built up. Because of the swampy nature of this land, it is however unlikely to ever become fully consolidated.

Similarly, Windy Hills is a newer area, in which new in-movers are settling. Indeed, development in this area, which stretches up along the mountain range that leads to Akwapim has commenced within the last ten years, and private builders are erecting houses quickly. As such, the area is becoming more of an elite community and this change has warranted a name change from Domeabra, meaning ‘If you love me, come’, to the more sober Windy Hills. According to residents,
however, local chiefs sold most of the lands in these areas decades ago to private owners, who have waited for development in the area before constructing houses on their plots of land. Therefore many argue, that it is the recent commencement of construction of a large-scale interchange (see map 5.4) that will ease traffic congestion and improve urban mobility along the Nsawam road, which has sparked the interest of new residents and developers in Pokuase within the last couple of years. Construction on the interchange begun in 2018 and the $84 million project, jointly funded by the African Development Bank and the Government of Ghana, is expected to be completed in 2021. The interchange will expectantly integrate Pokuase more firmly into the Accra-agglomeration, though during construction access to the locality has become somewhat more difficult.

Map 5.4: A dataset based on a combination of the automated segmentation of Sentinel-2 images, followed by a visual inspection of both Sentinel-2 and Google Earth satellite data (VIS) have been used to show the degree to which different areas of Pokuase was urbanized in 2017. For a detailed discussion of the methodology behind VIS and the comparability of AUE and VIS see Møller-Jensen et al. (2020).
The continuous development of estates and estate-like neighborhoods in Pokuase is also bringing with it a shift in the composition of the population. Indeed, as owners develop their plots, more pensioners are moving to the area and some neighborhoods have become known for housing wealthy and powerful residents. As one resident comments, however, ‘every pensioner comes with about ten dependents’ and as such, he argues, the area will also need more schools in the future. The shifting population also signifies a change in building practices, in that Pokuase today displays a mix of housing types and arrangements at different sections of the settlement. In the core town where the indigenes predominate, the majority of the houses are a mix of densely populated older single rooms and multi-occupied large housing units (see the section on population characteristic), whereas outside the old town, in the newly developing areas on the other hand, self-contained houses and villas dominate.

According to officials as well as members of different resident associations, however, most of the newly built up areas of Pokuase suffer from a lack of development planning, and overall the development in the area has been characterized by a lack of proper guiding as well as intervention, resulting in poorly erected structures and the blocking of waterways. The chairpersons of two different resident associations in the area comment:

Chairperson 1:
The neighborhood I live in is called Ridge because of its high elevation. It is a new settlement made up of mostly pensioners who bought their lands long time ago but are now developing them. However, it is sad to say that structures are haphazardly put in place without following the development plan of the Municipal Assembly.

Chairperson 2:
It has a layout all right but some of the elders commit certain mistakes by giving out the lands to individuals like myself. My area, for instance, is a demarcated street going to the river. By the time we realized, someone had built and blocked the waterway. There is another street here too; the layout is here all right, but at times it does not work. The mistake is from us the
individuals buying the land. The second mistake is from those elders giving
the land out to the individuals.

What these comments suggest is that residents experience different kinds of issues related to poor
planning practices in the area. Whereas the first chairperson highlights an issue relating to the fact
that haphazard building practices in the uphill areas has blocked the natural flow of water downhill,
why water now flows all over the place including onto roads, the second quote highlights the
situation downhill, where buildings have been erected on swampland, which should never have
been sold off. As such, many residents comment, that though it is still developing, Pokuase is
already facing some of the same issues as the more heavily build up central areas of Accra, in that
development has been neither well planned nor followed the plans where they existed. With the
establishment of the Ga North Municipality however, as well as with the upcoming completion of
the Pokuase interchange, officials are optimistic that the newly elected assemblyperson, the
Municipal Chief Executive as well as opinion leaders will spearhead developments in the area.

**Mobility and accessibility**

Located at the junction between several major roads, Pokuase is a nodal-point for people entering
Accra from the Eastern or Ashanti region or from northwestern parts of the Greater Accra region.
From Pokuase to Ofankor the Accra-Kumasi highway runs as a 4-lane dual carriageway, but from
Ofankor it expands into an 8-lane motorway, with broad sidewalks for trading and several shopping
outlets located along the way. At Achimota, it connects to the George Bush Highway, which leads
west through the city past the major station of Lapaz and onwards to Kasoa, as well as to the Accra-
Tema highway, which leads eastwards to Tema. Going straight, the Accra-Kumasi road leads past
another nodal point, namely Kwame Nkrumah Circle, from where roads lead to all parts of central
Accra. As such, the highway connects Pokuase to most commercial centers of the city. Furthermore,
between 2012 and 2014 the Anyaa-Awoshie road was paved and connected to the Accra-Kumasi
highway. This connection was, however, through a road that runs along the borders of the Ampax
and River Estate area and feed directly onto the highway, rather than via a proper highway
connection, which is presently being constructed. Via this road, residents of Pokuase can connect to
Awoshie near Santa Maria, and in that way gain an alternative route into the city center. Going east,
either residents can follow the rough Katapor Road, which runs through the Old Village and leaves
Pokuase in a northeastern direction, or they can use Kwabenya road to connect to an alternative
route to Accra central through Dome, or use this road to connect to Medina. Once the Pokuase interchange has been completed, Kwabenya Road will become a continuation of the Anyaa-Awoshie road and connect Awoshie to Kwabenya.

Map 5.5: Main roads in Pokuase

At the spot where Anyaa-Awoshie road connects to the Accra-Kumasi highway, Pokuase New station is located. From here trotros ply the route southwestwards to Anyaa and Awoshie, a number of lines drive south to Achimota, Lapaz and Kwame Nkrumah Circle, some go north to Amasaman and Nsawan and a few follow the Old Nsawan road through Old Village, where Pokuase Old
Station is located, and continue north. Other than this line, however, public transport within Pokuase is limited to taxis for private hire or town taxis, which stay within the locality.

In 2007, the construction of a Bus Rapid Transport System was launched in Accra, and in 2018 large buses known as Aayalolo operated along the Amasaman-Achimota route with a stop at Pokuase. The functioning of the BRT system is however limited, first of all because of the fact that separate lanes for the Aayalolo buses have not been constructed, second of all because trotros encroach on the newly build bus-stops creating severe congestion, and third of all due to several disputes over employer rights and pay. As such, the connection is not always reliable, though heavily patronized when functioning. On top of this, Pokuase also has a train station as the Accra-Nsawan Railway runs along the southern corner of the Ampax and River Estate area. This part of the railway was inaugurated in 1910, but has, like most of Ghana’s railway, not been in regular use for years. Therefore, residents mainly use the railway lines for walking to the highway.

As such, several different types of public transport reach Pokuase and due to the locality’s location along the highway, it should be relatively easy to reach the central areas of Accra from the area despite its peripheral location. However, because of the many trotros stopping at the Pokuase junction and the two larger roads that feed directly on to the highway, congestion is a major problem at the stretch of the highway that passes Pokuase. Furthermore, during rush hour, which lasts from at least 6-10 in the morning, the highway stretch from Ofankor to Achimota becomes severely congested. This of course slows down traffic, and makes travel time to the central areas unsustainably long for people travelling in both private cars and public transport.

According to several residents’ associations’ chairpersons and traditional leaders, however, around two thirds of Pokuase’s residents leave the area in the morning to partake in livelihood activities at other places. This could be either in Achimota, Kwabenya or Accra central, or in Amasaman to which a smaller percentage commute according to residents. Residents also agree that the amount of people leaving the area in the morning has risen dramatically in recent years, as less and less households rely on agricultural activities. Of those who stay in the municipality, most are either women engaged in trading, or men in the stone quarry business, but according to residents young men in the municipality are moving away from this business to engage in transportation instead, as
either trotro drivers, mates or as Okada drivers. Indeed like in many other parts of the city, the Okada business is growing in Pokuase, creating access to the inner parts of the settlements.

This is of great importance, according to residents, in that as much as Pokuase is located along major roads, the community road network is undersized and characterized by inadequate drains. This contributes to flooding and hinders movements of vehicles as they, on the western side of the highway, get stuck in muddy roads or cannot maneuver due to water on the road, whereas driving in the uphill areas on the eastern side of the highway is made dangerous by severe erosion, which create deep gullies along the road. This makes maneuvering in the town both tedious and costly, and as such, the Okadas offer a fast and easy alternative to the taxis.

Many of these inner roads of the Pokuase locality have been upgraded within the last 5 years, and residents agree that around 50-60% of the roads are easily motorable during the dry season. In the wet season, on the other hand, the lack of drainage along the roads of Pokuase – both the new and older ones – create tensions among residents. A chairperson from a Pokuase residents association explains:

Although the roads are constructed and may be visible, drains are not constructed along these roads and because of the haphazard nature of building constructions over here, people take over the roads for residential building purposes without the requisite permits. Construction of a drainage system could have solved the problem, but because leadership supervision and concern for the area are lacking, people continue to take over the roads for constructing housing units.

This has led this particular residents association to engage a lawyer to sue the area’s assemblyperson and the Ga North Municipal Assembly in order to get their development issues addressed, while the residents of Windy Hills have constructed their road themselves. As part of the Pokuase Interchange project, however, 10 km of local roads have been built in the locality and two foot-bridges for pedestrians to cross the highway are also in the pipeline. Therefore, many residents and officials expect that this project will both remedy congestion and strengthen the local road network significantly. Furthermore, several storm drains are being constructed to secure the flood-
resilience of the project, and the developers have also committed themselves to upgrade existing drains within the Pokuase locality. This makes residents hopeful the project will also remedy the flood situation in the area.

**Flooding**

The name Pokuase can be translated as ‘under a mountain’ or ‘at the edge of the hill’ and the locality is indeed located at the foot of the Akwapim-Togo mountain range, which continues in a northeasterly direction all the way through Togo and into Benin. Because of these mountains, hills rise in a northeasterwards direction from the highway, making the elevation at the ACP estate 100 meters above sea level while the hills behind the estate flanked by Windy Hills rise to about 300 meters. This means that the Old Village area, Ampax and River Estate as well as the highway lie at the bottom of the slope, which makes them flood prone areas. Indeed, the frequency and magnitude of flooding in Pokuase can be largely attributed to the sale of land in the upper part of the settlement (uphill) for the development of residential and commercial properties. Here homebuilders have erected buildings haphazardly, unplanned and fast in recent years, causing intense run-off downhill toward the low-lying neighborhoods. Coupled with the impact of erosion from sand winning activities downhill that chokes the narrow gutters and drains, this has created a situation in which flooding of the neighborhoods around the highway are one of the main development issues facing Pokuase. Another contributory factor to this situation is the fact, that two major streams, namely the Nsaki and Sunkwa River, traverse the locality. Both of these cross under the highway and meanders through Ampax and River Estate, where rapid structural development has led to blockage of the channels and encroachment on the riverbeds. As visible on figure 5.6, especially the Sunkwa River, which crosses the highway at the point of the new interchange, has been encroached on why is it now a major source of flooding. Ga North’s assemblyperson sums up the situation in this way:

> From where I am coming from, flooding is the number one issue. We have to tackle it because it causes disaster when it comes. You can be in your house and water can come and then the whole family can lose the lives of its members. It is a number one problem to people living around here in Pokuase West. Over here, because the land is too low, and as such all the water running from Kwabenya and other high areas have been channeled into the main Sunkwa River. You can see the river is chocked, so the little
rains that falls, instead of the water being confined to the river, it rather overflows its banks.

As such, flooding in Pokuase is occasioned by a combination of factors such as topology, disorganized building practices, inadequate and poorly constructed drains and sand winning activities, and according to residents, flooding and erosion are major issues in the area, which interfere with livelihood activities every rainy season.

Map 5.6: Locations of some of Pokuase’s flood prone areas. The areas have either been pointed out by NADMO officers or other key informant in the field, or observed during fieldtrips in November 2019.

Because of this combination of factors, the Ampax and River Estate community is one of the most flood prone in the locality. According to residents, 30 minutes of rain can flood the area and the water takes up to 4 hours to recede from buildings and 2 weeks to disappear from the roads. A NADMO officer confirms:
People can still travel when it rains, but not to all areas. Some areas are temporarily flood-prone because of the road construction, but it always floods at the areas behind the Ampax Hotel. At the Ampax […] when it rains people cannot even come out of their homes for three days.

Figure 5.6: Satellite images of the Ampax and River Estate area from 2000 and 2020 respectively. The images show the building up of the area, where the two rivers, Ama Sunkwa and Nsakyii traverse the community.

Members of a residents association in the River Estate area explain that in order to build in their area one has to fill up the land with sand as the rivers make the area like a wetland. Still almost all houses in the area are victims of flooding, and during the wet season, residents have to walk to the highway to find transport, as most roads become unmotorable.

The Ampax and River Estate is however not the only community severely affected by flooding. In the Old Village, market women explain that the building up of the area over the last 20-30 years has encroached on the streams, narrowing the various water channels so that when there is heavy rains, flooding is inevitable. Furthermore, several residents complain that flooding of the highway creates congestion, which limits access in and out of the Pokuase locality. A planning officer comments:

It is unfortunate that from here towards Accra the major road is through Accra-Nsawam road. Most often, it causes traffic jam when it rains, so that no one wants to risk it. At times, you have to park for one hour and 30
minutes or maybe 2 hours, depending on the volume of water and the rate at which it will drain, so you have to wait. It has been affecting productivity time. In some places going to Ofankor area like this or Medea, those men who think they are strong, engage in business by carrying the ladies across the flood waters to the other sides and collect GH¢ 5.00 or so.

Insufficient roadside drainage is the primary cause of flooding at the highway. According to a planning officer, when the road was constructed the developers installed small drains, despite the advice of residents, who explained the low-lying nature of the land. The planner clarifies, that because of water run-off from the up-hill areas, the drains under the highway needs to be of appropriate sizes and well maintained, to prevent overflow. At the moment, however, sediments easily choke the small drains why water flows onto the road and into the large trading area and trotro station located at the western side of the road. This area also receives water from behind, in that the old railway tracks functions as a backstop for the water, contributing to the severe flooding situation. The situation has grown worse in recent years, as the building up of the uphill areas is causing severe run-off of sediments to the low-lying areas, which the drains under the road were not constructed to handle. At the same time, however, as described earlier, the construction of the road has been instrumental in attracting the influx of residents to Pokuase, witnessed since its construction. As such, the highway can be said to have been designed for a different situation while at the same time accounting for the changing state of affairs.

As the above comment suggests, flooding of the Pokuase stretch of the Accra-Kumasi highway, greatly affects residents ability to leave the area, and as the stretch between the crossings of the two rivers often flood, this is a major issue for the accessibility to the area. Those who live at the ACP estate or in other places along the Kwabenya road can use this as an alternative route to town, but according to residents, this is not a viable solution for people living downhill, because of difficulties with reaching this road during flood events as well as the cost of transportation when taking this longer route. This is also the case for the people living in Windy Hills, as they need to descend into the flooded areas in order to connect to the road to Accra. In this area, flooding per se is not an issue, but severe erosion of the roads caused by water running downhill makes travelling equally hard, as a resident explains:
The running water creates natural gutters based on its own course. So in brief periods during the year I can tell you that those uphill and those downhill suffer almost the same because one needs to descend down the road and climb uphill again in a day and as such I am not free from the effects of flooding.

As stated earlier, this erosion is then a major contributor to the flooding situation downhill as it causes material to flow down and block drains and gutters along the way. Indeed, not only along the highway but throughout the locality insufficient drainage is one of the main reasons for flooding recounted by residents. As a result, the drainage situation in the locality has been at the center of a number of deputes, from home builders not listening to the local planners to disagreement about who has responsibility for the construction of gutters. The chairperson of Pokuase GPRTU recounts one example of this:

There was a time that this big gutter in Pokuase here was flooded so I told the Honorable MP that the gutter needs to be desilted. So he asked the workers of the Highways to do that, but during the course of working, the Urban Roads staffs came in and said it was their work. Eventually, the work had to be halted in the middle, which is not supposed to be so. If the gutters are choked up, then automatically when it rains it will be flooded.

According to a planning officer, jurisdictionally drain construction falls under the Assembly but either Urban Roads or Feeder Roads carry it out. With some of them, the money comes from the central government and as such, some of the intended projects are in the medium-term development plan for the area. He adds:

But I will say that funds are inadequate for the construction of the drain, and that has been a problem for us. So when the floods come, the little money the assembly will have is used to desilt and then maybe expand the earth drain but it will rain again. But the sand may come to the site again following the next rain and so we embark on a “fire-service” kind of approach.
Because of the continuing debates over drain construction, residents are continuously finding ways to cope with the inconveniences associated with ongoing construction and development in Pokuase. Through a self-help approach, residents who are well resourced have constructed gutters and drain in front of their houses to channel the floodwater. Even though this adaptation strategy is helping to reduce the impact of flooding to some extent, effects are usually limited to the immediate environment and have in some cases compounded the impact of flooding at the community level. For example, there are cases of broken walls and roads becoming liable to floods particularly in areas where such self-help projects are proliferating. In one area, named Teacher Kope and located behind the ACP estate, residents explain, that their area is more often flooded than the surrounding neighborhoods, because the drains from the estate end after they reach the edge of the area, and from there spill water directly onto the hills so that it floods the downhill areas. The chairperson of the residents association explains that the association is working to secure proper drainage in their area, but that they ‘feel left behind’ in relation to the estate.

Therefore, this chairperson, as well as members of several other residents associations agree that in order to be able to cope efficiently with flooding in the future the municipality needs to be more forceful in getting builders to adhere to the zonal plans and thereby prevent further building in waterways. As the area is rapidly developing, many call for fast action in order to avoid future demolitions. Furthermore, as in the other survey areas, residents agree that better waste disposal systems are needed, including education about the impact of plastic waste on gutters and drains. At the same time, however, several resident also mention that flooding is especially severe at the moment because of the construction of the Pokuase Interchange, and that with the new road sections and drains build as part of this project, the situation will be much remedied, once the project is completed.

**Summary: A socially-mixed emerging suburb around an old consolidated core**
Development and consolidation processes are ongoing in Pokuase. While the area first saw large scale land sales in the 1980’s coinciding with the provision of stable road infrastructure to the central Accra area, Pokuase continued to function as an independent town into the 2000’s. The area has a long history as an original spot for Ga settlers and celebrates a famous, traditional festival that draws visitors from all over the city, but compared to other nearby peripheral urban centers,
development in Pokuase has been slow. In 2007, however, the Accra-Kumasi highway was expanded and as a result, the town has seen rapid development spread through its different communities, with some only commencing development within the last five years, and increasingly the town functions as a dormitory area, with many workers commuting to central business districts for their livelihood strategies. The development of Pokuase, including infrastructural upgrade and the emergence of shops and other commercial activities, have furthermore caused a significant alteration of both population characteristic and building practices in the area, in that more pensioners and government workers are moving to the area, constructing stand-alone houses on their own plots. As such, Pokuase is in the midst of its development into a peripheral suburb.

With the rapid development witnessed in recent years, many residents are lamenting the fact, that construction have not followed official layouts, and that many newly erected buildings are located in areas designated as riverbeds or wetlands. According to residents, zonal plans for the area exists, but have not been adhered to. A contributory factor to this is the fact that much of the land was sold off years ago and has since been rezoned and resold, making control difficult. In 2018, however, Pokuase became part of the newly established Ga North Municipality, and many residents and officials alike are hopeful, that this will strengthen official control in the area and drive sustainable development.

One of the main issues facing Pokuase is flooding. Because of the topography of the area, the central parts of the town located around the highway are severely flood prone, and as the uphill areas are getting build up, larger and larger amounts of water and sediments are running downhill. This naturally causes major flood events in the wet season, when the rivers overflow their banks. The situation is, however, further worsened by the notoriously undersized drains in the area, which cause water run-off onto roads and into houses. Notably, run-off from the uphill areas also cause the two streams in the area to overflow their banks, which frequently causes flooding of the stretch of the highway that passes Pokuase. This highway stretch is already prone to congestion and during flood events, it becomes chaotic to the extent that residents avoid passing here. As such, for some residents, flooding of the highway means extensively longer routes to the central areas of Accra, where for most residents, it halts movement completely until the floodwater has receded.
At the moment, the transport situation around Pokuase is made even worse by the large-scale construction of an interchange over the highway at the southern edge of town. When this interchange is completed, however, residents expect easier connections to alternative routes to town, as well as better control with the flooding situation, in that the project encompasses the construction of several new drains and local roads. The expected completion date for the project has recently been moved to 2021.
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