

A NEW PART OF TOWN

DESIGN PROPOSAL FOR THE DEVELOPMENT
OF CREEK ROAD, ZANZIBAR

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Design proposal for the development of
Creek Road, Zanzibar

Aalborg University
Institute of Architecture & Design
4. M.Sc. Urban Design

Submission date: 23rd of May 2012

Project period: 1st of February 2012 – 19th of June 2012

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Number of pages: 96

Number of prints: 6

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SYNOPSIS

Over the past century Creek Road has gone from being a creek separating the two bordering parts of town, Stone Town and Ng'ambo, to being reclaimed and turned into a public space for then later being partly developed. At its present state Creek Road is one of the main infrastructural arteries in Zanzibar Town, still somewhat separating the two neighboring areas.

The aim of this project is to develop Creek Road to be a new part of Zanzibar Town, an area that connects Stone Town and Ng'ambo but still has its own values. With the rich cultural heritage and the history of the area it has been seen as important to preserve some of the areas present qualities in the design proposal for the new Creek Road. Furthermore elements from Stone Town and Ng'ambo have been selected, combined and updated to be used in the area, here under the diversity in the buildings and the variation in the streetscape.

In the design proposal there have been worked with two main elements, the green and the urban link. The green link is a recreational connection on the Ng'ambo side of the area and is used to lead the rainwater from the built areas to prevent flooding. The urban link is a commercial and transportation corridor on the Stone Town side of the area; it also helps define the distinctive character of the edge of Stone Town. Throughout the process of making the design proposal the diversity of the area have been of outmost importance, both in physical shape and in the activities possible in the area. The new Creek Road will therefore be an area covering a variety of functions and activities and therefore be an area where everything is possible.

Gennem det sidste århundrede har Creek Road været gennem en række forandringer, området er gået fra at være en bugt der adskilte de to bydele Stone Town and Ng'ambo, til at blive opfyldt om omdannet fra bugt til offentligt område og til senere igen at blive indtaget af forskellige funktioner. På nuværende tidspunkt er Creek Road en stærkt trafik-eret vej, der på sin vis stadig adskiller de to bydele.

Visionen for dette projekt er at omdanne Creek Road til en ny bydel i Zanzibar Town, en bydel der binder de to naboerområder sammen men samtidig har sine egne værdier. Med den rige kulturelle arv og historie området har er det fundet vigtigt at bevare nogle af de nuværende kvaliteter i område. Derudover er der fundet elementer i Stone Town og Ng'ambo som er blevet kombineret og tilpasset til en moderne kontekst for herefter at blive brugt til at skabe rammerne om det nye Creek Road, nogle af disse elementer har været forskelligheden i bygningerne og i gadeforløbene.

I design forslaget er der blevet arbejdet med to hovedelementer, det grønne og urbane strøg. Det grønne strøg løber gennem området på Ng'ambo siden og bruges blandt andet til at opsamle regnvand og undgå oversvømmelse af de bebyggede områder. Det urbane strøg er en kommerciel og transport korridor der løber langs kanten af Stone Town, og herved også er med til at understrege den markante overgang mellem Stone Town og det nye Creek Road. Gennem processen har det været vigtigt at bibeholde forskelligheden i området, både den fysiske forskellighed i udformningen og forskelligheden i områdets funktioner. Det nye Creek Road vil derfor spænde over en lang række funktioner og programmer og blive et område hvor alt er muligt.

PREFACE

This report is the master thesis for the fourth semester students Chalotte Østergaard Nielsen and Janni Kollerup Larsen at the Civil Engineer master program in Urban Design at the faculty of Architecture and Design at Aalborg University.

The project consists of the present report and appurtenant drawings, a process report and an appendix CD.

If not mentioned otherwise, all maps are oriented towards north.

We have through the process of this project had contact with several people and gained help both of practical and scientific character. Without the help of these people, and the invaluable information they have provided us with, this project could not have been made, and for this we thank: Dr. Mohammad Juma, director, Department of Urban and Rural Planning, Mohamed J. Mugheiry, Chairperson at Zanzibar Stone Town Heritage Society, Muchi Juma Ameir, Architect, employee at Department of Urban and Rural Planning, Abdul Sheriff, executive Director of the Zanzibar Indian Ocean Research Institute, Mzee Kamis Kh. Juma, Deputy Director, Municipal Council, Mussa Awesu Barak, Director of Stone Town Conservation and Development Authorities, Suleiman Kino Kirobo, Director of Transport and Licensing, John De Silva, artist, Peter Frost-Møller, Niras and Jes Vollertsen, Department of Civil Engineering.

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GLOSSARY AND DEFINITIONS

Baraza	Porch, bench on house
Dala Dala	City bus
Darajani	The bridge
DoURP	Department of Urban and Rural Planning
Duka	Shop
Machinga	Marching people
	People with moving stalls
Mitaa	Wards, districts
Ng'ambo	The other side
Shamba	State bus
Ungjua	Zanzibar Island
ZMC	Zanzibar Municipal Council
ZNA	Zanzibar National Archives

Zanzibar is located six degrees south of equator on the east coast of Africa. Zanzibar is a part of Tanzania and consists of several islands, the main island being Unguja, also commonly referred to as Zanzibar. The capital is Zanzibar Town, which is not a formal city but a cluster of different districts; the outline of Zanzibar Town is shown on illustration 1.

When refereeing to Stone Town, Ng'ambo and Creek Road in this project, the areas are defined as shown on illustration 1.



THE HARBOUR

MALINDI PLAYGROUND

DARAJANI MARKED

DALA DALA STATION

JAMHURI GARDENS

FORODHANI GARDENS

MALAWI ROAD

DARAJANI STREET

BWAWANI SWAMP

BWAWANI HOTEL

CREEK ROAD

STONE TOWN

NG'AMBO

PEOPLE'S GARDENS
(VICTORIA GARDENS)

MNAZI MMOJA

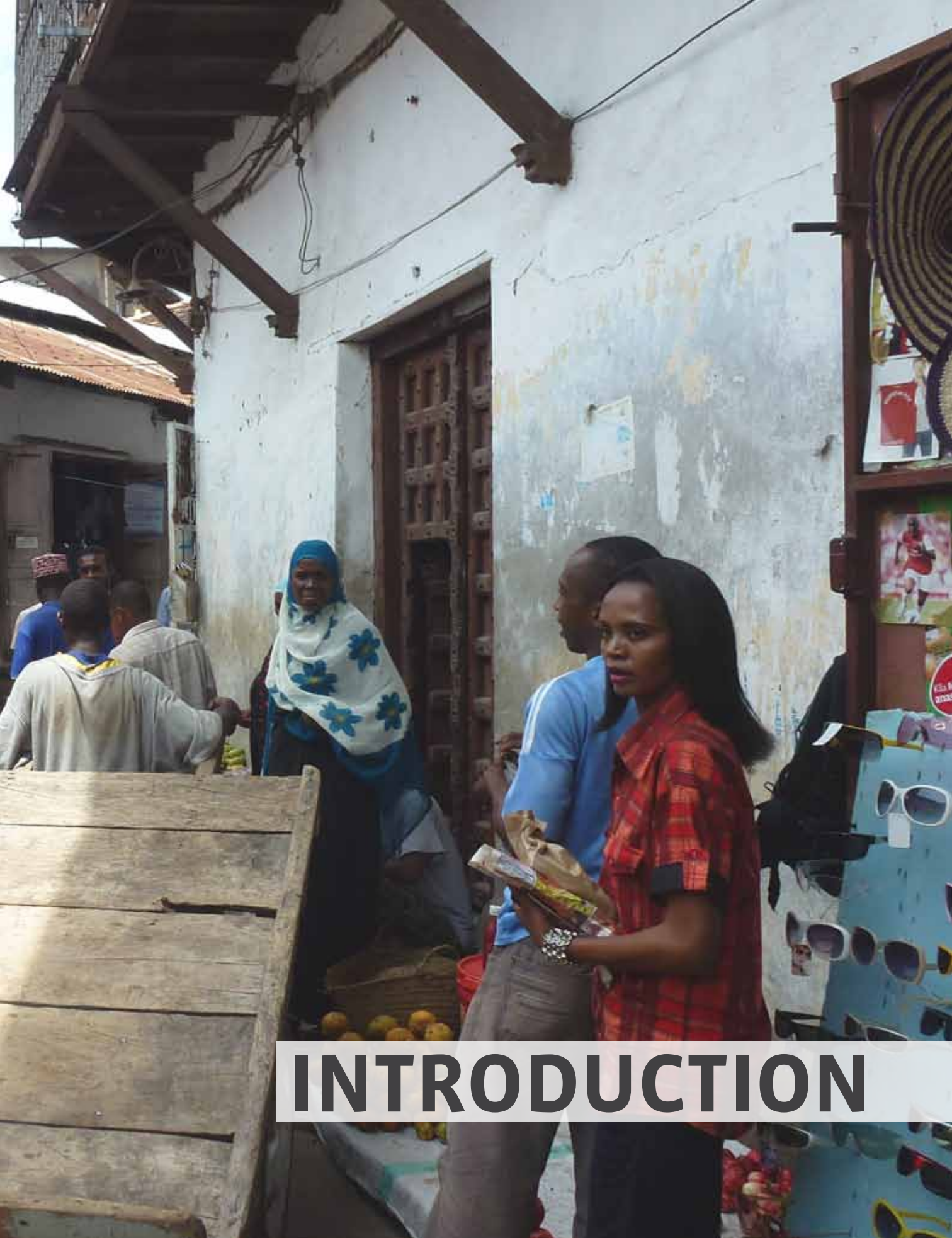
OLD GOLFCOURSE

NYERERE ROAD

KARUME ROAD



AL-HABIB STORE



INTRODUCTION

“Truly prepossessing was our first view...of Zanzibar. Earth, sea and sky all seemed wrapped in a soft and sensuous repose...The sea of purest sapphire...lay basking...under a blaze of sunshine.” [Richard Burton, 1856, cited in Else and Tyrrell, 2009, XIII].

Zanzibar might appear as a paradisiacal tropical island at first glance, the perfect spot for a vacation. But when looking past the white sandy beaches and turquoise oceans into the history of the island it becomes clear that Zanzibar is much more; *“Zanzibar is full of ghosts, a time capsule heavily laden with the past.”* [Mark Ottaway, 1994, cited in Else and Tyrrell, 2009, XIV].

PAST, PRESENT, FUTURE

With an increasing demand for more housing Zanzibar Town has expanded gradually [Siravo, 1996, 64]. The city has sprawled into the surrounding nature and agriculture areas, leaving a trail of unplanned and unstructured living areas [Smole, 2012]. The structure of the areas varies from irregular and unstructured plots to equal sized plots with houses built in a grid structure and gated communities, see illustration 2 [Kollerup, 2012, a].

Through time there has been a sort of autonomic development, where the inhabitants have built what they wanted, where they wanted. This has led to a situation where infrastructural connections cannot be upgraded and sanitation cannot be implemented without demolishing houses, as the houses are built to the edge of the existing infrastructure rather than at the boundary laid out by the municipality [Kollerup, 2012, b].

Along with the rather autonomic development approach, there are also problems with illegal squat-

ters. The illegal squatters built in areas without a permit, resulting in unsuitable, and often sprawling, development of the residential, and agricultural areas, in Zanzibar Town [Siravo, 1996, 67].

The sprawling expansion of Zanzibar Town can be feared to continue if there are not taken any measures against it. Therefore the DoURP have made a National Land Use Plan (NLUP) to, among other things, overcome this problem. One of the reasons this development plan is needed is the expected population growth. There has been estimated to be around 480.000 inhabitants in Zanzibar Town, in 2012. The anticipated increase in population in Zanzibar Town by 2037 is 40%, not taking migration from other districts into account. When taking the inland migration into account the increase in population is estimated to be around 93% [Frost-Møller, 2012].

A NEW PART OF TOWN

It is naive to think that solving one problem or improving one situation on Zanzibar will resolve the present problems when looking at Zanzibar as a whole. But if there is focused on a smaller area of Zanzibar, a defined section, it will be possible to focus on the problems and potentials linked with that area [Kollerup, 2012, a].

There are several areas on Zanzibar that are interesting to work with, but the focus of this project will be Creek Road, the area of the former Darajani Creek. This area is chosen because it is a complex area with both problems and potentials for future development.

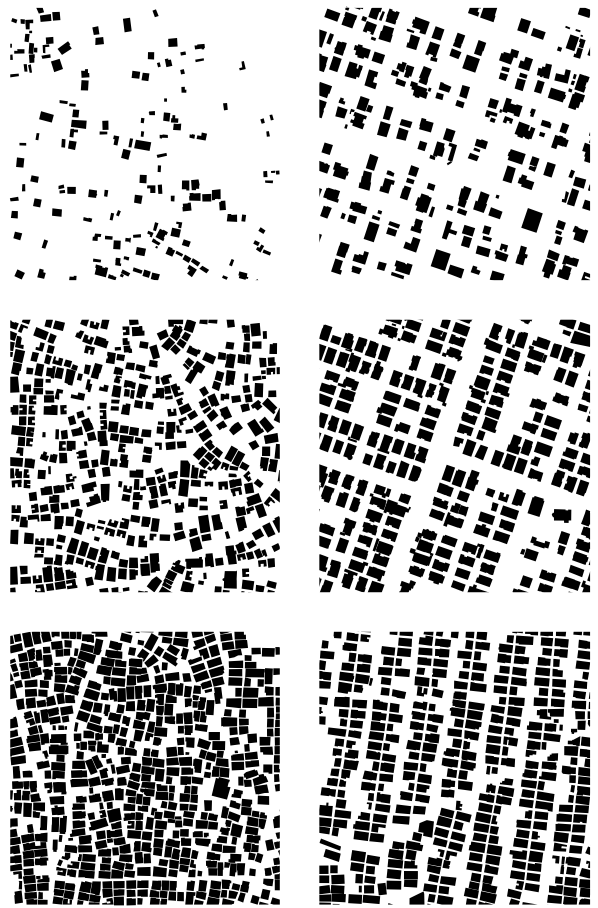
Creek Road is a transition area between the old and historic centre of Zanzibar Town, Stone Town,

and Ng'ambo, a part of the newer Zanzibar Town. Nowadays Creek Road functions as one of the main arteries in Zanzibar Town, the only way into Stone Town is past Creek Road, and Creek Road therefore has a prime location, and as a result thereof, many potentials.

When looking closer at Creek Road, it becomes evident that the site holds an array of unexploited potentials. Along Creek Road there are several undeveloped recreational areas frequently used by the inhabitants of Stone Town and Ng'ambo. These recreational and open areas along Creek Road are important for the inhabitants, as there is not much open space in the two parts of town flanking Creek Road.

In the recently finished NLUP it is written; *"The most challenging and important move in any planning process is visualising (scenarios for) a future situation"* [DoURP, 2012]. When attempting to visualise how the future situation on Creek Road can be, it can be feared that the tendency of uncontrolled development would overtake the area and it would be developed without an overall plan preserving some of the qualities in the area.

It is therefore highly relevant to work with Creek Road as the focus in this project. To make an overall development plan for the area, making Creek Road a new part of town whilst preserving some of the qualities in the area and keeping traces of the history of the area in mind.



III. 2 - Building structure from Zanzibar Town





ANALYSIS

As well as it is important to know the present day state of the area, it is also important to know how the area has developed through time and what the future visions for the area are. Therefore the history of Creek Road has been studied by visits to the Zanzibar National Archives, ZNA, conversations with local stakeholders and by reading literature regarding Darajani Creek and its development from creek to an infrastructural connection.

PAST

The Darajani Creek has been a vital part of Zanzibar Town from the first settlers to present day, however the character of the creek has changed over time. To begin with the creek formed the eastern boundary of Zanzibar Town, but as the city expanded across the creek, it became a barrier between the two parts of town, Stone Town and Ng'ambo [Salum, 2009, 88-93].

Along with the expansion of Zanzibar Town came also the problem of improper sanitation. As household waste, sewage and other offal were thrown into the creek, along with bodies of deceased animals and people, the creek became a public health hazard. The area around the creek flourished with malaria, cholera and smallpox, and the smell from the creek nauseated people. In 1866 David Livingstone wrote; *"The stench from the...exposed sea-beach, which is the general depository of the filth of the town is quite horrible. At night, it is so gross and crass, one might cut a slice and manure the garden with it. It might be called 'Stinkibar' rather than Zanzibar."* [David Livingstone, 1866, cited in Else and Tyrrell, 2009, XIII].

To resolve the health and stench problems the creek was fully reclaimed by 1957. The purpose of filling the creek was not only sanitary reasons, but also to make room for public spaces, allocated for game

pitches and gardens, and to improve the communication between Stone Town and Ng'ambo [Salum, 2009, 57-60].



III. 3 - Map of Zanzibar, 1892



The Creek at high tide—looking East



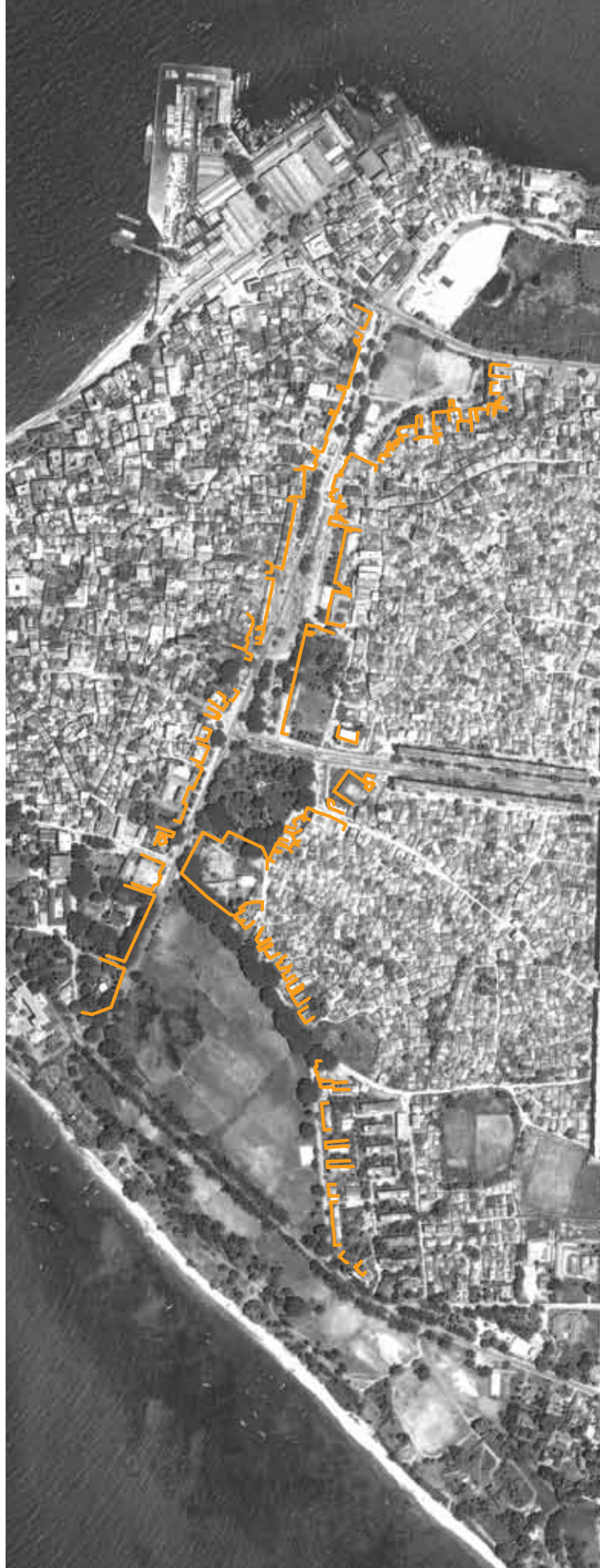
The Creek at low tide—Darajani Bridge

III. 4 - Historic photographs of the creek

PRESENT

When looking at Creek Road at its present state there are still visible traces from the past. The edge of Stone Town stands as a clearly defined line, marking the brink of the creek. In Ng'ambo the edge does not appear as densely developed and are more perforated, see illustration 5 for a marking of the edges on both sides of Creek Road. The edge of Stone Town is therefore rather distinguished compared to the edge of Ng'ambo, which appears more porous [Kollerup, 2012, c].

III. 5 - The edge of Stone Town and Ng'ambo



FUTURE

There is currently no definite plan for the development of Creek Road. In 1994 the different stakeholders agreed on a plan where the outline regarding Creek Road were to renovate the market area, create a green connection on the entire eastern side of the road and upgrade the open spaces in north and south [Siravo, 1996, 169-170].

After the decision of initiatives needed to upgrade Creek Road, the municipality additionally made their own plan for the area, a plan not agreed upon by the other stakeholders. As shown on illustration 7, the municipality wants to move the *dala dala* station two to five kilometres out of town, and make parking facilities in the area currently occupied by temporary commercial buildings and the *dala dala* station. Additionally the municipality wants to develop the Bwawani Swamp to an area of commerce, with shops and offices, building a high density area, where the new buildings relates to the Bwawani Hotel in scale [Kollerup, 2012, d].



III. 6 - The Bwawani Hotel

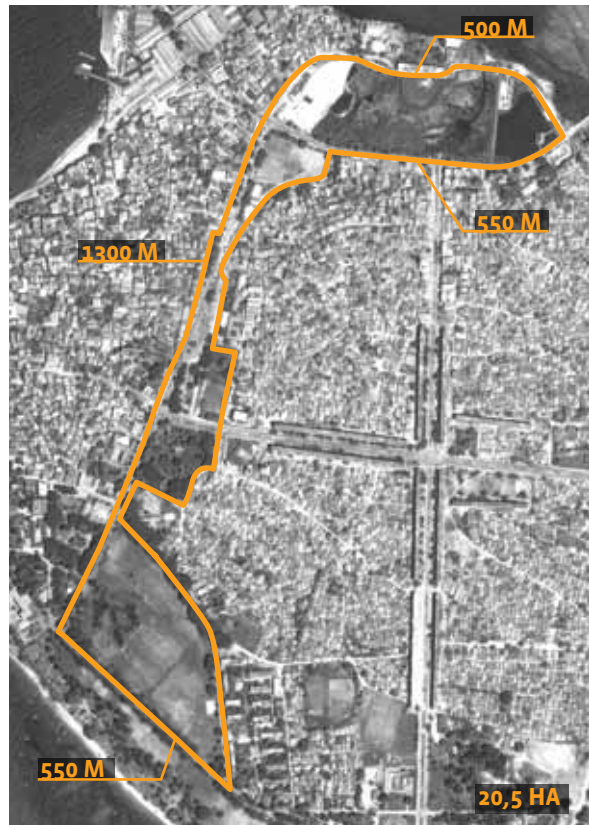


III. 7 - Design proposal made by the Municipality

CREEK ROAD

Creek Road has a central location in Zanzibar Town when it comes to public functions, but when looking at the geographical outline of Zanzibar Town, Creek Road almost disappears see illustration 8.

Furthermore Creek Road has a prime location considering infrastructural connections. Because Creek Road fringes Stone Town, and is a transversal road between two of the main roads in Zanzibar Town; Malawi Road leading to and from the Harbour and Nyerere Road being the only road leading into Stone Town, thousands of people pass Creek Road on a daily basis [Siravo, 1996, 69-79] [Kollerup, 2012, e].



III. 8 - Creek Road with lengths



THE CONTEXT

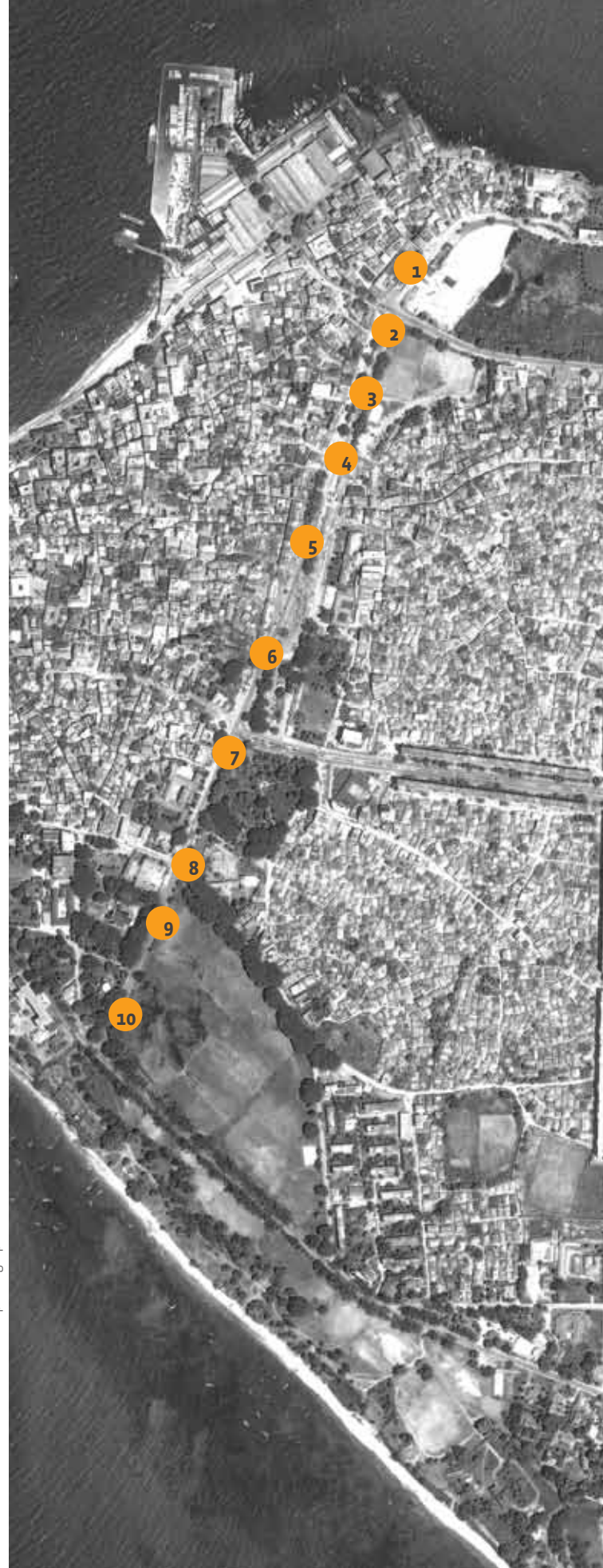
In order to create an area which, not only relates to the Zanzibaris, their culture and habitus, but also to the functions in and structure of the neighbouring areas, it is necessary to take a look at the surrounding areas, their physical form, functions and appearance in order to define the problems and potentials present at Creek Road.

The analysis of the context is made partly from empirical analyses made on the field trip to Zanzibar, partly from conversations with various stakeholders on Zanzibar and partly from reading about the history and present state of Zanzibar Town and Creek Road. If not stated otherwise the observations and descriptions are from empirical analyses.

GENIUS LOCI

As mentioned in the previous chapter, Creek Road has been an important part of Zanzibar Town from the period of the first settlers till present day. It has been a place of various functions through time; from forests to market functions, from centre of the slave trade to a social meeting place, from being a creek separating Stone Town from the rest of Zanzibar Town to being a huge infrastructural artery, that somehow still separates the two parts of the town [McIntyre, 2009] [Insight, 2003, 255]. There has therefore been great diversity in the functions along, and across, the creek through time, and at its present state this diversity is still visible. The differentiation in the scenery along Creek Road is shown on the pictures on the following pages.

III. 10 - Positions of photographs















Looking at the pictures, it is clear that there is a huge character change when moving through the area. There are the open recreational spaces in the northern and southern end, the busy centre of the area around the Darajani Market and the bus terminal and then there is the enclosed Jamhuri Garden. The market appears as a local landmark, a node and an attractor, it is a place filled with people throughout the day and it generates life in the area. The bus terminal, opposite the market, is also a node and an attractor; it is a place of arrival and departure, which also brings life to the central area.

The open space, Mnazi Mmoja, in the southern part of Creek Road is also an important attractor in the area. This is where the local boys meet and play soccer, whilst their family and friends, meet on the side line.

When taking a closer look at the land use along Creek Road, as shown on the pictures on this page, it becomes clear that there is an even greater diversity in the area, a diversity that also appears when looking at the physical appearance of the context.





URBAN FABRIC

"[...] the native town – a filthy labyrinth, a capricious arabesque of disorderly lanes, and alleys, and impasses, here broad, there narrow; now choked with offal, then choked with ruin. It would be the work of weeks to learn the threading of the planless maze, and what white man would have the heart to learn it?" [Richard Burton, 1872, cited in Myers, 1993, 110].

"Each morning the call of the muezzin breathes life into centuries-old Stone Town and daylight reveals a haphazard agglomeration of coral-rag buildings, corrugated iron roofs and hanging balconies separated by an arms length over a maze of busy narrow alleys." [Cathy Lanz, 1996, cited in Else and Tyrrell, 2009, XV].

The quotes give an impression on how the urban fabric of respectively Stone Town and Ng'ambo is made up. It is clear that the two parts of town have some common denominators; both have what seems as a haphazard structure of buildings, roads and open spaces, though the building structure varies in the two parts of town. In Stone Town the buildings are connected and creates a contiguous structure, while they in Ng'ambo are slightly detached and therefore creates numerous small paths between the buildings.

STONE TOWN

Outwardly Stone Town seems to have a rather random urban fabric, but in fact it is not random at all. It traces back to the 19th century when the *mitaas* were built up by the different families and clans settling in Zanzibar Town. The *mitaas*, there are an introvert structure of blocks surrounding an inner courtyard, adapted the boundaries of the neighbouring *mitaas*, and created a city of narrow, winding streets [Siravo, 1996, 28-31].

The diversity of the streetscape in Stone Town

shows the contrast of the magnificent seafront buildings, the busy bazaar streets and the quiet residential streets. The contrasts of the streetscape combined with the variation in the building styles allows for the image of a diverse and unique environment that Stone Town is known and famous for. [Siravo, 1996, 29-31].

NG'AMBO

Ng'ambo became urbanized in the 1850's, when people started settling on the eastern side of the creek, as the migration began to overcrowd Stone Town. Ng'ambo was known as *"the native quarter, where the poorest lived in chaotic, unsanitary, and in disorderly manners"* [Salum, 2009, 2] an area where *"the huts straggle around, conforming to no coherent scheme, and a confusing maze of endless twisting alleyways."* [Salum, 2009, 2].

The area around Darajani Bridge, the present day Darajani Street, was the first area where people settled, and along the road directly adjacent to the bridge, some merchants houses similar to those in Stone Town, were built to extend the bazaar streets from Stone Town to Ng'ambo. Otherwise there has been built slightly detached huts as the area gradually evolved into a city-like structure. Over time the huts have been replaced by houses, and are slowly evolving into a modern living area [Siravo, 1996, 28-31]. Even though the houses are replaced or renovated, the structure of the area stays the same. The houses are getting bigger, but they are still slightly detached and placed irregularly on the plots available in between the other houses.



STREETSCAPE

The streetscape of Stone Town and Ng'ambo is an entangled web of narrow paths attached to the main roads. Both parts of town can therefore appear as a maze. After a trip to Zanzibar a tourist wrote the following to Bradt Travelguides; *"I enjoyed walking around the Stone Town, always getting lost, and taking a different way home every night."* [Els and Tyrrell, 2009, XVII].

STONE TOWN

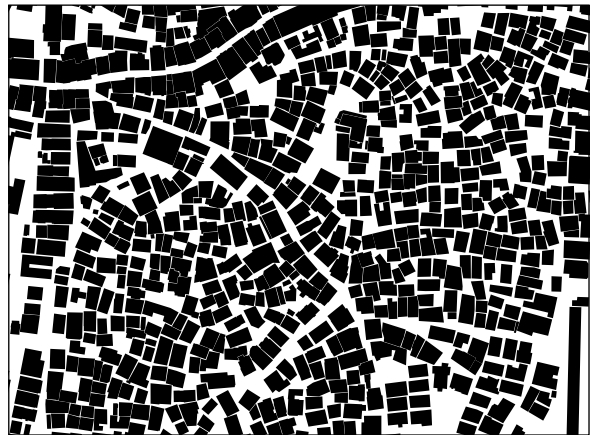
When walking along the streets in Stone Town, it gets clear that as confusing and irregular as the plan seems on a map, it is even worse when trying to navigate the city. There are no logic in the way the paths and streets are connected, and with all the twists and turns of the paths you hardly ever end up where you intended to, unless you learn to navigate the maze-like construction by landmarks in the shape of shops, signs and other characteristics. And then, in the evening, when the stores are closed and the electricity is cut off, the streets are bare and black; you have absolutely no idea where you are going, but somehow you always end up where you intended to go, even though you took some detours.

NG'AMBO

In Ng'ambo the maze-like streetscape is also predominant. As the buildings are lower, and they are detached, there is more space between the buildings; this in combination with slightly wider main streets gives a feeling of a slightly more legible area, when being on the main streets that is. When walking off the main street, there are an infinite amount of small side paths in between the houses, creating an even more confusing and complex web of paths and alleyways [Myers, 1993].

But as frustrating the haphazard streetscape is, it

also has some qualities; with the entangled web of streets and paths, there are many small plazas, junctions, nodes and experience along the road. With every twist and turn something new shows up.



III. 11 - Streetscape in Stone Town (top) and Ng'ambo (bottom)



INFRASTRUCTURE

The experience of walking along the market area can best be described with the word chaos, seen from a “tourists” point of view or with the following quotes from ‘A plan for the historic Stone Town’; “At peaktimes, the congestion is so severe that even pedestrians find it difficult to walk through the bottlenecks that build up in the alleyways around the market.” [Siravo, 1996, 167] and “In addition to the traffic related to the market activities, there is a continuous flow of motorized traffic along Creek Road [...] drivers often proceed at high speed in spite of the confusion – particularly at crossing points – of pedestrians, handcarts and bicycles. At present, no speed limits are imposed and no traffic-calming measures are in effect. Further, parking areas have developed spontaneously with vehicles parked randomly along both sides of Creek Road.” [Siravo, 1996, 167].

The many different types of streets in Stone Town and Ng’ambo enhance the confusion of the infrastructural system, some of the most used types of streets shown on the pictures on this and the opposite page. The streets vary in dimension, paving and usage, some are one-way streets others are blind and some are regular two-way streets, some are for pedestrians and bicycles only other for all sorts of traffic. This variation in the types of streets, helps enhance the maze-like appearance of the streetscape as described previously.





TPOLOGY

As Zanzibar Town was built as people from different nations settled on the island these influenced the building structure. The different influences are still visible, when walking the streets of Stone Town and Ng'ambo. This is seen in the world famous carved doors, the overhanging balconies, the way of organising the main functions of the houses etcetera [Kollerup, 2012, f].

As Zanzibar Town developed the natives were forced further inland by the Arabs and Indians, and later on by the Europeans. This has led to Stone Town having traces of overseas architecture and culture, while Ng'ambo are built up with the Swahili culture as the predominant influence [Kollerup, 2012, f].

USAGE

The variation in the buildings is not only seen in the architecture and the structure of the city but also in the use of the buildings. Along Creek Road a broad spectre of the different uses is present, from the museums buildings in south, to the market area and the more official buildings in north. This variation in usage brings diversity to the area and allows for a variety of functions to happen. In some places the activities does not only happen inside the buildings but spreads and takes up the surrounding plazas and streetscape.





PUBLIC SPACES

“Public space is in essence a space that is freely accessible for everyone.” [Hajer & Reijndorp, 2000, 11].

As a part of the culture on Zanzibar, the public spaces are used for a variety of functions, from selling goods, to meeting, talking and discussing various subjects, whatever that subject is soccer or politics.

There has always been a tradition for using the public spaces in the Islamic religion. Back in the days, guests were not invited into Muslim homes, as a gesture to protect the women, instead the *barazas*, stone benches, outside the house were used as a sitting room where the men meet, and at present day it still is [Kollerup, 2012, f].

During daytime the *barazas* is used for selling goods and gathering. In the evening some of the *barazas* around the mosques are used for meeting between prayers while others are used as sitting places for the street kitchens [Kollerup, 2012, c].

Throughout town there are various types of public spaces, some are planned, some occurs in the streetscape over time and some are not really defined as a space, but used as such.





GREEN SPACES

As the green areas are part of the public spaces, there is also great variation in these. The green areas vary in size and shape, depending on where in town they are located.

There are not many large green areas in Stone Town or Ng'ambo, but most of them there are placed adjacent to Creek Road. These areas are used for recreational purposes, such as soccer practice, picnic and so, whilst the green areas in the middle and northern part of Stone Town and in Ng'ambo are small spaces, either planned with a function, or occurring as a result of lack of maintenance, such as the green areas arising in the ruins and in between buildings. In the southern part of Stone Town, several green parks have been planned, leaving the area with an evident trace of the European influence [Syversen. 2007, 102].

As maintaining green areas can be a costly affair, and there are not much money to do so, many of the green areas are un-kept, wild and informal, surfacing in the middle of town, in between or out of buildings, as the buildings dilapidates into ruins [Kollerup, 2012, f].





MOVEMENT AND ACTIVITIES

The variation in land use along Creek Road allows for diversity in use and appearance.

In the recreational areas, Malindi Playground and Mnazi Mmoja, people sit along the edges in the shadows of the large trees while others play soccer on the field. In Jamhuri Garden there are another form of social activities, here groups of families and friends go on picnics. This is also where the families bring their daughters and sons to begin a courtship [Kollerup, 2012, f]. In these areas, and along the southern part of Creek Road, people walk in the shade of the large trees flanking the road.

Around the market people wander in between the movable stalls, *machingas*, cars, bicycles and other obstacles in the streetscape. Here people sit under the trees separating the market area from the road, and under parasols by the informal stalls. In the area around the bus terminal people walk in between parked busses, they sit in the shade of the trees bordering the area and sell different products and food objects. North of the market area are the more formal business, here people walk along the facades, sheltered from the street by a raised bed with trees and bushes and a row of neatly parked cars.

The many different functions happening in the rather dense area creates a lively atmosphere but also a complex area, as described in 'A plan for the historic Stone Town'; "*The many problems and conflicting patterns of use that are concentrated in and around the market area make it the town's most complex public area.*" [Siravo, 1996, 169].

DAY CYCLE

The intensity of the area varies during the day, peaking in the morning when the locals go to the auctions at the market and to open their stalls, at the same

time the bus station is busy with people departing or arriving. As the temperature rises the intensity of the area decreases slightly, and the functions changes from being solely market and transportation, to also including social functions such as meeting, talking and playing different games. In the evening, around nightfall, the amount of traffic in the area reduces and the locals gather around tables where women cook and sell food [Siravo, 1996, 165-166].

During the weekends the green areas, such as Jamhuri Gardens and Mnazi Mmoja are used more frequently, there are soccer matches and picnics, creating a lively atmosphere in the areas.

PUBLIC SOCIAL LIFE

When looking at the public social life in the area of Zanzibar Town, it becomes evident that it is highly influenced by the Islamic religion. Through time it has been the men who dominated the public areas whilst the women stayed home doing household chores and took care of the children. This situation is somewhat still present in some parts of society, but the gender roles have changed a little. The men are still dominating the public areas; they meet at the *barazas* on the plazas and in other public places, where they sit, talk and play games. Whereas the women go to the different parks with the children and other women during the day, and in the evening they meet on the *barazas* adjacent to their houses where they talk, do household chores and watch out for the children playing in the area. This of course is the situation for some parts of society, whilst for other parts of society the boundary between the gender roles are more dissolved and the distinction between men and women therefore not so clearly marked. Common for all layers of society is the unwritten rules on how men and women should behave and how they should appear in the public [Kollerup, 2012, c].



SANITATION

With the large amount of rainfall in Zanzibar, see appendix 2 for climate diagram, the handling of that water is important to prevent floodings in the area. At its current state there are area several different types of channels throughout Creek Road and the neighbouring areas. The common denominator for these channels is that they do not have a purpose when it is not raining, therefore many of them are filled with different kinds of offal and stale water, making them an unpleasant element to look and reducing their capacity at the next rainfall.





CLIMATE

As Zanzibar is located six degrees south of equator, the sun is practically right above Zanzibar Town most of the day, this in combination with a general temperature of 26-28 °C, makes the open spaces hot as an oven [Siravo, 1996, 61].

On the narrow paths, in between the buildings in Stone Town, it is sometimes possible to find shade and walk in the shadow of an overhanging balcony. In Ng'ambo on the other hand there is not much shade due to the buildings being further apart and smaller in height.

The island has two rain seasons, the small rain season in November and the main rain season from mid-March to the end of May. In these periods there are short periods of massive rainfall, resulting in flooding of the streets, public spaces and river-like run offs towards the ocean.



III. 12 - Creek Road after rain, 2012



III. 13 - Photo of flooding at the Darajani Market

TERRAIN

As it has not been possible to find present day contours for the area around Creek Road, there have been made a rough estimation of the terrain based on observations, historic maps etcetera, see appendix 1 for elaboration. As shown on illustration 14, the area of Stone Town is built with a small inclination, resulting in the water from approximately half of Stone Town running towards Creek Road and there are also water coming from an area of Ng'ambo.

Creek Road slopes slightly from the middle towards the northern and southern end, with the areas of Mnazi Mmoja, Malindi Playground and the Bwawani Swamp a few meters below street level.



III. 14 - Estimated terrain

RECAPITULATION

'Zinj el Barr' means *'land of the black'* and is where the modern name Zanzibar derives from. The word *'Zinj'* is Persian while *'Barr'* is Arabic. This cross-cultural combination demonstrates how Zanzibar has evolved into a country with at diverse cultural heritage that is still present today [McIntyre, 2009, 3-27]. This cultural heritage is an essential part of Zanzibar and the way Zanzibar Town has evolved over time. The influence from the different nations gives the area a diverse appearance with variation in buildings, streetscape and public spaces. This diversification is in a way a part of the essence of Zanzibar Town, and not least Stone Town and Ng'ambo.

The contrast between Stone Town and Ng'ambo is quite evident. Stone Towns dense streetscape with the tall contiguous buildings tangled together into a maze of small streets leading through the city, creating experiences in each cross section gives the impression of being in the centre of town, the place where things happen. While the streetscape of Ng'ambo is more porous, with smaller detached buildings spread out over the area in no clear structure and the infinite amount of small paths leading away from the main streets, gives the impression of an informal yet busy area where the people have shaped the town according to their needs.

"... it was filled in to become Creek Road, a busy, broad road that marks the boundary between the historic and modern cities. Cross the great divide and you'll see a very different town..." [Insight, 2003, 225]. When looking at Creek Road it lies as an area separating the two parts of town, an area underlining the differences of the two bordering parts of Zanzibar Town. Creek Road functions as a busy infrastructural connection, where the amount of vehicles going through the area all throughout the day makes it hard for pedestrians to cross the

street and come from Stone Town to Ng'ambo, and the other way. When the creek was reclaimed one of the reasons to do so was to improve the communication between Stone Town and Ng'ambo [Salum, 2009, 57-60], it can be said that this to some extent has been succeeded, but not fully. It is now easier to cross between the two parts of town, compared to previously, but there are still a somewhat separation between the two parts of town bordering Creek Road.

The contrast between the two parts of town can not only be seen in the streetscape and the feeling one gets when walking around the area, it is also visible in the contours of the area. The edge of Stone Town is rather distinguished compared to the area of Ng'ambo, which is more perforated and porous. This contrast gives Creek Road a clear edge on one side and a more serrated edge on the other, allowing for a variation in how the edges meet the new Creek Road.

When looking at some of Creek Roads potentials the recreational spaces are rather important. They serve the neighbouring areas as places for activities and gatherings; this is where some of the public social life unfolds. Another potential is the Darajani Market and the area around it, it is a place of life at almost all hours of the day, and this is the centre of commerce and what a large percentage of the inhabitants live of. It is also a place for people to meet and conduct social activities. The bus station on the opposite side of the road can both be seen as a part of the market but also as its own, it is a busy place with great significance for the people of Zanzibar Town.

With the future development of Creek Road there can be various approaches; connect Stone Town and Ng'ambo, separate them, mark the difference and

many others. When talking to various stakeholders it became evident that everybody wants Creek Road to be a part of town, a place connecting the two bordering areas, not separating them further. They also wish to structure the functions in the area making it less crowded in the market area, without losing the essence of the area, and develop parts of the open spaces so that Creek Road becomes an integrated part of town, with room for expanding the commercial area and building new housing areas. They all also agree on the importance of the green areas, as both Stone Town and Ng'ambo is densely built up, with few open spaces big enough for instance sport, festivals and other social activities, as they are used for now.

The outdoor areas are rather important for the public social life to unfold; this is where people meet and where most of these activities occur. It is therefore important to create an area where these social activities can unfold, a place where people can meet and where there are room for that. At the same time it is also necessary to make an area that can adapt to the future needs of Zanzibar Town, a place that can take some of the pressure of Stone Town, but not merge with it and become an extension of the existing areas.





VISION

When envisioning the future scenario for Creek Road one of the first things to decide upon is how the edges of the new Creek Road meet the edges of Stone Town and Ng'ambo. It is therefore necessary to find out whether Creek Road should be a separate part of town, a buffer zone between the two or an integrated part merging the two.

When looking at the previous chapter, it is clear that the stakeholders wishes Creek Road to be an integrated part of town, but it has not been defined whether that is in the structure, so the areas merge across borders or it is in functions, so that Creek Road becomes a supplement to the already existing Stone Town and Ng'ambo.

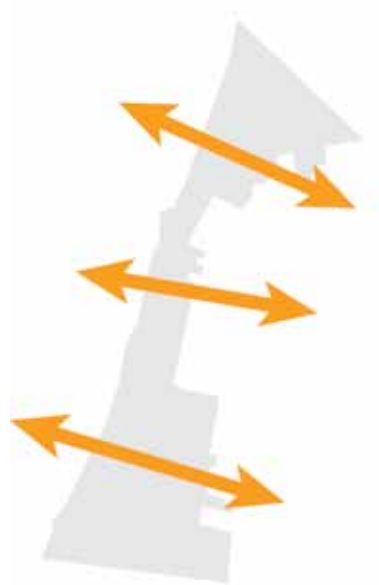
It would be nearly impossible to create a new Stone Town or Ng'ambo in the area of Creek Road; it will always be something else, something new. What would be possible is to take some of the elements from Stone Town and Ng'ambo and apply them, in an updated and modern way, to the Creek Road area. The vision for this project is therefore:



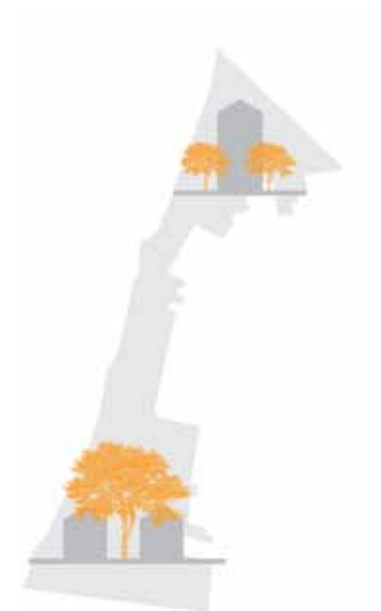
**A NEW PART OF TOWN, DEVELOPED BY USING
THE QUALITIES AND HISTORY OF CREEK ROAD,
STONE TOWN AND NG'AMBO.**



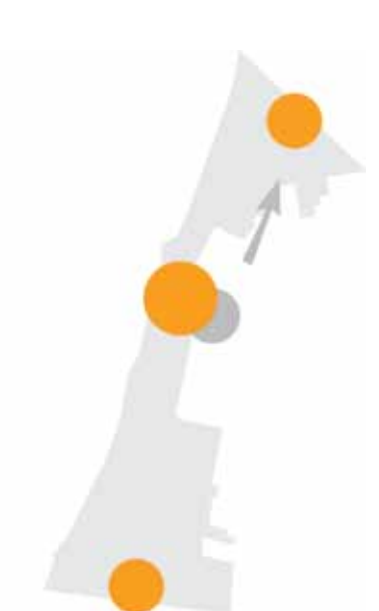
THE EDGE



CONNECTIONS



AREA CHARACTER



ATTRACTORS



THE EDGE

As written previously there are a clear distinction between the edges of Stone Town and Ng'ambo and how they meet Creek Road. The edge to Stone Town represents the history, the boundary of the Darajani Creek, and therefore it is desired to work with a way of enhancing the historic and dense edge on the Stone Town side of Creek Road. As the Stone Town side is already rather urban, with higher buildings and a more dense fabric, it is desired to take these qualities and use them to underline the historic edge of Stone Town and the meet with the new Creek Road.

On the Ng'ambo side the edge is, as written previously, more porous and perforated. It is therefore desired that the edge towards Ng'ambo does not appear as clear as the one on the Stone Town side. The edge on the Ng'ambo side should therefore be more integrated with the area on Creek Road and not appear as defined. As there has been a wish for a green connection along Creek Road, it is the aim that the marking of the edge towards Ng'ambo could be integrated with a green connection, being more informal and less rigid than the urban character of the Stone Town side.



CONNECTIONS

Whilst creating a north-south connection between the edge of the new Creek Road and the bordering areas it is also necessary to create a connection going east-west, making the Stone Town and Ng'ambo easy accessible in spite of building a new part of town in between. Making an east-west connection linking the three parts of town together and providing easy access between those might also fulfil one of the original purposes of filling the creek, the improvement of the communication between Stone Town and Ng'ambo.



AREA CHARACTER

With the diversity in the usage along Creek Road, it is also desired to apply some of these elements to the new Creek Road. This will be done as a graduation from the green areas in the south, with the old golf course and the parks and gardens there as well, to a more urban character in the north, where there is connection to the harbour and therefore already are a more urban character in the physical context.



ATTRACTORS

With the large open spaces there are also the potential of relocating some of the functions in the area to other places, this can for instance be done to reduce the chaotic structure of the market area or to create a more cohesive area.

With both the market and the bus terminal performing as attractors in the central area, there is too much going on at the same place and at the same time. It is therefore desirable to move the bus terminal further north, to the Bwawani Swamp. This way the two functions no longer compete in the same area and generate the friction that occurs when there are too much happening at the same time and place. By placing the bus terminal in the northern end of Creek Road it will be placed closer to the harbour, and the people arriving and departing with the different ferries and boats, but it will still have a connection to Creek Road and the people going to and from the market.

When placing the bus terminal in the north it will also serve as an attractor in the northern part of Creek Road and generate life in that area. In the middle of Creek Road the market will still be located and generate life in that area whilst the attractor in the southern part of Creek Road will be the recreational ground of Mnazi Mmoja, where there will be room for various activities. This way there will be a variation in the functions along Creek Road.



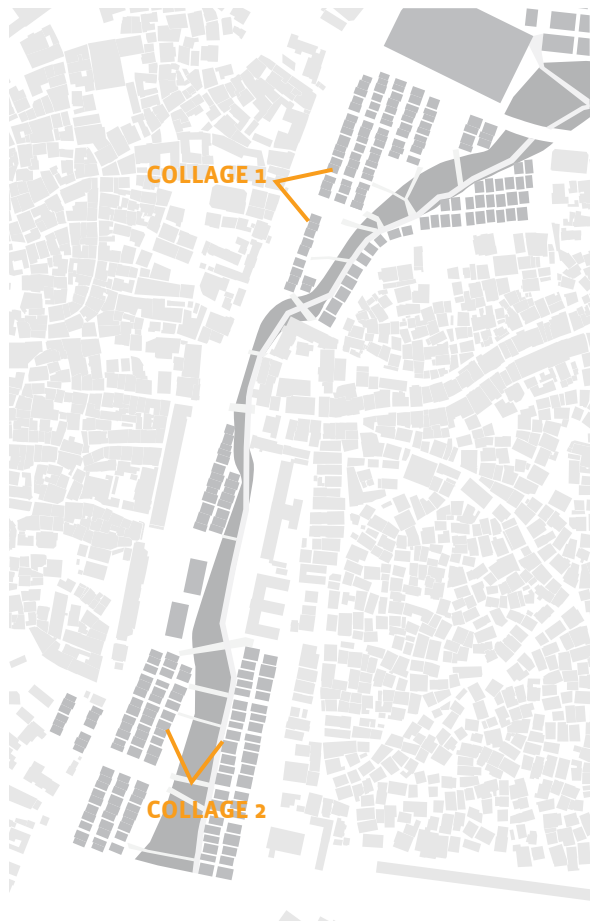


PRESENTATION

In the following the design proposal is presented with collages showing the new Creek Road and overviews showing the overall appearance of the area. A 1:1000 plan is enclosed along with cross-sections showing the focus area. Furthermore is a 1:5000 plan enclosed; the plan is showing the new Creek Road in the context and the green connection.

When making a proposal for the future development of Creek Road it has been an important element to keep traces of the history and implement those in the new design. There has also been focused on preserving some of the open spaces in the area to ensure that the area will not be totally built up.

The chapter is divided into separated sections, each section focusing on one of the main elements in the design proposal. It is explained in separate sections, but the process of making the design proposal has not been a linear process, taking one theme a time. It has been a continuous process going back and forth between the different elements of the design interlacing them and adjusting them to one another, making it a coherent design proposal.



III. 15 - Photo points

















DESIGN

THE GREEN LINK

The green link has several functions, it is an recreational element connecting green areas in the northern and southern part of the area, it is also used for a rain water handling during the rain seasons and it is a hint of green and open spaces in the otherwise densely built area.

CONNECTION

As the green link connects itself upon the grouping of green areas in the southern part of Creek Road and to the pool in the Bwawani Swamp, it creates a continuous green belt through the area. This belt ensures a green space for the inhabitants of the bordering areas, as well as visitors. As the green link is only separated from Jamhuri Gardens by Karume Road, the areas will visually appear connected, and the green link can therefore be seen as an extension of the existing green structure.

Along the edges of the green link there are paths allowing people to walk along the green link without having to walk directly in the vegetated areas. There are also made connections across the green link underlining the connection between Stone Town, the new Creek Road and Ng'ambo. These transversal connections are attached to paths leading further into Stone Town and Ng'ambo, creating a direct connection between the two parts of town.



III. 22 – Green connection between the green link and Jamhuri Garden



III. 23 – Paths along the edge of the green link



III. 24 – Connections across the area



III. 25 – Green connection

APPEARANCE

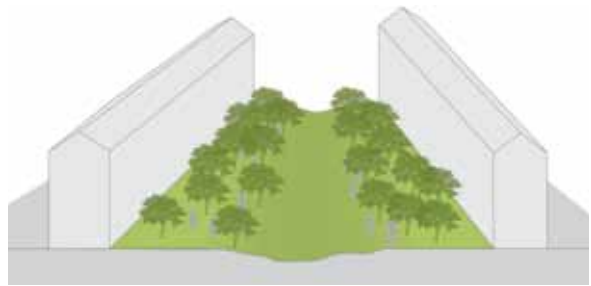
The green link will appear as scenery in contrast to the surrounding areas, and to the present state of the area, a busy infrastructural connection. By making a green area with multiple purposes it allows for the area to change character during the different seasons. It will have one appearance in the dry seasons and another in the rain seasons, where it sometimes will appear as a creek, which can be associated with the history of the area.

The vegetation in green link is thought to have a rather wild character, with different types of grasses, trees and shrubs. This differentiation in the vegetation will give the users of the area a variation in the scenery experienced when walking through the area. The aim is to have many trees in the area, this is partly to create shaded areas where people can sit and meet. People visiting the area should get an experience of a green canopy closing over them and shielding the view focusing on the green link, the nature and the experience of that. In other places the canopy opens up, allowing for a view of the whole area. Hereby the nature and the trees are used to define the experience one gets when visiting the area.

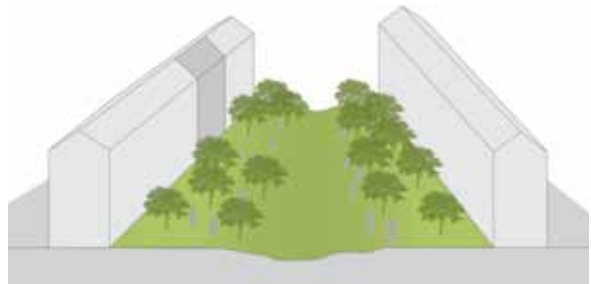
To integrate the green link with the open spaces close by, the green link is thought spread to those areas and give them a green appearance, for instance there will be trees on the parking spaces and along the pathways leading to and from the green link. By integrating the open spaces in the areas with the green link, those areas can also be used for recreational activities, for instance can the parking spaces be used for gatherings and ball games.

In the area around the new market buildings the green link is almost flat, there are a slight inclination towards the middle and the south. The flat-

tened terrain is made to make room for the market to expand into the green area and to invite the people to use the area for recreational purposes.



III. 26 – The green canopy



III. 27 – The green canopy opens up



III. 28 – Integration between the green link and the parking spaces

RAIN WATER MANAGEMENT

There have been various problems with flooding in the area along Creek Road during the rain seasons, especially in the market area. In 1994 there was an upgrade of the sanitation and storm water handling systems in the area, where there was made some improvement to the problems with the flooding by installing different types of channels along Creek Road [Kollerup, 2012, d]. This upgrade has solved some of the problems with flooding but not all. The green link will therefore be a place to gather the water and delay its outflow towards the outlets in the northern and southern end of Creek Road. With a slight inclination on the areas around the green link, the water would gather in the green area and leave the surrounding areas free of flooding.

The green link is placed according to the terrain, described previously, and is adapted into the contours of the area, allowing the water to travel naturally through the area. Where roads, and other infrastructural connections intersect the green link, the water is led through pipes under the roads, preventing the roads for flooding and allowing for the traffic to continue.

THE URBAN LINK

Another significant element in the design proposal for the new Creek Road is the urban link. The urban link has, as the green link, more than one function, the primary function being marking the edge of Stone Town so that it appears well defined and distinctive. Besides using the urban link to mark the edge it is also used as a transportation and commercial corridor, spreading the functions and life of the area from the market area to the bus terminal and the Bwawani Swamp area.

LAYOUT

As the bus terminal has been moved from the central market area to the Bwawani Swamp there are now a flow of people between these. There are therefore made room for shops and *machingas* along this stretch of the road giving the commercial functions an opportunity to spread and create a commercial atmosphere in the area.

To mark the edge of the historic Stone Town there is an area clear of permanent functions and buildings to mark the contiguous facades. In order to underline this distinctive edge the new buildings, on the opposite site of the road, are oriented towards the road and hereby the buildings on the Stone Town side. This underlining of the edge gives a clear marking of the historic traces.

By using the facades on both sides to mark the streetscape a well-defined space occurs in between. This space is split in two by the road going through the area, and is thought used as a pedestrian area, where there are not to be built any additional buildings, as the sightline should appear clear and unobstructed by buildings. There can be placed trees, temporary stalls and *machingas* in the area, as these are moveable they do not interfere with the emphasising of the edge.

The urban link is mainly present in the middle and northern part of the area, from the market to Bwawani Swamp, whilst the area remains at its present state in the southern part. This is done to keep the green character of the southern area the distinctive feature and not making it place for commerce. By keeping the urban link in the top part of the area it also underlines the urban character of the northern part. Furthermore the different characters of the area gives a changing experiences when traveling from one end to another.



III. 29 – Present day road structure



III. 30 – Road structure on the new Creek Road



III. 31 – Marking of the edge

THE MARKET AREA

In order to facilitate the market area and its needs, there have been made room for an expansion across the street. On the opposite side of the street there are made two new market halls with an inside layout similar to the old Darajani Market. There are an inwards oriented middle aisle and an outwards oriented row of stalls on both sides. The outwards oriented stalls are made in order to integrate the market functions with the plaza around the buildings. On the eastern side of the market halls the plaza and the green link interlace, creating a combination and a meeting between the green and urban.

The new market halls are oriented parallel with the Darajani Market and the road, the buildings are pulled towards the middle of the area to create a plaza on both sides. This orientation is different from the buildings just north and south of the new market buildings, marking that the market area is something else.

On the plaza around the market buildings there are room for the informal stalls and *machingas*, making room for the diversity of the market area. The informal stalls also create a visual connection between the eastern and western market area.



III. 32 – The new market building and *machingas*



III. 33 – The meeting between the urban and the green link

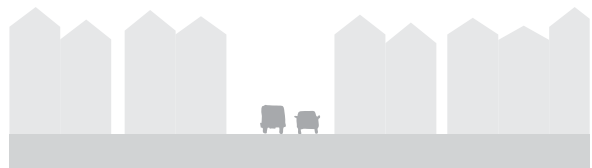
INFRASTRUCTURE

The layout of the road is similar to the current road, in the design process there have been worked with several different layouts for the infrastructure, but it was assessed that the current layout of the road helps define the Stone Towns edge as well as it gives a cohesive area for the development of the new Creek Road. To reduce the amount of traffic in the area, Creek Road has been reduced from an unstructured road with two-way traffic and parking along the side, to two one-way lanes separated by a traffic island. This way there are no room for parking along the road and there is only one lane of cars driving on each side of the traffic island.

To define the area where the cars are allowed, the road is slightly lowered, making the pedestrian areas appear elevated compared to the road. The traffic islands are slightly elevated as well, and made to allow people crossing the street to stop and wait without blocking the traffic or fearing being hit by the cars. Along the edge of the pedestrian area, especially around the market area, there are planted a row of trees, defining the area where the cars can drive even more. The trees can here be used as naturally occurring and integrated elements preventing the cars to enter the area.

By moving the bus terminal, there will be a longer distance between the market area and the bus terminal, to compensate for this there are made several bus stops along Creek Road from where passengers can be picked up and dropped of, but where the busses do not stop and wait.

There are made several parking spaces along Creek Road, they are not directly visible from the street but hidden behind the buildings, allowing the row of facades to appear contiguous while giving more open space to the green link, making it appear wider.



III. 34 – The entrance to the parking spaces seen from the road



III. 35 – Parking space expanding the width of the green link



III. 36 – Infrastructure in the area



III. 37 – Infrastructure in the area

BUILDINGS

The buildings placed in the area are constructed from different parameters found through the design process. They vary in height dependent on their position on the site, the buildings facing Stone Town are taller, to clearly define the edge, than the ones facing Ng'ambo and therefore the height graduates from one site to another.

The building typology is made as a combination of the building types in Stone Town, high and with contiguous facades, and those in Ng'ambo, the smaller detached houses. This combination creates a pattern consistent of enclaves with two to five buildings separated from the other enclaves by paths in between the buildings. The buildings are thought to have a variation in the facades, giving the area a diverse appearance, see illustration 38 for example.

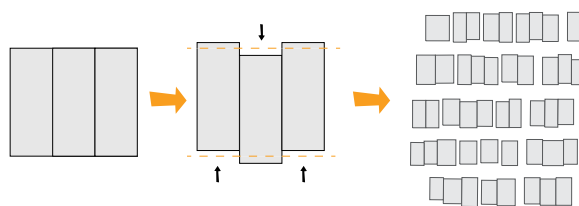
The area is built rather densely with few open spaces, this is done to avoid having the area overtaken by cars and to avoid having to put up various devices preventing the cars from accessing everywhere.

The streetscape in Stone Town and Ng'ambo is, as written previously, a maze-like structure of different paths, bringing variation to the area by twisting and turning in between the buildings. In the new area displacing the buildings along a somewhat linear path makes the variation in the streetscape. This structuring of the area are made to distinguish the new Creek Road from the existing parts of town as something new, with traces of the old.

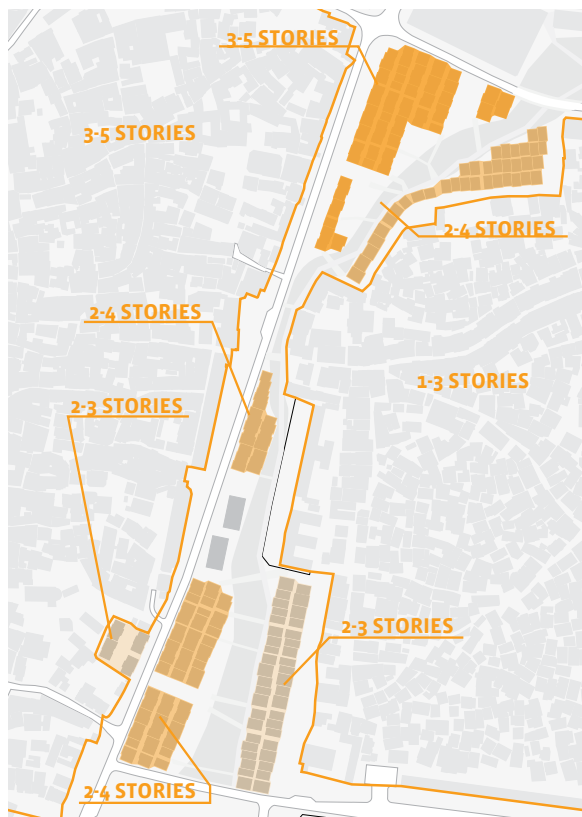
At its present state there are a parking space at the edge of Stone Town, this place have been built up to continue the distinctive edge and mark the transition between the historical Stone Town and the new Creek Road.

On the houses facing the green link are placed *barazas* similar to the ones used in both Stone Town and Ng'ambo. These *barazas* are placed in the area to give people walking through the green link and sitting in the area something to look at, as well as to keep traces of the cultural heritage still present on Zanzibar today.

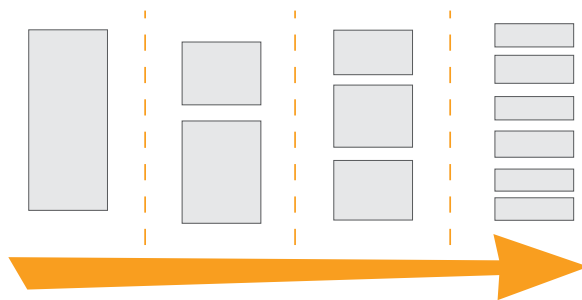
The specific usage of the buildings have not been defined, but it is desired to get commercial functions in the ground level along Creek Road and then a mix of commercial, housing and offices in the rest of the buildings. The specific designs of the buildings are not defined either, as there has been focused on their relation to the context and the urban and green link. Whether the buildings are build in the more traditional style or in a modern style is not important, as a variation in the building types will increase the diversity of the area even more.



III. 38 – Displacing of the buildings



III. 39 – Number of stories in the area



III. 40 – Breaking down the built structure



III. 41 – Build structure in 3D



III. 42 – Build structure in 3D

BWAWANI SWAMP

It is also the plan to develop the Bwawani Swamp area into an area with commercial functions as well as offices and living areas. In this design proposal there are however not made a proposal for this, but there are made some general principles for the development of the area.

The green link should run through the area creating the same atmosphere and experiences along it as in the rest of the area. There should also be made a sufficient bus terminal with room for the needed amount of busses and with shaded waiting areas for the passengers in the Bwawani Swamp area.

The buildings in the area should be structured the same way as the buildings described previously, with straight paths and variation in the area created by displacement of buildings and different building facades to bring diversity to the area.



III. 43– Proposal for the Bwawani Swamp



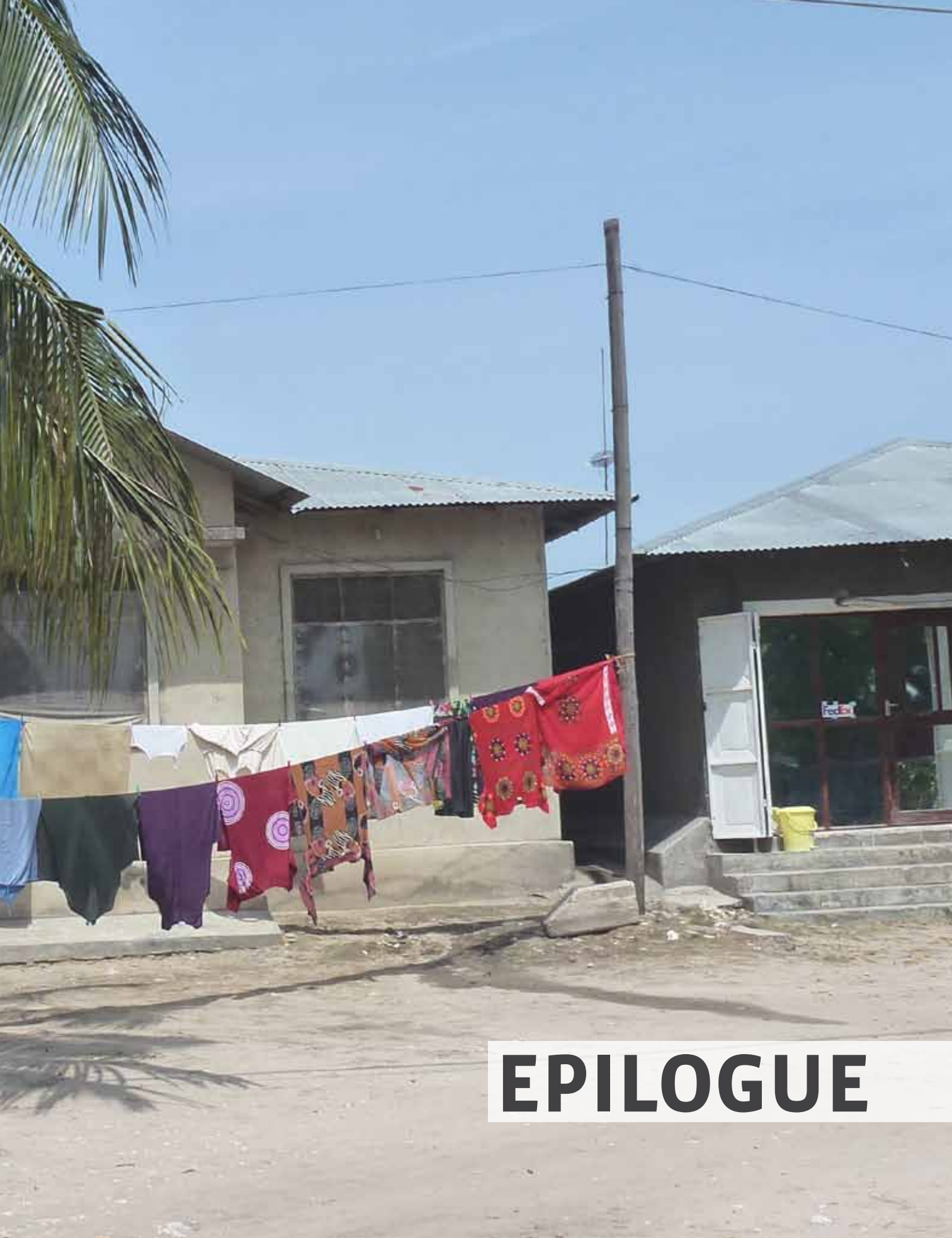
III. 44– Example of diversity in the facades

RECAPITULATION

By creating the urban and green link there are made a connection to the areas bordering Creek Road. The urban link is used to define the edge of Stone Town as well as it is a corridor of transportation and commerce. It gives the area a lively and diverse appearance, underlining the complexity of Stone Town with its rich history and densely built fabric. On the other side of the new Creek Road the green link brings nature and recreational activities into the area. The green link expresses simplicity and a casual transition between the porous edge of Ng'ambo towards the densely built areas on Creek Road and in Stone Town

By extending the market across the street it can expand according to the needs. The expansion of the area along with removing the vehicles from the area as well, gives more room for the informal stalls and for places where people can sit. With the multiplicity of the different types of sellers and with people walking through the area or sitting in the area, the atmosphere and diversity of the current market area is still evident, but with more room for life to unfold.





EPILOGUE

REFLECTION

Through history, Stone Town has been the place for the wealthy people while Ng'ambo were for the poorer and the natives. The creek previously separating the area made this differentiation even more visible. One of the arguments for the reclamation of the creek was to improve communication between the two parts of town, which in some way have happened and in others still have not. For instance is Creek Road dominated by heavy traffic flows of busses, private vehicles and trucks, which construct another barrier between the two parts of town.

A part of the vision for the future development of Creek Road is therefore to develop the area so it does not push the two parts of town further apart. During the design process there has been worked with several ways of doing this, for instance by totally removing the road, by reducing the traffic, by keeping the whole area as an open space and by letting Stone Town and Ng'ambo merge together to a blurred mass of buildings. It was during this process it was concluded that Creek Road is something different than Stone Town and Ng'ambo, and the rest of Zanzibar Town for that matter. Creek Road have its own character and history and therefore Creek Road should not pretend to be an extension of Stone Town and Ng'ambo, it should be a modern version of what is needed in the area allowing some of the present day characteristics of Creek Road show and be integrated with the elements added to the area.

Even though it is unwanted to built the new Creek Road as a merge between Stone Town and Ng'ambo, some of the characteristics of these areas are still applied to the new area. The structuring of the buildings is a combination of the contiguous blocks in Stone Town and the detached single family houses in Ng'ambo, creating an area shifting from structured rows of buildings to free standing hous-

es and connecting the two parts of town with the new buildings. The transition between the two parts of town could also have been done in many other ways, for instance by keeping the whole area as an open space providing the locals with a large area for recreational activities. If the area is developed into a large open space it can be feared that the tendency of sprawl and uncontrolled development happening on the edge of Zanzibar Town will spread to Creek Road where the value of the land is high, due to the prime location on the edge of Stone Town with close connection to the harbour. It is therefore chosen to develop the area into a place where the open spaces are defined by the built masses, and by giving them multiple functions there are a smaller risk that they will be developed as built areas later on.

To break down the barrier even more, the road have been confined and the size of it reduced. This is done to reduce the control it has over the area making it a secondary element adapting it to the new layout of the area and its functions. The road is used to mark the edge of Stone Town, widening the urban link by pushing the new buildings away from Stone Town and hereby getting more open space. During the design process there has been worked with several layouts of the road, for instance separating the lanes, having one on each edge and by having the road going around the new market linking it closer to the Darajani market. By separating the roads and placing them along the edges of the existing areas the new Creek Road will be clearly defined and be a third area separated from the two others. With a layout of the road going around the market there will have been made a choice to separate the Ng'ambo side from the market area, resulting in an unwanted separation of the two areas. Instead there have, as mentioned, been worked with using the layout of the road to mark the edge of Stone Town and how to reduce the dominance of the road by reducing

the amount of traffic passing through prioritising the pedestrians in the area by making it easier for them to cross the road.

The urban link is thought as an area mainly for the pedestrians, an area where there are room for them without having to wander in between parked and moving vehicles. In the northern part of the area, just before the Bwawani Swamp, the wide part of the pedestrian area shifts from the Stone Town side to the other side of the road. This is done to allow the urban link to transfer to the swamp area and be a continuation of the commercial street and an integrated part of the urban fabric, if it is wished for when the detailed plan for the area is made.

The green link is a significant element in the design proposal; it is placed as a natural element between the porous and perforated Ng'ambo and the new Creek Road gradually changing from low and open to high and dense, underlining the transition between the two areas. The green link has, as mentioned, multiple functions, serving the area as a recreational element and prevent flooding of the built areas, giving the green link both aesthetical and functional qualities. To prevent flooding and to lead the rainwater away from the built masses there have been worked with several different solutions during the design process, for instance underground pipes and implementing channels to lead the water away from the built areas. The underground pipes are an expensive solution and the pipes would be difficult to maintain when they are not visible. The channels were feared to not work properly as they will be filled with offal, as the open channels in the area today, and they would have no function out of the rain season. The green link is therefore seen as an aesthetical solution to the open channels which functions through out the year.

DISCUSSION

When working with an area in a foreign context it is important to have in mind that it is a different culture, climate and mentality. What works perfectly in a Scandinavian context might not work in the African context and the other way around. It is also important to remember that there are other things affecting the projects and the process in a country like Zanzibar, which is depending on development aid and other financial contributions. For instance are the developing and maintenance of the open spaces and green areas deprioritised, as there usually are other more pressing matters to use the money on. It can therefore be hard to find the money to construct an area like the green link. When bearing in mind that the area is thought to have a wild and self-maintaining character and the qualities it brings to the area, such as collecting rainwater and prevent flooding and being a recreational space for the locals, the costs of constructing the area might be given a lower priority compared to the qualities of the area. It might also be an option to finance the construction and maintenance of the areas by having the people buying the land plots and buildings in the area pay a fee used to fund such developments.

It is also important to know that the whole of the area would not be built right away, and maybe some of it will never be built, therefore it is necessary to establish the most important elements of the design proposal so that the intended overall character of the area are maintained. In this design proposal it will be necessary to establish the green and urban links along with the new market area. The green link is needed to collect the rainwater while the urban link is needed to define the edge of Stone Town, as well as create the commercial corridor, and the expansion of the market area is a necessity in order to accommodate the current needs of the area. It would therefore be a priority to build the market

halls along with the northern part of the buildings facing Stone Town as well as dig out to the green link and plant it with grass and trees, in order to achieve the overall vision of this design proposal.

With the increasing population the pressure on the historic Stone Town will increase as well, and the new Creek Road can therefore be used as a buffer, easing of some of the pressure from future demands for housing and commercial facilities. The new Creek Road can also be the gate to the city when arriving by bus. The passengers will then walk along the urban link experiencing the atmosphere and the commercial expression of the area already before arriving at the market area. When leaving the area walking south, the intensity of the area will calm off ending in a recreational oasis of parks, gardens and sports fields. An area with a totally different character than the busy commercial centre along the urban link, giving visitors an experience of the diversity Creek Road possesses, it is an area where everything is possible.

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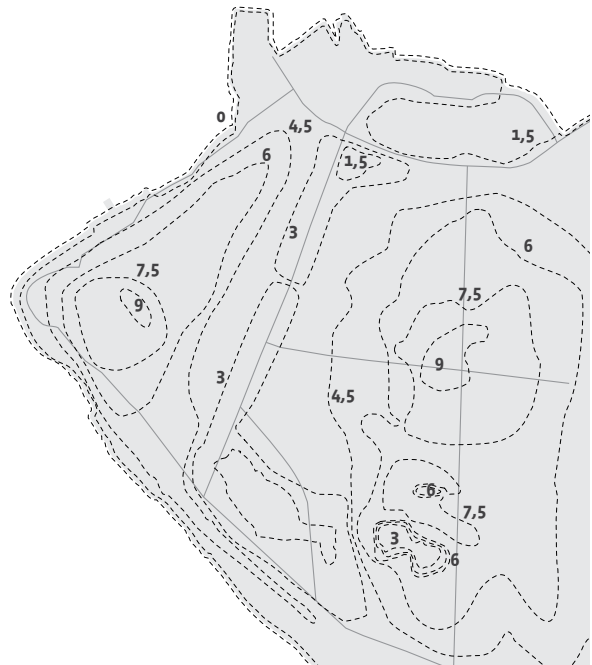




APPENDIX

APPENDIX 1 - TERRAIN

It has not been possible to get exact contour lines for the area surrounding Creek Road. It has therefore been necessary to create some relative contour lines to get an understanding of the area surrounding Creek Road. The contour lines are estimated from old maps, obviations on the site and from conversations with Peter Frost, who is working with Zanzibar.



APPENDIX 2 - BUILDING HEIGHTS

It has not been possible to get exact heights of the building surrounding Creek Road. Therefore it has been necessary to analysis the height of the buildings in the area. The analysis is made by placing an obstacle with a known height next to the building, taking a picture and from the picture calculating the height of each building. This will give an estimated height of each building surrounding Creek Road.



APPENDIX 3 - RAINWATER MANAGEMENT

The rainwater in the area has been a problem, and therefore it has been an important subject in the project to handle the rainwater in a different way than they are use to. In the area today different initiative has been made to handle the rainwater in the heavy rain season, but the problem is still in the area. By conversations with Jes Vollertsen, a hydrologic man, it is found that the different things can be made to handle the rainwater in the area. The first thing was to make a channel through the area, which will lead the rainwater out into the ocean. This is not a functional solution, because it makes Creek Road into a barrier. Another solution is to make delay areas for the rainwater. These areas will store the rainwater from Creek Road and its surrounding area and when it is possible the water will run through the channels in the area in to the ocean. In the project a stream valley has been made, which is functioning as a delay area for the rain water from Creek Road and the surrounding area. By estimation the area which is affecting Creek Road is an area of 40 ha. This area is calculated by looking at the terrain and seeing with area will affect Creek Road with rainwater. By calculation it is found that the size of the delay area should have a size of minimum 18229 m³, if the drain coefficient is 0.6, the rate of flow out of the basin is 0,1 m³/s and the water is aloud to exceed the volume every second year. The drain coefficient is estimated by Jes Vollertsen. For more information about have the calculation for the delay areas size see document on CD.

The amount of water the stream valley can hold, is found to be approximate 26525 m³, this means that it can hold 8296 m³ more than it is necessary.

$$\text{Fokus area} : 1712,92 \text{ m}^2 \times 1 \text{ m} + 1712,92 \text{ m}^2 \times 0,5 \text{ m} = 2569,38 \text{ m}^3$$

$$\text{Fokus area: } \frac{11478,53 \text{ m}^2 \times 1 \text{ m}}{2} = 5739,25 \text{ m}^3$$

$$\text{North of the fokus area: } 18216,74 \text{ m}^2 \times 1 = 18216,74 \text{ m}^3$$

$$\text{Stream valley} : 2569,38 \text{ m}^3 + 5739,25 \text{ m}^3 + 18216,74 \text{ m}^3 = 26525,37 \text{ m}^3$$

APPENDIX 4 - THE TRIP TO ZANZIBAR

Thursday 16.02.2012	Meet with a local taxi driver and had a tour around town with him
Arrival at Zanzibar	Had a meeting with Juma the director of the Department of urban and rural planning
Take a tour around town	
Friday 17.02.2012	Wednesday 29.02.2012
Experienced Creek Road by walking around	Walk around Ng'ambo with a local
Experienced the market area by walking around	Had a talk with John De Silva
Saturday 18.02.2012	Friday 02.03.2012
Had a closer look at the upper part of Creek Road	Tog pictures around Stone Town
Sunday 19.02.2012	Visit the conservation authorities
Making analysis of the area by photographing	Saturday 03.03.2012
Monday 20.02.2012	Made mappings of the highs of the buildings on Creek Road
Had a talk to Emerson about Zanzibar	Made mappings of the functions at Creek Road and its surroundings context
Meeting with the Department of urban and rural planning	Had a walk around Stone Town
Tuesday 21.02.2012	Made a plan of the things had to do the last couple of days
Meeting at the Department of urban and rural planning	Sunday 04.03.2012
Had a talk with Selma	Made mappings of the highs of the buildings on Creek Road
Meeting with the Department of urban and rural planning and the parliament, according funding and projects.	Made mappings of the functions at Creek Road and its surroundings context
Out seeing the area with Muchi. Had the talk with him about the pilot projects for upgrading some areas in the city.	Monday 05.03.2012
Wednesday 22.02.2012	Visit the municipality
Had a meeting with the artist John De Silva	Went to the Archives
Had a look around the House of Wonder to get an understanding of Zanzibar's history	Made sections of the area
Thursday 23.02.2012	Made high analysis of the area
Went to different places to get an broad understanding of Zanzibar's history	Tuesday 06.03.2012
Palace museum	Had a meeting with the department of transportation
Heritage society	Walking around the site taking pictures
Cultural center	Had a meeting with Juma
Monicars hostel	Wednesday 07.03.2012
Friday 24.02.2012	Had a meeting with Juma
Meeting with the Department of urban and rural planning	Had a meeting with Muchi
Went to Ziori(Zanzibar Indian Ocean Research institute)	Walking around the town and taking pictures
Had a meeting with Abdul Sheriff	Thursday 08.03.2012
Monday 27.02.2012	Journey home
Visit the Heritage Society	Friday 09.03.2012
Had a talk with Muchi	Arriving in Denmark
Tuesday 28.02.2012	
Went to the Archives	

