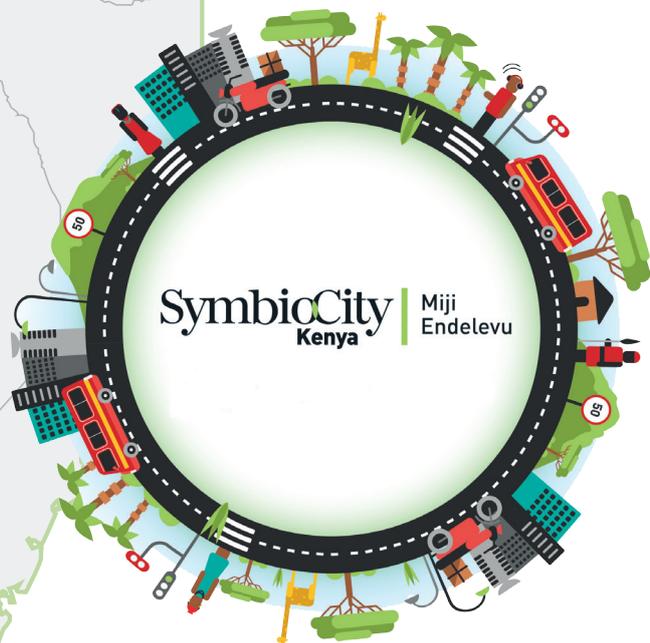


*»A well-planned, managed
and economically sustainable town.«*



URBAN SUSTAINABILITY REVIEW

ONTULILI MERU COUNTY



PREPARED BY:

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LIST OF ABBREVIATIONS

CBOs	Community Based Organizations
CBWGs	Community Based Water Groups
COG	Council of Governors
CIDP	County Integrated Development Plan
ECED	Early Childhood Education Development
FBOs	Faith Based Organizations
ICT	Information Communication Technology
NAWASCO	Nanyuki Water and Sanitation Company
SALAR	Swedish Association of Local Authorities and Regions
SC	Steering Committee
USR	Urban Sustainability Review
WARMA	Water Resources Management Authority
WG	Working Group
WRUA	Water Resources User Association

EXECUTIVE SUMMARY

OUR VISION AND OBJECTIVES



<p>Objective 1</p> <p>Create a green town: a) protect, conserve and enhance our natural resources (forest, water, land), b) develop a livable urban environment.</p> 	<p>Objective 2</p> <p>An efficient and hygienic waste management system (solid and liquid) for a clean town.</p> 	<p>Objective 3</p> <p>Improve water supply and ensure a resilient water supply system.</p> 
<p>Objective 4</p> <p>Ensure safe and efficient mobility in Ontulili for all road users (pedestrians, cyclists and vehicles) to enhance access to services and markets.</p> 	<p>Objective 5</p> <p>Create more commercial and employment opportunities in diversified sectors (agriculture, hospitality, transport).</p> 	<p>Objective 6</p> <p>Ensure accessible and affordable social (education and health) service delivery.</p> 
<p>Objective 7</p> <p>Promote affordable, safe and decent low-cost housing.</p> 	<p>Objective 8</p> <p>Provide better sustainable urban spatial planning leading to well managed town and enforced development.</p> 	<p>Objective 9</p> <p>Provide accessible administrative and urban management services within Ontulili.</p> 

APPRECIATION

SymbioCity is an approach to urban planning and management aimed at achieving sustainable development in our urban areas. This approach, modeled in Sweden, is being piloted in Kenya through a Partnership between the Swedish Association of Local Authorities and Regions (SALAR) and the Council of Governors (COG). Meru County, one of the seven counties selected to pilot the approach, identified Ontulili a border town for this programme. The people of Ontulili and the entire Meru County wish to thank the Swedish Government through the Embassy in Kenya, the Swedish International Development Cooperation Agency (Sida), SALAR and SKL International, and the COG for the opportunity to pilot the SymbioCity approach in Ontulili town.

Much appreciation to the SymbioCity Steering Committee for the overall strategic leadership, the Working Group for dedicated and effective stakeholder management during the drafting of this Urban Sustainability Review report. The outstanding commitment and contribution of stakeholders cannot go unmentioned. This includes the public, the County Assembly, agencies of the National government, Laikipia County Government, Community Based and Faith Based

Organizations

June 2017



1. CHAPTER ONE

INTRODUCTION AND BACKGROUND

Urbanization has left Kenyan towns and cities unable to cope with the huge demand for basic services such as water supply, road networks, social facilities and waste disposal and this has impacted negatively on residents. Environmental degradation, traffic congestion, inadequate water supply, insecurity, poor health, poverty, and unemployment, amongst other factors, have hampered the potential of urban areas to play their role as drivers of sustainable development.

Ontulili is no different. Whilst comparatively small in population size, it faces its fair share of the urban challenge. Roads in Ontulili and its hinterland are in a deplorable condition (narrow roads, poor drainage, blocked roads etc.). The urban area lacks adequate water and sanitation facilities, effective waste management, and storm water drainage systems. There is urban sprawl into the agricultural land and environmental degradation (pollution, consumption of non-renewable resources).

To address the urban challenge in Kenya, city managers must develop solutions which will tackle the myriad urban problems in an integrated, sustainable and holistic approach.

For Meru County, Ontulili town presented an ideal pilot as the gateway town to Meru County. At the border of Laikipia County and shoulder to shoulder with Nanyuki Town (Laikipia County Headquarters), Ontulili's potential for growth are as high as the possible urban challenges presented by the urban sprawl of Nanyuki.

The anticipated growth and effects from Nanyuki present the opportunity for the SymbioCity approach to be applied, tested and modelled to other towns in the county and wider Kenya. For our pilot town, the WG has represented the aspirations and desires of the people of Ontulili. This has been documented in this USR in the context of the challenges, opportunities and the resources available.

What is an Urban Sustainability Review?

An Urban Sustainability Review (USR) is both a process and a product. It is a process for jointly exploring urban areas from a holistic perspective; an inclusive way of selecting and describing key issues which the town needs to address in development strategies, and key assets and opportunities, which should be leveraged in development projects and actions. It provides a platform for open and transparent discussions and consultations on matters of local attention, as well as relations to global policies such as Sustainable Development Goals. The USR product is a report presenting the findings and conclusions of the process. This report concludes on the key findings from the process and sets out Visions and Strategies for addressing urban challenges while making use of existing assets. The USR is the initial phase of the SymbioCity Approach.

About the SymbioCity Approach

SymbioCity connotes synergy. It is a sustainable urban development model that was started in Sweden and has been successfully applied in developing countries such as India, China, South Africa, and Zambia. The model is generic but can be applied flexibly in specific local areas and urban contexts. The SymbioCity model looks at urban areas holistically and attempts to show how spatial, environmental, social-cultural, and economic factors are in fact integrated and mutually supportive. The approach recognizes that urban areas are created by people for the people and, therefore, should be inclusive of all people.

The SymbioCity approach considers different functions and systems in relation to one another. It is based on three interconnected core areas:

- The conceptual model,
- The institutional factors (including policies, laws, regulations and the way organizations are set up and managed), and
- Urban systems (the way in which urban areas operate, for example through transport, water and waste management systems).

Each of the core areas can be approached differently depending on context, objectives and focus of activity but it is advisable and useful to combine the three core areas. The objectives of the SymbioCity approach are:

- Support multi-disciplinary cooperation among stakeholders,
- Contribute to capacity building by mutual sharing,
- Develop a platform for dialogue and cooperation between stakeholders at the local level,
- Guide the Urban Sustainability Review (USR) at different levels using multi-disciplinary and sector approach,
- Contribute to city wide strategies for improving urban areas, and
- Help cities and towns to plan practical and integrated systems solution.

SymbioCity Kenya

The SymbioCity Kenya program is a partnership between the Swedish Association of Local Authorities and Regions (SALAR) and the Council of Governors (COG). Urban areas in Kenya are facing a range of problems whilst attempting to exploit their full potential in contributing to the growth of Kenya's Gross Domestic Product. SymbioCity Kenya provides methods and processes for developing solutions for these urban areas. As a flexible approach, it is capable of responding to local circumstances and moulding responses to the specific challenges faced in different locations – including our pilot area of Ontulili.

The program is being implemented through an agreement signed between SALAR, COG and pilot counties. It is supported by a technical team in Kenya and international experts on urban development at COG, facilitators and advisors drawn from Sweden. The program works to enhance and strengthen the existing urban structures and systems. Meru County, having been selected as one of the seven pilot counties in Kenya, is implementing this at a border town in Buuri Sub-county called Ontulili.

Project organisation/management structure

To execute the SymbioCity approach effectively and sustainably, a team comprised of a Steering Committee (SC) and Working Group (WG) was put in place. The SC is chaired by the County Secretary and has Chief Officer Lands, ICT and Planning as its Secretary (see composition in annex 1). The SC is the ultimate decision making body at the pilot county level. The role of SC is to ensure local ownership, provision of guidance and direction on strategic matters to the WG in the course of implementation of pilot activities.

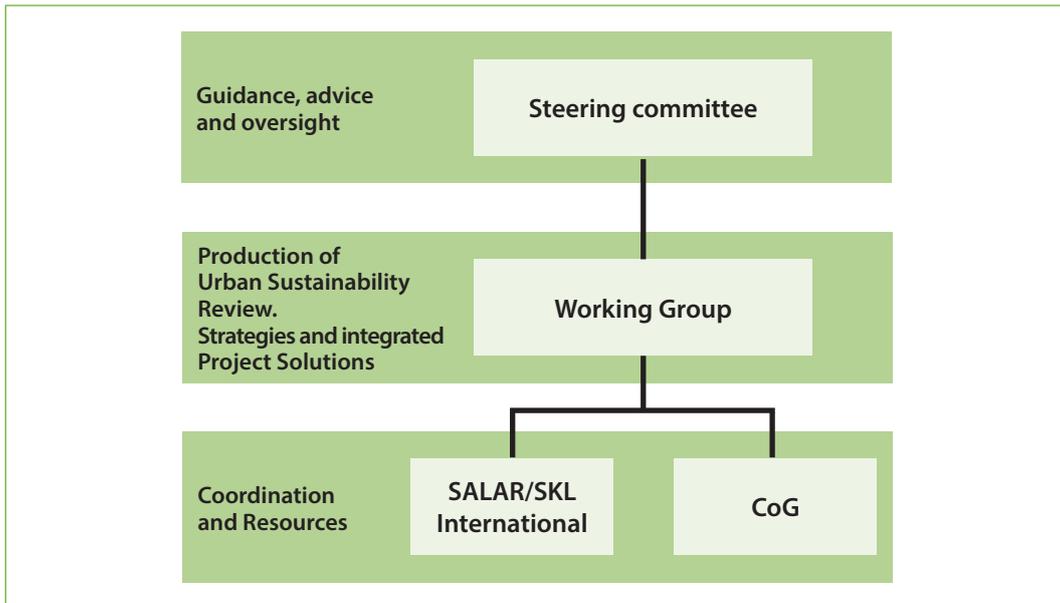
The WG is comprised of eleven members (see full constitution on annex 2) mainly members of staff for Meru county. The WG is headed by a Project Manager who is the champion of the SymbioCity Programme internally in the County. The output of the WG is this Urban Sustainability Review report. It is the secretariat to delivery on the SymbioCity Programme objectives. The WG conducted rigorous data collection, research and stakeholder engagement forum towards this end.

An awareness and familiarization stakeholders meeting was held on 12th August 2016 at Leisure Lodge Gardens Ontulili where the SymbioCity process was presented and Ontulili adopted as the pilot town. Work commenced in September 2016 with the development of a project framework comprising a work plan, stakeholders mapping and a communications plan (detailing who, why, where, what, when, and how we intend to communicate and engage with stakeholders for the purposes of information and data gathering).

The organization of SymbioCity Ontulili is shown in figure 1. Terms of Reference (ToRs) were developed for the SC and WG and their membership recorded (see Annex 1 and 2). The WG is led by a Project Manager (PM) appointed from county staff and meets regularly through the process.

Figure 1: Organization of Ontulili SymbioCity

Stakeholder participation is critical to the SymbioCity process and the development of this USR.



The WG has continually engaged stakeholders through secondary data collection, field visits, and interviews with various key informants and group discussions. The WG has also held a series of interlinked stakeholder workshops. These workshops have allowed us to bring together as many stakeholders as possible, to make the process as open and transparent as possible, and help us achieve a level of consensus.

At each workshop, we have reported back on the development of the USR to stakeholders, and have made efforts to integrate ‘participatory editing’ – making sure that stakeholders’ views are fully and fairly represented in this final USR. In the spirit of a living and shared document we will amend the USR where we have misinterpreted our stakeholders and where new information and data comes to our attention.

Project Participants

The Ontulili SymbioCity pilot is working with international and national facilitators, advisors and urban development specialists from the Kenya SymbioCity team and Sweden. The project is involving various stakeholders including political representatives (Member of the County Assembly), Chairman of the County Planning Committee Meru County Assembly, both National and County government officials, local opinion leaders, the private sector, business people, Makutano and Katheri market committee members, Faith Based Organizations (FBOs), Community Based Water Groups (CWBOs), service providers such as Nanyuki Water Supply And Sanitation Company (NAWASCO), transport providers, education institutions, industrialists, farmers, environmentalists, and residents plot owners.

Resource Required

The SymbioCity team and stakeholders are working hand in hand to understand better the challenges and opportunities facing Ontulili Town. This document brings together in words and pictures where we are now (our current situation), our aspirations for the future (our vision and objectives) and what we need to do to fulfill our vision (our priority actions).

We recognize that sustainable urban development of Ontulili is a long-term journey and this is our first step. Each action we take along the way will be a step in realizing our aspirations. We will push for the actions identified to realize our vision and objectives to be taken up in whole or part in the County Integrated Development Plan (CIDP) and a broader Sub-County Spatial Plan. In this respect, this USR is our manifesto for Ontulili. Under SymbioCity, we will now commence implementing change on the ground. The structure of the programme is to implement two projects – a rapid to implement ‘Quick Win’ and a larger and more complex ‘Change Project’ which will be implemented in 2018 and address a high priority area identified in this USR.



The Working Group meets periodically through the guidance of the SymbioCity Kenya Secretariat.

2. CHAPTER TWO ONTULILI TODAY

Ontulili, a name derived from Maasai language which means ‘Sodom apples’, our town represents a multi-cultural population of residents comprised of the Ameru, Agikuyu, Maasai, Borana, and Samburu to mention but a few. It is located approximately 210 km north of Nairobi City right connected by the A2 international highway that connects Kenya to Ethiopia. This road connects Ontulili to Isiolo–Marsarbit Moyale, and Nanyuki–Nyeri Towns. It is located north of the equator (00 01’). Ontulili’s location is strategic for connectivity locally, regionally and internationally which is an essential element for growth.

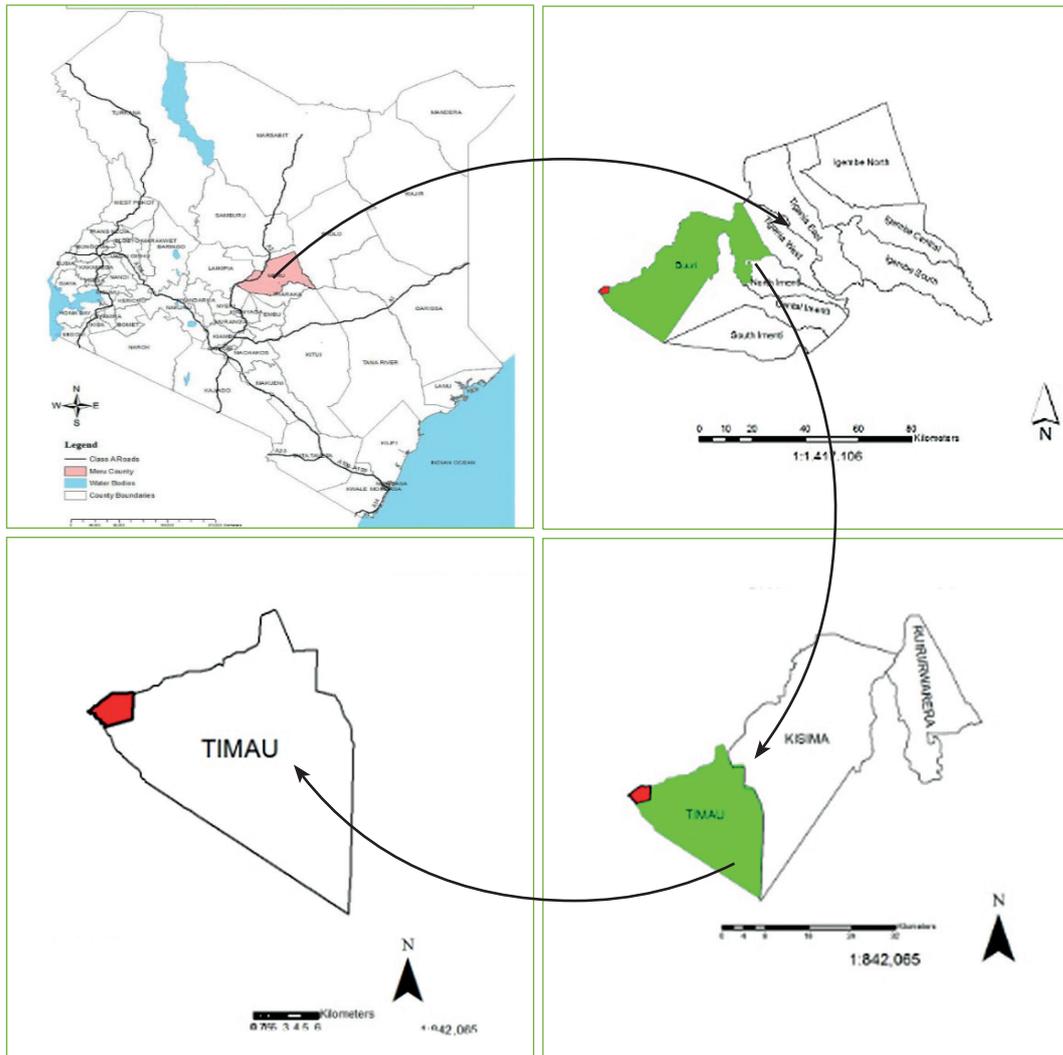
A border town of Meru and Laikipia counties, our town represents a link to leverage on inter-county opportunities. Meru County further borders Isiolo to the north, Laikipia to the west, Tharaka Nthi, Kitui, Embu, Kirinyaga and Nyeri to the south which makes our town highly interlinked regionally within a circuit that dominates the central Kenya region economy in terms of tourism, agribusiness and entrepreneurship.

Ontulili is a gateway to the Great Meru County ‘The Home of Mount Kenya’ bordering Nanyuki town to the west. Ontulili town comprises Makutano and Katheri areas which are mainly located astride the A2 Nanyuki–Meru/Isiolo highway.



Border entry between Meru and Laikipia counties

Map 1: Location of Ontulili



The focal geographical area of Ontulili covers five kilometers along the Nanyuki–Meru/Isiolo A2 highway and two kilometers into Meru County from the boundary of Laikipia County which constitutes the old Nanyuki–Meru/Isiolo highway covering an area of approximately ten square kilometers.

Map 2: The focal geographical area



The Two Towns

River Likii is the physical border that separates Ontulili and Nanyuki towns and as such Meru and Laikipia counties. This is a thin line or almost invisible divide as residents of these towns and counties continue with their day-to-day economic activities oblivious of this border line. Nanyuki is Laikipia County's administrative and commercial capital and the largest town in Laikipia County. It is a major commercial hub and the center for economic activity for Laikipia and its environs. Ontulili is arguably a suburban sprawl of Nanyuki (with a population of approximately 70,000) pointing at an active relationship between these two towns.

In order to understand this relationship, the voices and views from the residents of Ontulili have been captured by the SymbioCity WG. For instance Mr. Charles Gituma, a resident, says that Ontulili is visibly attracting workers from Nanyuki for purposes of residence. He says that almost 80% of new rental properties are being occupied by day time workers of Nanyuki. Mr. Marete, the chairman of the association of the plot owners in Ontulili, summarizes his view on Ontulili and Nanyuki as a blend of a parasitic and symbiotic relationship. He says that on matters to do with financial services, health care, security services (police station), Ontulili largely depends on neighboring Nanyuki. Laikipia County's also supplements Ontulili water supply through local water projects serviced by the Nanyuki Water and Sanitation Company (NAWASCO). He adds that Nanyuki is also a lucrative outlet for the agricultural produce of the rural Ontulili given its sizeable population of 70,000 and a vibrant hospitality industry.

The interconnectedness of Ontulili and Nanyuki is real. Ontulili has a lot more to offer Nanyuki if it is to advance in its status as envisioned in the implementation of the SymbioCity programme. One of the reasons a business community is setting up quickly in Ontulili is mentioned to be its proximity to Nanyuki. Twenty years past there existed no urban setting at Ontulili, and no anticipation of the potential of a gateway town into Meru County. The growth of Ontulili provides an opportunity to demonstrate a model urban centre.

It is interesting to note the glaring absence of any financial institution in Ontulili – not even a micro-finance institution despite the business community operating bank accounts. By contrast, Nanyuki has 13 banks, and is only approximately 2.5 kilometres away. This geographical closeness also provides answers to the absence of most social infrastructure including health care facilities and security functions in Ontulili. Yet residents still find Ontulili attractive. The growth and development of Ontulili is closely bound to that of Nanyuki.

Transport is yet another remarkable area where the relationship between these two towns can be highlighted. There is no bus terminus at Ontulili. The area is served by boda boda operators who ferry residents to Nanyuki Town or to rural Ontulili. Matatus plying the Meru–Nanyuki route also make roadside stops along the highway at undesignated points to offer the alternative transport. The residents of Ontulili therefore rely highly on Nanyuki for repayable transport. This includes both road and air transport from the busy Nanyuki bus terminus and the Nanyuki airstrip respectively.

Ontulili as well as Meru County remains a major food basket for Nanyuki Town. It is important to note that Laikipia County lying on the leeward side of Mt. Kenya, and with soils that are largely a mix of clay, black cotton and sandy soils is not conducive for agricultural activities. Consequently ranching is the major economic activities alongside tourism. The county is home to major wildlife conservation parks such as Ol Pajeta. This way, Ontulili plays a major role in supplying fresh farm produce to feed the people of Laikipia and to fuel the tourism and hospitality industry.

This relationship has richly informed the WG in identifying the urban sustainability gaps and to prioritize the interventions. The WG is aware that addressing the urban needs for Ontulili necessitates consideration of the role and development of Nanyuki. The WG has held consultative meetings with Laikipia County’s urban planners in order to understand the socio-economic dynamics of Nanyuki, and the spatial plan and other urban sustainability plans for Nanyuki Town. This analysis is important to the WG as it develops a Quick Win and Change Project for Ontulili that is in harmony to the progressive needs of the two towns.

Geography

Ontulili Town is in the administrative boundaries of Timau Ward, Ontulili location, Kangaita and Katheri sub locations.

Mount Kenya has a significant influence on the climatic conditions and development of the project area. The project area is 1947 meters above sea level. The elevation gives the geographical area a cool climate in contrast to what might be expected from the location. Underlying this is undifferentiated basement system of rocks consisting of gneisses, granites and schneist which have a strong foundation to promote intensive urban development.

The focal geographical area is drained by the Likii River and its tributaries flowing further downstream to the greater Ewaso Nyiro River. Likii River is faced with challenges of encroachment, pollution from untreated sewer and uncollected garbage, high water abstraction for irrigation and failure to protect the riparian areas/reserves. This has led to water pollution, water borne diseases and degradation. The area is designated as agro-ecological zones 3 to 5 which constitute medium to low agricultural production potential areas.

Due to its location in the tropics and particularly along the equator, Ontulili receives reliable sunshine throughout the year with annual mean sunshine of approximately 10 hours per day. The intensity is high resulting to high evapotranspiration rate. The moderate temperatures and high solar hours present an opportunity for enhancing solar power harvesting. The area has an annual average wind speed of 196 km/day. This wind speed is sufficient to generate wind energy. The vegetation in the project area mainly consists of exotic trees grown on farmland. Commercial growing trees such as cypress, pine and eucalyptus are a common feature in the farmland. With relatively large farms in the project area agro-forestry should further be enhanced at the household level.

Ontulili is located in a hinterland endowed with wildlife distributed in both Meru and Laikipia counties and extending to the Samburu Mt. Kenya wildlife corridor. The major five – lions,

leopards, elephants, buffaloes and rhinoceros – and other smaller species such as African wild dogs and gazelles are abundant, and the area therefore presents considerable tourism potential.

Weather is changing in the area with changing rainfall patterns and fluctuations in temperature: drought, changing land use patterns, land degradation, conflict over and the depletion of resources are a few of the effects of climate and weather change.

Socio-cultural dimensions

Population

According to the data available from Kenya National Bureau of Statistics (KNBS), the population of Ontulili and its environs was projected to about 11,206 in 2017. This population is expected to grow to 11,927 by 2020 and 14,681 by 2030. Of these, 3,821 people are urban residents whose population is expected to grow to 4,067 by 2020 and 5,006 by 2030. This growth projection is based on the prevailing conditions that assume a predominantly rural population. However, the current population growth is being seen to defy this projection. For instance, the urban population growth in Ontulili is seen to have grown more rapid largely attributable to the establishment of Laikipia County’s capital at Nanyuki at the advent of devolution.

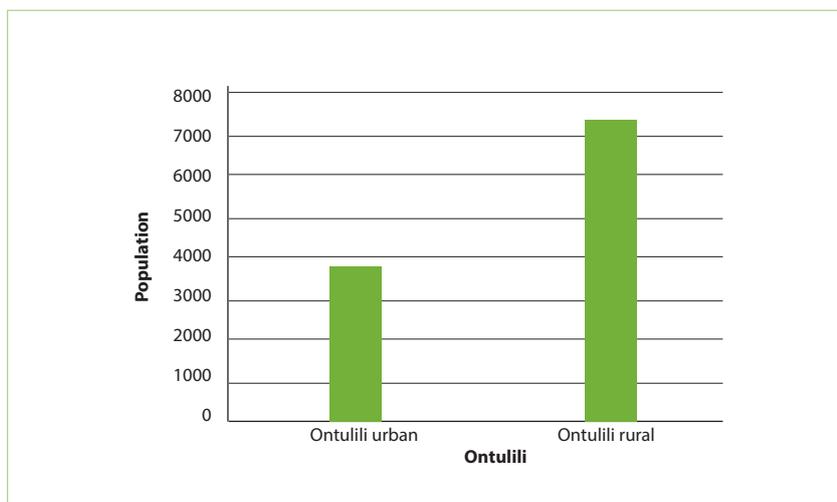
Table 1: Population Projections Ontulili and its Environs

Ontulili Town and its Environs Population Projections at 2.1% Growth Rate					
Year	2017	2020	2023	2026	2030
Ontulili urban	3821	4067	4328	4607	5006
Ontulili Rural	7385	7860	8366	8904	9675
Total (Ontulili)	11,206	11,927	12,724	13,511	14,681

Source: Projected from 2009 KNBS Census Report

Population pressure in Nanyuki is eased by flowing into Ontulili. The other factor attributable to this higher growth rate is the allocation of plots at Makutano area of Ontulili to individuals and now the selection of the town as a Pilot for the SymbioCity Kenya Programme. We have however represented below the projected population growth of Ontulili based on KNBS Census report of 2009.

Figure 2: Ontulili Population Distribution



Since the 17th century the Meru region was governed by a Council of Elders (Njuri Ncheke) who made laws and settled disputes. The Council of Elders has retained its traditional importance and is frequently consulted by government officials and ordinary citizens on a range of issues. The people of Meru have a rich culture which is envied by many other cultures found in Kenya: a unique culture that the people of Ontulili town and Ameru in general are proud to be associated with. The Meru people have been governed by the Njuri Ncheke Council. The Council is respected and to become a member of the Njuri Ncheke is the highest social rank to which a Meru can aspire. It is also the apex of the community traditional judicial system and the Council's edicts apply across the entire community. The Council has a host of functions to which it oversees including making and executing community laws, settling disputes, passing knowledge and norms across the generations and the enforcement of rules and regulations controlling the use and conservation of land and forest (resources).

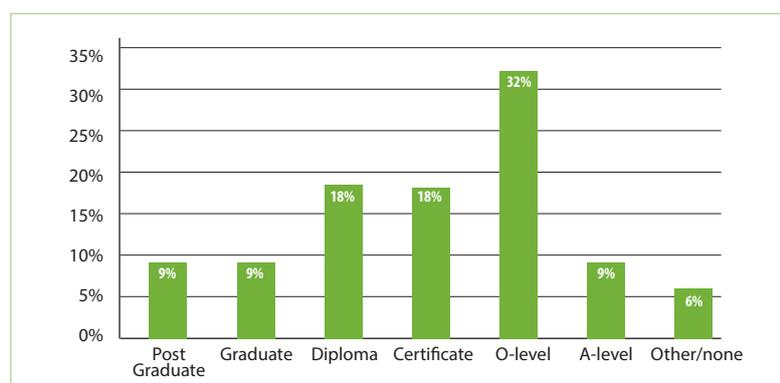
Although the community in Ontulili Town is predominantly Ameru the population is cosmopolitan and comprises several ethnic groups and religions. Meru people are predominantly Christians but there are also pockets of Muslims. The Christians include Methodists who are the majority, Catholics, Presbyterians and Anglicans. Ontulili Town residents are largely hospitable and society is increasingly cosmopolitan and attracting foreigners and investors. Ontulili has a number of religious institutions the Full Gospel Church, The Methodist Church, Kenya Assembly of God, The Catholic Church etc., this explains why the Ontulili residents are predominantly Christians.

Education

The mandate for education enhancement in Ontulili falls with both the County and National government. The County Government is charged with early childhood education (i.e. kindergartens and nursery schools) and Technical Vocational Education Training (TVET). The responsibility for primary, secondary and college education falls with the National Government. The County Government is keen on education development and has initiated a number of projects towards this, including:

- Construction of Early Childhood Development Education
- Purchase of teaching and learning materials
- Capacity building for ECDE leaders, youth polytechnics instructors
- Purchase of tools and equipment for youth polytechnics
- Introduce feeding programmes
- Provide ICT integration
- Establish home craft centres

Figure 3: Levels of education at Ontulili



Source: field survey, 2017

The population of Ontulili is well educated with 32% having post-graduate education while diploma and certificate constitutes each 18% (see figure 3 above).

Health

Within the project area there is only one health centre (St. Teresia) and one clinic both of which are located in Katheri area. The health centre is a Mission hospital sponsored by the Catholic Church and offers outpatient and laboratory services only. In the wider area of Ontulili people seek health services from Nanyuki (level 5 hospitals), Timau (level 4 hospitals), Ontulili health centre, and the Kithithina and Sirimon dispensaries. Only Nanyuki and Timau hospitals offer inpatient services.

The bed capacity in the entire Timau ward is seven and this is only available in Timau Sub County hospital. These facilities lack support staff, infrastructure and a mortuary, and experience inadequate water supply. There is only one ambulance in the entire Sub County of Buuri. Medical waste is disposed of through crude dumping, open burning and County Government collection which is not in compliance with health regulations and standards.

Table 2: Medical Personnel in Ontulili–Timau Ward

Personnel	MALE	FEMALE	TOTAL
Doctors	1	2	3
Pharmacists	2	–	2
Clinical officers	1	4	5
Nurses	7	15	22
Mid wife	–	–	–
Any other (PHO, PHTs)	1	1	2
Total	12	22	34

Source: Sub County Public Health officer 2017

The main health challenges within the project area and the entire Timau ward include:

- Lack of inadequate portable water,
- Lack of sewerage systems,
- Lack of incinerators in health facilities for disposal of medical waste,
- Lack of a mortuary,
- Inadequate public sanitary facilities in market areas including Makutano and Katheri areas,
- Poor town planning,
- Inconsistent waste collection by County Government,
- Shortage of staff including health staff (see Table 2), and
- Lack of means of transport for health staff.

The main priority investments in the health sector in the Pilot area according to the Sub County Health Officer are:

- Provision of adequate portable water,
- Provision of sewerage system,
- Proper planning of urban areas,
- Efficient waste collection disposal and management systems,
- Provision of incinerators in health facilities,
- Construction and equipping of modern mortuary,
- Construction and equipping of a modern theater, and
- Provision of means of transport for health staff.

The County Government of Meru is focusing on improving both curative and preventive health in Buuri Sub County and is generally focused on equipping Timau Level 4 hospital through construction and equipping a theatre, and constructing an inpatient ward in Timau ward (CIDP). The County Government is focused on reducing morbidity and mortality through purchase of

five motorbikes/bicycles and generators for the public health officer in Timau ward. To improve the health condition of the people of Ontulili there is need to invest in health facilities, capacity building and equipping the facilities including providing adequate and consistent supply of drugs.

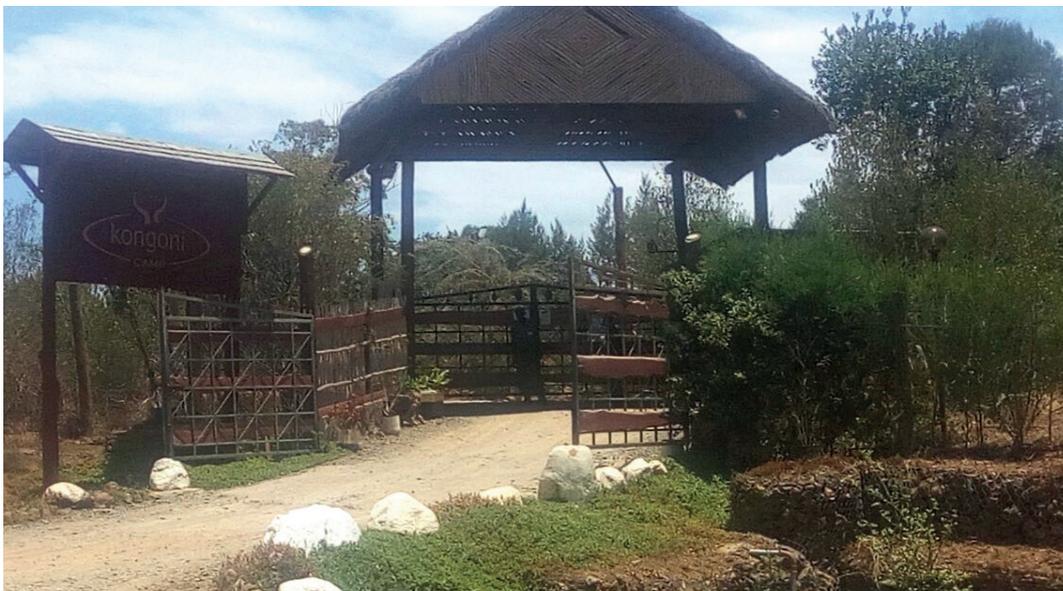
Economy, commerce and employment

Our town's location ideally favors robust economic activity. It has access to an international link road (A2), it is adjacent to the Laikipia County headquarters (Nanyuki) and is in an agriculturally rich environment. Ontulili Town's economic prospects are reasonably good. Currently agriculture, general trade (mostly small holder retailing) and a limited amount of tourism make up Ontulili's economic activities.

The agricultural sector employs more than 70% of the working age population from the area. Over 5000 acres of land are being utilized for large scale production including: rose flowers, peaches, broccoli, rosemary, snow peas, French beans, runner beans, blue gum forest, apiary (bee keeping), sheep doper, maize and dairy. Typical small scale farm establishments' are 1.5 to 2.5 acres, and mostly practice mixed farming.

The average daily income for a small scale farmer is approximated at Ksh.300, while the average monthly salary for worker at larger farms is Ksh.15,000. These are characteristics of a relatively low income economy. The formal sector employs about 1% of the population. These are employees in white-collar jobs (accountants, managers, supervisors and technical staff) in the large-scale farms, hotels, schools and health facilities in the area. The average monthly earning in this sector is approximated at Ksh.35,000.

Tourism makes a contribution to the local economy. With a National park situated in the environs of Ontulili, alongside spectacular scenic views of Mount Kenya, hotels have been attracted to the area such as Kongoni Hotel in Ontulili see foto below.



Kongoni, a tourist facility in Ontulili

As already noted the economic interconnectedness of Ontulili with Nanyuki towns is of significant interest: Ontulili's growth prospects are intricately intertwined with Nanyuki's. Laikipia County records about 86,000 tourists' arrivals per year against a bed capacity of 1230 and therefore presents an attractive opportunity for investments in the hospitality industry in Ontulili.

This could provide additional employment opportunities to the 25% of the population approximated to be without jobs, and provide a ready market for the local agricultural produce, and local cultural and artefacts.

Commerce

Ontulili is a commercial centre for the more than 11,206 residents of Ontulili location. The local trade is primarily based on the agricultural produce grown in the area and sold at grocer kiosks lined up along the busy Meru–Nanyuki highway and at retail shops within the town. The target buyers are the commuters plying the busy highway and Ontulili residents. It is observed that these urban residents demand household consumer goods (such as soap, flour, salt, sugar, mboga, sukuma wiki and other vegetable) at kiosks set within the town and close to their rented apartments. They form a distinct clientele for the local market in contrast fresh farm produce sold in moderately large quantities from kiosks.

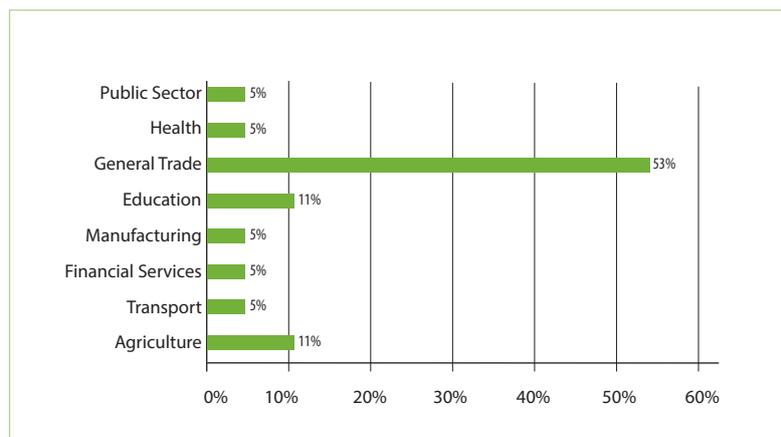
It is estimated that there exists close to 500 commercial outlets in the 10 km² area under focus in the Ontulili SymbioCity Pilot (Source: County Revenue Officer Timau). These however have not diversified in their trade as they sell the limited agricultural local produce. There also exists a service sector that provides services in hotels, barber and salon shops. The sector is not well developed either and the demand for this services is mainly by the local populace.

On the other hand, there are a fairly distributed number of brokers for the Nanyuki market where a ready market for agricultural commodities exists. With vast land tracts occupied by ranches and conservancies, Laikipia has little land actively utilized for agricultural activity hence a high demand for farm produce from neighbouring counties (Meru, Nyeri and Nyandarua). A number of commercial premises are up-coming in the area attributable to a visibly growing urban settlement.

Infrastructure development by the County Government of Meru in the wake of devolution is another factor creating the appetite for private sector investment in the area. The County government has gravelled the roads, employed garbage collectors in the town and has put in place an administrative office at Timau town (20 kilometres away along the A2 Highway) that is addressing the needs of the residents.

To assess the level of employment by various sectors at Ontulili, the WG conducted a survey (see figure 4) which revealed that general trade accounts for 53% of the total employment in the area. This involves all commercial activities around the supply of basic household goods, fresh produce, Jua kali products, boutiques among other basic products that are retailed mainly for domestic use. Agriculture and education each account for 11%. Transport (mainly boda-boda), financial, manufacturing, health and public sectors account each at 5%.

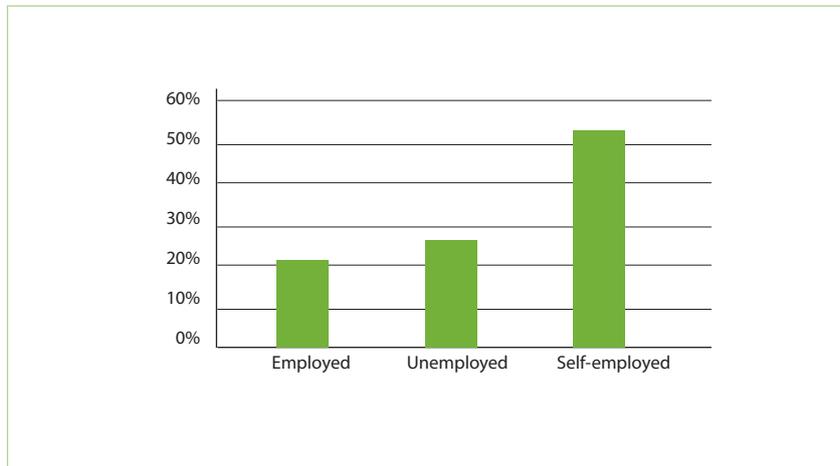
Figure 4: Industry / employment sector



Source: Field survey, 2017

In terms of employment most people are self-employed (53% of the people interviewed). Most of these work in the trade and commerce, agriculture, and transport, with 20% of the interviewees recorded as formally employed in public institutions (schools, health facilities), manufacturing and in the agriculture sector. The survey also suggested that unemployment stands at 25% as indicated in figure 5. This calls for intervention measures to harness this potential.

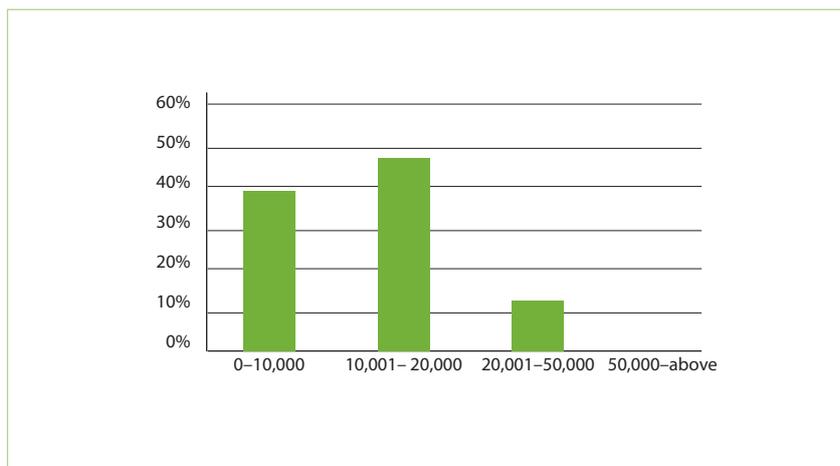
Figure 5: Employment status



Source: filed survey, 2017

Figure 6 below shows the levels of monthly incomes in Ontulili town and its environments. The monthly income of less than Ksh.10,000 account for 39%, monthly incomes in the range of Ksh.10,000 -20,000 constitutes 48% while those earning between Ksh. 20,000 -50,000 constitute 12%. Given these ranges of monthly incomes the local economy appears to be relatively healthy.

Figure 6: Levels of monthly income (Ksh.)



Source: field survey, 2017

Urban Systems and Functions

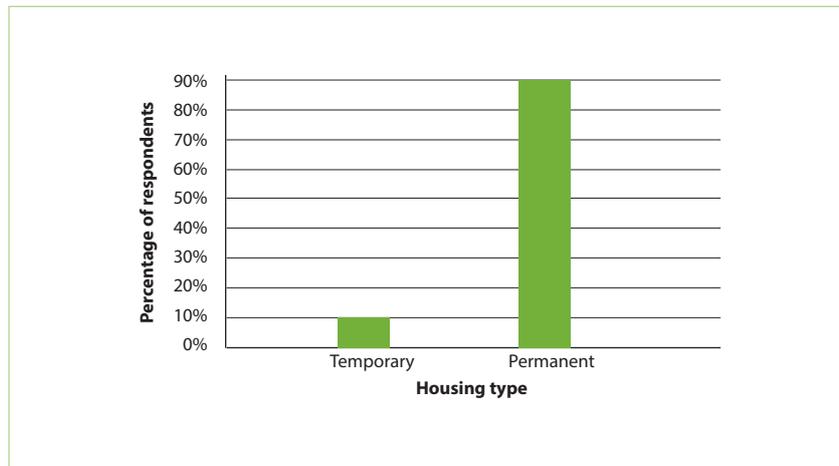
Various environmental services are available to, and needed by, the residents in our town. They include water supply, sanitation, solid waste disposal, storm water management, green/open spaces, parks, and flower gardens.

Housing

Ontulili serves both as a commercial and residential area. A survey conducted by the WG revealed that 17% of those interviewed indicated that they have their home at Ontulili, 23% commercial while 60% for both. Approximately 77% have their dwelling units in Ontulili area. The survey further reveals that 90% of people dwell in a permanent house with only 10% living in temporary houses.

Permanent houses are constructed of dimension stones, cement and corrugated iron sheets while temporary structures are constructed of timber and corrugated iron sheets. It is observed further, that temporary structures are mainly found around the proposed bus terminus, open air market and the main highway. These structures were mainly constructed as stalls but most of these, particularly within the bus terminus and the open air market, have been converted to dwelling units. In the light of this, the survey sought to assess the social infrastructure that impacts on the quality of life in Ontulili. This has revealed the absence of sanitation services, adequate water supply, environmental services and a relatively low perception of security.

Figure 7: Nature of housing types



Source: field survey



Temporary structures/shed along the A2 highway

Ontulili is attracting an increasing number of high-rise buildings ranging from one to four stories. These developments are being used for commercial and residential purposes. Their proximity to the A2 highway and Nanyuki makes them easily accessible.



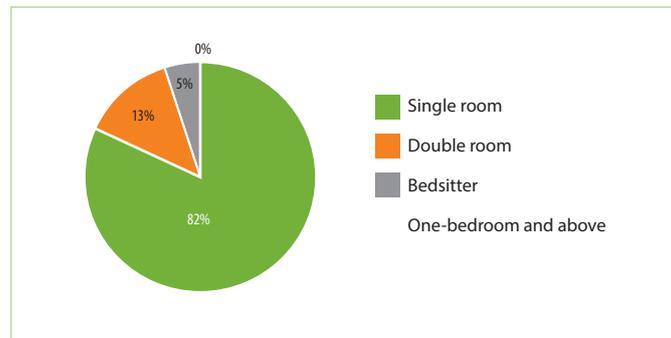
High-rise residential development at Ontulili

It is interesting to note some prepositions in the Draft Nanyuki Integrated Strategic Urban Development Plan (ISUDP) which envisaged the Ontulili area as a low density residential area and agricultural zones. The ISUDP indicates that the area is endowed by relatively large portions of land and proposes a limited/or regulated subdivision and urbanization on the larger Ontulili hinterland.

To visualize the nature of dwelling units the survey shows that the major type of unit is single unit with 82% of those interviewed living in a single unit. This finding infers a relatively low-income cadre of residents. This is amplified by the finding that none of those interviewed lived in a unit larger than one bedroom (see figure 8).

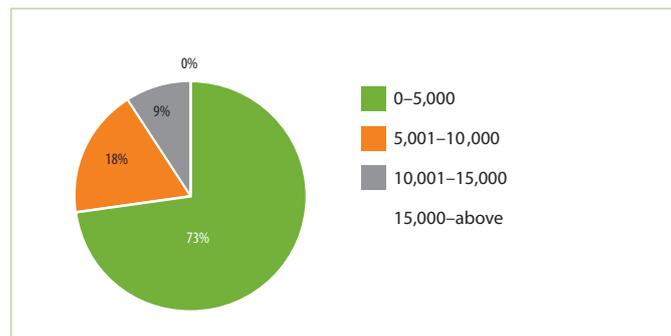
The rental prices for these units are as shown in the figure 5 where majority of the residents (73%) pay less than Kes.5000 monthly rent with only 18% and 9% of the people interviewed paying Kes.5,001–10,000 and Kes.10,001–15,000 respectively.

Figure 8: Types of rental dwelling units



Source: Field survey, 2017

Figure 9: Rental prices



Source: field survey, 2017

The peripheries of the pilot area however, reveal the presence of bungalows and mansions occupied by the high-income class. These are mainly owner-occupier residences.

Water

Water Supply

The main water supply to Ontulili Town and its environs are community based water groups (CBWGs), Nanyuki Water Supply and Sanitation Company (NAWASCO) and, with devolution, the County Government of Meru. Thirteen water groups supply water to Ontulili Town and its environs drawing water from the rivers Likii, Ontulili and Sirimon. Some of these CBWGs are Murimi, Miharege A and B water, Mukuria, Kiranga, Katheri Ontulili, Maraoni, Nyakairu and Kajehovah water project.

These CBWGs have different membership and face a number of challenges

- Inadequate water from the source/intakes together with increasing demand resulting from growth in the area,
- Poverty – group members are unable to pay the annual contributions for maintenance and servicing of the water supply systems, and
- Exorbitant charges by the Water Resources Management Authority (WARMA) to draw water from source – group contribution is minimal.

To address the water challenge these groups have some future plans;

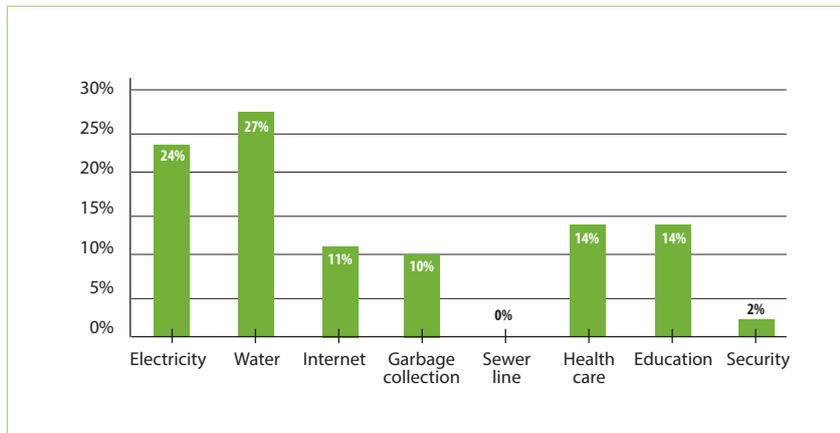
- Construction of a dam and water storage tanks for each household to tap raw water which will increase the water storage capacity of the residents,
- Construction of a one major/common intake for the 13 groups which will help with water management,
- Encourage the use of modern water conservation technologies/methods such as drip irrigation as opposed to sprinklers and other water saving devices in the household like the modern small shower, and
- Engage other stakeholders for support e.g. County Government, National government, WARMA, and Development Partners.

Despite there being Water River User Association (WRUA) and WARMA there are water conflicts (wars) particularly at the source (intakes). WRUA has the responsibilities of ensuring: a) equitable water sharing, b) coordination of the activities of the water groups, and c) facilitation of the collective bargaining with WARMA in the project area and its environs.

NAWASCO, the main supplier of water to Nanyuki Town and Ontulili, has an intake weir located about 4.5 kilometres into the Mount Kenya forest where water flows under gravity about 6 kilometres to the treatment works located between the Army Barracks and Mount Kenya Safari Club. The old water system was built in 1957 and the new one in 1987. The design capacity of the system is no longer tenable given the population increase in Nanyuki and its environs including Ontulili Town which rarely gets any water.

Household water sources include piped water, rivers/streams and boreholes. Almost all the households in Ontulili and its environs have a water reticulation system where the piping system has either been done by NAWASCO or the various community based water groups. The water is mainly used for domestic and agricultural purposes. Ontulili's primary water source is the river Likii fed from the slopes of Mount Kenya. Access to water is a problem in Ontulili Town: only 24% of the residents have access (see figure 10). Most of the residents purchase water at Ksh.20 per 20 litres jerry can. This is on the higher side given that 39% of the town residents are low income earners on less than Ksh.10,000 a month. There is a need to increase the number of people connected to piped water as this is considered safe in comparison to other sources.

Figure 10: Percentage access to water and other social amenities



Source: field survey, 2017

The demand for water for the various uses is increasing due to accelerated development and population growth. Transformation in the agricultural sector from rain fed to irrigated farming, coupled with the impacts of climate change and human activity are exerting a lot of pressure on the traditional sources of water. Demand for water due to the changes in land use – residential, commercial, and greenhouses for horticultural purposes – means that existing waters sources are insufficient to meet demand.

The main water challenge is inadequate water supply/sources and this is even more acute during the dry season. Ontulili is on the leeward side of Mount Kenya and therefore is already a water deficient area. There are also challenges of dilapidated water infrastructure-pipes and storage facilities, and illegal connection which is a common occurrence in the area whether it is NAWASCO or CWBGs supply infrastructure. Inadequate collection and storage facilities are also a major challenge due to population increase and the reluctance to increase collection capacity particularly through rainwater harvesting. There are high operational and maintenance costs occasioned by vandalism of water facilities and high statutory remittances to NAWASCO).

Sanitation

As a fast growing town, Ontulili is faced with difficulties in providing sustainable sanitation infrastructure to its residences. It is characteristic of a peri-urban area without sanitary facilities. Residents are exposed to severe health and environmental risks because they are not served by a conventional sanitation system.

Waste water/Liquid waste disposal

The challenge of liquid waste disposal in Ontulili town is compounded by lacks of proper conventional liquid waste disposal system. Ontulili lacks a sewer line as indicated in figure 10 above. The nearest wastewater treatment works is located in Nanyuki town along Air Base road. The capacity of this facility is inadequate. Another treatment facility is located about 70 kilometres away in Meru town making it very expensive to transport waste for treatment. Due to inadequate capacity the liquid waste system is constantly leaking and flow along the roads in the urban area. This poses a serious health issue due to leakages and threat of contamination of drinking water, particularly during the rain seasons.

Liquid waste in Ontulili is mainly disposed of through pit latrines, septic tanks and soak pits. Pit latrines are the most common methods of wastewater disposal. Use of pit latrine is common in the rural hinterland and informal settlements within the proposed open air market and the bus terminus. The town has only one sanitary facility (public toilet) which is dilapidated and

overstretched. The County Government is constructing another toilet next to the old one.

Waste water services are available from the neighbouring Nanyuki Town. Septic tanks are emptied by private waste exhauster mainly from Nanyuki and transported to Nanyuki sewerage treatment site. The cost of exhausting is relatively high (over Ksh.15,000 per exhauster) and unaffordable for most residents. This means that residents opt to channel the wastewater to the available open spaces and along the roads; or simply prefer to use pit latrines. The law requires that every building should have an exhaustible septic tank particularly in urban areas. No developer can be granted development permission/approval without providing for a septic tank. Upcoming buildings have installed septic tanks. Old buildings/constructions in the town still use pit latrine as the means of waste disposal.



Wooden/temporary pit latrine

Pools of wastewater can be observed in Ontulili resulting from leaking septic tanks and soak pits. Both unsightly and unhygienic this is evidence of a poor wastewater disposal system that creates an unpleasant smell scape and provides a breeding ground for mosquitoes. Grey wastewater from bathrooms and kitchens is also not re-used despite insufficient water supply in Ontulili town. This water could be easily and affordably re-used for purposes such as watering gardens in the homesteads, kitchen garden where the residents can grow vegetables for domestic consumption and watering plants.



Liquid waste pools in Ontulili Town

Storm water

Ontulili Town lacks proper rainwater storm infrastructure because the road network is not developed. The town has no storm water drains and culverts. During the rainy season there is stagnant water and flooding is evident. This problem is exacerbated by the fact that the road network in the market area is not fully opened and therefore rain water cannot flow efficiently. There are no measures in place to harvest storm water, particularly road runoff, for other uses such as agriculture. The likelihood of storm and wastewater mixing and leaking into water supply system is high. During the rainy season storm water and waste water end up in the same drainage channels posing both health and environmental risks to the residents.

Solid Waste

The main types of wastes generated in Ontulili town and its surroundings are: domestic/household, agricultural waste, metal scrap waste from garages and fabricators, plastics and polythene bags from commercial/market enterprise, construction and dead animals. Like many towns Ontulili is facing a growing challenge of inorganic waste which is non-biodegradable. Methods of solid waste disposal in Ontulili can be categorized into three:

- a) **Crude dumping/indiscriminate disposal:** of solid waste which disregards any precautions. This is the main method of solid waste disposal. It causes a lot of nuisance and many health hazards arising from decomposition and creates a breeding ground for mosquitoes. Leachate contaminates water, solid waste heaves are unsightly, pose a risk to animals, and emit undesirable smells. A dirty and unmanaged town environment is a disincentive to investment.
- b) **Burning:** of both the organic and plastic waste is a common sight in Ontulili and the outlying area. This causes smoke and pollution of the environment. As the town grows this will become a serious environmental problem if left unmanaged. The absence of green open spaces deprives Ontulili of pollution/carbon sinks and 'air cleaners' to counteract this practice.
- c) **Composting:** is common in the outlying peri-urban and rural/agricultural areas. This is a sustainable method of waste disposal particularly for bio-degradable waste where the composite is used as manure.

Waste handling and waste sorting

Solid waste is rarely sorted at source. Waste is mixed together: paper, plastic, glass, metal scrap and food. Unsorted at the point of generation, current waste management practice does not support an efficient collection, transportation and disposal system.

Solid waste collection

The County Government of Meru provides the only waste disposal services within Ontulili Town. Ontulili is served just once a month by the only solid waste collection lorry assigned to the whole of Buuri Sub County. Waste is transported over 50 kilometres from Ontulili to the Nkunga dumpsite – currently the only one in the Sub County. Only 10% of field survey respondents noted they were able to get this service.

The town has one small solid waste collection point (receptacle) and solid waste is littered all over the town centre. The open disposal of polythene bags has created a notable eye soar to the residents and visitors to the town. Our town has only one market cleaner an indication that there is no capacity for solid waste collection and disposal. Cleaning and waste management of pose a serious challenge to the potential development of the town.

Public Space

The town has no public open spaces, parks or flower gardens. The only existing green spaces are found on private land and these spaces are not accessible to the public. The farms are well planted with woodlots. But these woodlots are not indigenous and consist of exotic and high water consumption tree species (such as eucalyptus, cypress and cedar).

Energy

Energy is a key in supporting economic growth in any town. In Ontulili the main energy sources are electricity, petroleum, fuel and wood. Electricity is generated from hydro-power and supplied by Kenya Power and Lighting Company (KPLC) from the national grid. Most of the energy sources however are non-renewable. Use of green energy such as solar, wind, geothermal, and biomass (biogas) – which has less negative environmental impact – has not been embraced. The main sources of lighting energy are electricity and paraffin. There is very minimal use of renewable power sources such as solar and wind for lighting.

Cooking fuels include firewood, charcoal and paraffin in the rural and informal areas. The proportion of people using gas and electricity for cooking is small. Continued exploitation of wood for fuel poses a great challenge to the forest areas and other vegetation which result in environmental degradation.

Progress could be made in tackling this threat through educating residents on the planting of trees and shifting cooking fuels to renewable energy such as biomass.

Ontulili is well covered by electricity. Kangaita sub location has five transformers with Makutano and Katheri having one each. With the Kenyan Government's 'Last Mile Connectivity and the Lighting Our Towns Programme' Ontulili has seen installation of street lighting along the A2 Highway and extension of electricity to the unconnected areas. All education and health facilities are connected to electricity network. In the last few years the Kenyan Government has lowered the cost of connectivity and the focus has been to the poor and particularly informal settlements. The internal streets of Makutano and Katheri do have street/security lights. To enable Ontulili Town to be a 24 hour economy, and to reduce insecurity, street lighting is necessary as this creates an enabling environment for businesses to function the night.



Mobility and Accessibility

Transport modes

Public transport, private cars and non-motorized transport are the main modes of transport. Public transport consists of matatus, buses, taxis, boda-boda which ply most of the routes. The major routes in Ontulili are Makutano–Nanyuki, Makutano–Timau–Meru, Nanyuki–Makutano–Katheri, Makutano–Kangaita, Katheri–Kangaita.

Walking

Walking is the most common mode of transport in Ontulili. It is environment and health friendly. By contrast, there is a complete absence of pedestrian walkways in the project area resulting in people walking on the roads and exposing them to risk of accidents. For Ontulili town to develop in a sustainable manner the provision of pedestrian infrastructure is necessary.

Non-motorized and intermediate modes of transport

Bicycles, human–animal drawn carts, donkey and donkey/cow drawn carts to transport produce, are a common mode of transport in our town. Our town lacks provision for this mode of transport which is used to transport mainly agricultural produces and animal feeds. Consuming less energy and therefore contributing less to pollution and the deterioration of the environment, non-motorized modes of movement are inherently sustainable and should be supported in Ontulili town. Motorcycles (boda-boda) are the most common intermediate mode of transport. These are suited to the area as most routes are unviable for public transport. Boda-boda penetrate deep into the rural areas and are cheaper for the poor folks. They

are adaptable to various routes and terrains. However they are highly exposed to insecurity at night. There is inadequate provision for non-motorized and intermediate modes of transport facilities in Ontulili town.

Road network

Road network development, maintenance and improvement in Ontulili is the mandate of the County Government of Meru and road development authorities: Kenya National Roads Authority (KeNHA), Kenya Urban Roads Authority (KURRA) and Kenya Rural Roads Authority (KeRRA). The County Government is charged with the maintenance and improvement of County roads. However the road network is extensive, development and maintenance budgets inadequate and, consequently, a road network in a perpetually poor state inhibiting the efficient movement of people and goods.



Nanyuki-Meru Highway A2 road

The main road in Ontulili Town is the A2 Nanyuki-Meru-Isiolo highway which provides good connections regionally to Isiolo, Laikipia, Nyeri and other major towns. It is managed and maintained by the KeNHA. This is a tarmac road, generally in good condition though lacks supporting infrastructure sufficient including roadside drainage, green spaces, Matatu stages, road signage, and speed bumps.

The old Nanyuki-Meru road is in a very poor state. Although the road is tarmac its condition has deteriorated and has been rendered impassable. This road is an important loop between Makutano and Katheri in Ontulili Town and therefore its improvement is important to foster the sustainable development of Ontulili Town.



Depleted old Nanyuki–Meru A2

The road network to the agricultural hinterland is in poor condition, and particularly so during the rainy seasons. Most roads are narrow measuring six metres wide. The urban network is mainly 15 metres wide and six metres wide service lanes in with. Only a few of these roads are graded with the remainder of the road network in poor condition, and generally unopen (particularly the Makutano service lanes rendering loading/offloading, and access to emergency services and the collection of waste difficult). The road network lacks supporting infrastructure such as drainage, culverts, and bridges. The result is the quick deterioration of the road network and attendant high maintenance costs. Other supporting infrastructure such as bus/matatus stops, speed bumps, signage and road markings are non-existent: haphazard Matatu stopping exposes pedestrian and other road users to the risk of accidents.





Unopened service lane and eroded road in Ontulili



Boda-boda parked at the centre of a road

Ontulili Town has only one proposed bus/Matatu terminus which is inadequate and not developed. Whilst designated (approximately 0.05 ha), the site has been encroached and market sheds developed around it. If encroachment is not contained the land may very soon be grabbed.

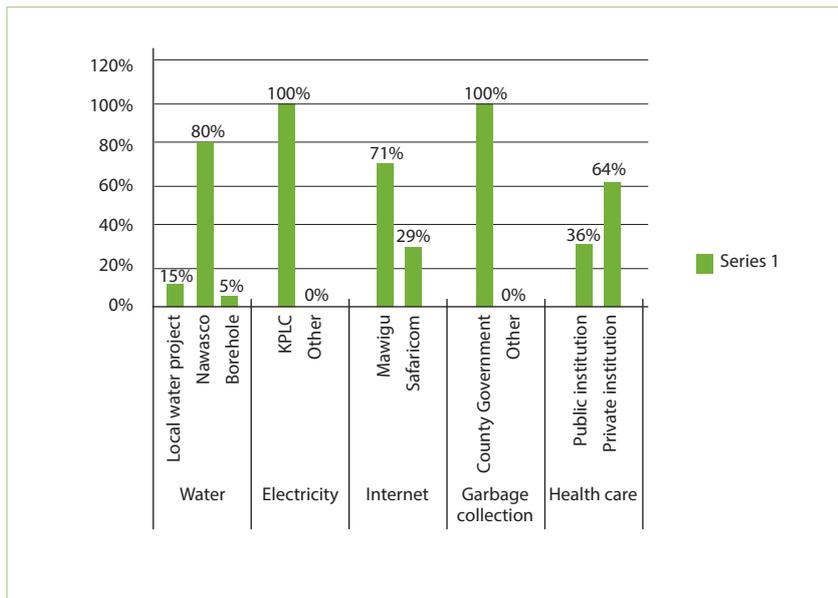
Parking facilities

There are no parking facilities for non-motorized and intermediate modes of transport. These are parked on private properties, along the roads and in undesignated open spaces. The absence of effective terminus and controlled parking facilities in Ontulili means no revenue can be collected by the County Government.

Information, Communication and Technology (ICT)

The project area is well served in terms of ICT facilities. Over 90% of the residents have access to radio and 70% have access to television. Most national radio stations have good coverage and a considerable share of listenership.

Figure 11: Internet provider and usage



There are local vernacular radio and TV stations: including Inooro, Coro, Muga, Citizen, KBC and Mwariama. Majority of the national TV stations have also good coverage: including KBC channel one, Citizen, NTV, QTV, KTN Home and KTN News Channel.

In terms of mobile telephone communication Ontulili is served by the five cell phone networks: Safaricom, Airtel, Yu, Orange and Telecom wireless. Over 90% of the people have access to cell phones while access to internet is on the lower side. A weak signal is the major challenge for the ICT sector in Ontulili and environs. In Ontulili, internet is provided by Mawingu and Safaricom with 71% and 29% usage respectively. Postal services have declined significantly due to stiff competition from courier services from private sector. Matatu Saccos are also actively involved in the courier business.

3. CHAPTER THREE

KEY SUSTAINABILITY ISSUES

Ontulili has outstanding opportunities for sustainable growth. It is located in an agriculturally rich hinterland endowed with natural resources (rich agricultural land and forest wildlife) and has a population with skilled labor force. It is close to Nanyuki Town and has relatively good infrastructure to enhance social and economic activities. Ontulili is poised to grow rapidly. At the same time, the town's potential is threatened by a number of challenges: inadequate water supply, lack of environmental services, poor and inadequate social and economic infrastructure, deteriorating agricultural production, climate change and the development of neighboring Nanyuki town. A SWOT analysis gives a good picture of the state of affairs in Ontulili Town and its environs.



Our strengths, weaknesses, opportunities and constraints

A strengths, weaknesses, opportunities and constraints (SWOC) analysis workshop held in Ontulili Town involved a host of stakeholders. It identified the following as the strengths, weaknesses, opportunities and constraints:

STRENGTHS	<ul style="list-style-type: none"> • Strategic Transport network: National Highway A2 Meru–Nanyuki–Isiolo; proximity to Nanyuki Airstrip, Isiolo airport and Lamu Port South Sudan; Ethiopia transport Corridor (LAPSSET) project; proximity to Nanyuki railway terminus; a vibrant Maturu/bus service industry; corridor to the northern frontier (northern Kenya), and; existing roads network in the hinterland of Ontulili urban area. • Administrative services and security: presence of regular police; presence of barracks for the Kenya Defense Force (KDF) and British Army Training Unit Kenya (BATUK); availability of services from Ministry of Interior and Coordination of National Government at grass root and supportive County Government of Meru and National Government. • Natural resources: ample productive land, rivers (both permanent and seasonal–Ontulili, Likii, Sirimon rivers); Ontulili and Mount Kenya forests; proximity to wildlife parks, reserves, conservancies and ranches (Mount Kenya National Park, Ex-lewa conservancy and other nearby conservancies and ranches in Laikipia County). • Tourism: a gateway to Mount Kenya, conducive climate, and proximity to the equator. • Industrial: seven timber yards and quarries/crushers. • Education: existing educational institutions both within and outside Ontulili – both public and private secondary and primary schools. • Health: existing dispensaries in the Ontulili and Sirimon areas, private health service providers and proximity to Nanyuki referral hospital and level five hospital. • Agriculture: large scale farms, animal production, dairy farming, horticultural farming (green house irrigation), settler farms (that provide employment) and agricultural extension services. • Communication: presence of major mobile phone communication providers, Safaricom and Airtel and strong communication networks. • Existence of a commercial hub: proximity to Nanyuki Town making Ontulili a preferable residential area. • Hospitable people and peaceful and cohesive communities. • Ready manpower and youthful elite generation. • Availability of markets for goods produced locally. • Social amenities: Ontulili resource centre. • Adequate land for expansion. 	<ul style="list-style-type: none"> • Poor state of feeder roads. • Lack of water supply for both domestic and for agriculture purposes (irrigation), and very poor water harvesting system. • Low connection to electricity. • Insecurity due to inadequate police posts and informal settlement • Inadequate educational institutions, including a lack of tertiary and higher education institutions (no campuses). • Poor drainage system, and a lack of a sewerage system. • No hospitals, only one dispensary. • No stadium, social and recreation centres. • Resource degradation: deforestation, land erosion, diminishing livestock. • Climate change/weather variability • Lack of awareness on investment. • Increasing population causing pressure on existing resources. 	WEAKNESSES
OPPORTUNITIES	<ul style="list-style-type: none"> • Availability of sources of green energy (solar, wind, biogas). • Proximity to Nanyuki providing high potential for residential development and a market for agricultural produce. • Possibility of harnessing opportunities from the hospitality industry for both international and national tourists, with the best route to access Mount Kenya and the northern part of Kenya. • Conducive climate for settlement and tourism. • Presence of rivers thus providing the potential for building dams and embracing modern irrigation technologies. • Ideal for complex markets. • Advantages presented by devolution. • Tapping the locational advantage at the boarder of three counties. • An abundant ecosystem that can be tapped to support development in a sustainable way. 	<ul style="list-style-type: none"> • Impacts of climate change: unpredictable rainfall, decreasing water supply, soil erosion and flooding of seasonal rivers. • Environmental: declining tree cover due to unchecked rampant human activities; increase in human wildlife conflict and poor sanitation. • Social: rising population putting pressure on available resources, uncontrolled land subdivisions and moral decay (including drug abuse and crime). • Information communication technology: cyber theft, cyber bullying, pornography. • Economic: competition from neighbouring towns especially Nanyuki, lack of ready market within the area, poor road networks, reduced produce due to erosion, pests and diseases, lack of well-established commercial and other institutions and rampant corruption national wide. • Political: unhealthy political competition, frequent change of leadership stalling development projects, desperate dirty politics that can lead to conflicts. • Insecurity: high rates of unemployment leading to increasing youth crime; and, the global threat of extremism (e.g. youth being recruited to terror groups like Al-shabab and Isis). 	THREATS

Our Assets

Our stakeholders have identified the main assets as:

- Natural assets: that include land, forest, physical features (Mount Kenya), wildlife, livestock, energy and water.
- Strategic location assets: a gateway to the great Meru County, the Home of Mount Kenya, border town between Laikipia and Meru County, slopes of Mount Kenya, fertile agricultural hinterland.
- Existing infrastructure assets: social facilities (health, education); telecommunication network; energy/power transmission line, and; A2 highway and other road networks.
- Human assets: growing population and labour force, educated youth, and local culture and hospitable people.

Our main sustainability challenges

Environmental sustainability issues

Climate change and weather variability/environmental degradation and a lack of green and recreational spaces

The focal area is located on the leeward side and on the foot of Mount Kenya. The impacts climate change and variable weather patterns are pronounced. Ontulili is experiencing rapid changes in land use from a range-land/agricultural use to urban land uses. This shift in land use has occasioned subdivision of land into small uneconomically viable portions for agricultural production. This has had negative impact resulting in diminishing natural resources i.e. forest, wildlife and the degradation of land. The degradation of forest is a direct result of inadequate rainfall and the consequent severe droughts. More intense rainfall has resulted in soil erosion (gully and sheet), which is further compounded by deforestation/land clearance and inappropriate farming methods.

Inadequate rainfall, lack of water harvesting facilities and an increasing population has led to high water demand making Ontulili a water deficient area. The environmental sustainability of Ontulili is further compromised by the lack of awareness on the impact of climate change and weather variability and exposure to adaptation techniques that can enhance resilience of the area. Adaptation techniques include construction of roads for water to enhance irrigation water supply from runoff, the introduction of new farming methods and good farm management practices e.g. crops and tree species to combat the impact of climate change and increase productivity, and the use of green energy (solar and wind) to protect and conserve the environment.

An awareness programme on the impact of climate change and training the Ontulili residents on adaptation mechanisms will ensure that Ontulili is more resilient to the effects of climate and weather changes. Our area is completely deficient in parks, recreational and open spaces. These critical elements of a sustainable livable town, they act as air purifiers and environmental cleaners. Without such areas we undermine the quality of life in Ontulili and will discourage any anticipated tourism development initiatives.

Inadequate water supply for domestic, commercial and agricultural purposes

Ontulili has witnessed fast changes in land use and declining resources. The destruction of Mount Kenya and Ontulili forest, inadequate facilities to harvest, store and distribute water has led to falling water supply. The shift from rain-fed to irrigated agriculture means more extraction of existing water stock, with rapid immigration to Ontulili and urban sprawl from Nanyuki Town, increasing urban water demand. This has exerted a lot of pressure on existing resources. Ontulili is a 'thirsty' town. Inadequate water for agricultural purpose means diminishing agricultural productivity and in consequence less income for the resident farmers. The aggregate result is increasing levels of poverty, food insecurity and conflict over resources.

Inadequate basic environmental services resulting in an unhealthy and unsafe urban environment

Ontulili lacks an efficient and effective waste management system. The town has no sewerage reticulation system and relies on private waste exhausters which are expensive and unreliable. This means the existing sanitary facilities (septic tanks, soak pit and toilets) are inadequate and overstretched. They are not exhausted regularly leading to leakage of wastewater into storm water drains. Unsightly free standing dirty water is common in Ontulili. The lack of effective solid waste management aggravates the environmental situation in Ontulili. Raw randomly dumped garbage and polythene bags can be seen everywhere in the town and the surrounding environs. The burning of garbage is commonplace in the town generating smoke and pollution (from the burning of petrochemical products).

Unsightly garbage piles are a disincentive to business and investment. Airborne pollution and the contamination of water supply systems due to seepage cause both respiratory and water borne diseases. The cumulative effect is an unsustainable environment characterized by poor environmental health conditions. The need for open spaces, green areas and a clean town will become critical as the population grows, the amount of waste generated goes up and the demand for public green spaces increases. The community must be made more aware of the environmental challenges and their role as environmental guardians.

Economic sustainability issues

Sub-optimal economic development, productivity and growth in employment opportunities
The major economic activities in Ontulili are commerce/trade and agriculture. These economic sectors are the major employers. Poor agricultural performance and productivity (see environmental sustainability issues above) is impacting negatively on incomes. According to our field survey the agriculture sector employs 11%, the majority of the residents earn less than Ksh. 20,000 a month and 25% of the respondents are unemployed. There are a good number of local residents who are redundant and without jobs. This results in low purchasing power of the people and impacts the health of the local economy.

The lack of a vibrant manufacturing sector and high unemployment level paints a gloomy future for Ontulili town. There are very few financial services in Ontulili which can support the people financially meaning they cannot access affordable credits/loans to start their own business enterprises.

The County Government of Meru has established the Microfinance Corporation whose objective is to give credits to the poor people venturing into income generating activities. There is also the Meru County Investment and Development Corporation with which private investors can partner in any business venture. Our stakeholders have noted two particular economic challenges: the need to optimize the potential of tourism development, and the development of a sustainable integrated market as a hub (a sense of identity and place for the newly emerging Ontulili).

Optimizing tourism development potential

The natural environment is the primary (if not the only) tourism asset available in Ontulili. Environmental conservation is therefore critical. Deforestation and vegetation clearance directly undermines the asset. The introduction of the shamba system in Ontulili and Mount Kenya forest has been a disaster. The shamba occurs where mature trees have been harvested and the community is allowed to farm this harvested area for a period of 2–3 years before replanting trees. After replanting the same community continues to grow food crops as way of weeding for the trees whilst they attain a certain height. In practice, tree seedlings have been uprooted by those working the land as the soils are very fertile.

This cycle of mismanagement has resulted in soil erosion and decline in water supply. Conservation measures are therefore necessary starting with the elimination of the shamba system, and a series of measures to counteract the degradation cycle including: reforestation and afforestation, supporting tree growing through creation of nurseries, adoption of modern methods of farming (for example terracing, intercropping and harvesting water for farming), increasing the capacity of Kenya Forest Service and Kenya Wildlife Service to protect and manage our natural resources and training for hospitality and conservation.

Sustainable integrated market development (Ontulili hub)

Ontulili lacks a centre and sense of identity: it is a town in its infancy. It lacks an effective market to act as catalyst for development. The hinterland of Ontulili is a rich agricultural area producing mainly horticultural produce which are sold and consumed elsewhere. The development of a modern market with cold produce facilities to act as a whole-sale market would very much boost the economy of the project area. Storage facilities would reduce waste of farm produce due to its perishable nature and offer an opportunity for farmers to sell when demand and prices are high. The market would provide an alternative for the fresh produce sheds which have been sprouting haphazardly along the highway. The construction of a market would also provide parking space for vehicles hence enhancing the revenue base of the County Government of Meru. Beside the facility should be able to provide alternative green energy by generating energy from solar and waste.

Social and cultural sustainability issues

Inadequate social (education and health facility) service delivery and accessibility

Social facilities in Ontulili are inadequate and are located in the hinterland of the town. The town has two ECDC centres in Makutano and Katheri which have no capacity in terms of facilities (classrooms, offices, staff housing, sanitary facilities and playgrounds) and where they do exist they are in a pathetic state. The teacher pupil ratio is below the required standard of one teacher per twenty-five pupils. Primary and secondary schools face the same problems. Support for students through bursary funds by both levels of government is inadequate and some deserving poor students do not benefit from the bursary funds due to corruption and lack of transparency.

Health facilities are provided by both the public and private sector. In Ontulili Town health services are only provided by the private sector which is out of reach and unaffordable for a large segment of the resident population. The public health facilities are not well capacitated in terms of medical personnel, equipment, drugs, mortuaries, ambulances, in-patient services and other support infrastructure.

A lack of affordable housing for all citizens

As a dormitory town Ontulili is experiencing increasing demand for housing mainly generated from Nanyuki Town. With the establishment of Nanyuki as the political and commercial capital of Laikipia County, the town is attracting a lot of activities and people but has inadequate housing supply. Ontulili has become an alternative residential area for Nanyuki's population creating demand for housing. Though housing supply is increasing it is insufficient to meet this demand and has resulted in rising rental prices. This has disadvantaged certain segments of the Ontulili population by making housing unaffordable particularly for low-income people, and is manifest in the development of temporary informal settlements to fill the gap. The informal settlements are located within the proposed Makutano open air market, bus terminus and along the Nanyuki–Meru highway.

An unsafe and insecure environment

An insecure and unsafe Ontulili is a disincentive to investment. The development of informal settlements in Ontulili is seen as a haven for thieves and drugs. The town is experiencing increasing insecurity due to unemployment and as the town grows this problem will become even more acute. Insecurity has a social and economic dimension and will undercut the economic potential of the area especially in relation to tourism. Inadequate lighting in the Makutano and Katheri areas results in the feeling of insecurity and discourages after-dark business.

A poor transport network and mobility

Ontulili has rudimentary feeder roads and very poor road surface conditions leading to rutting and erosion. The town has no pedestrian and cyclist facilities, a lack of shade, and no designated bus/Matatu stopping areas. There is poor accessibility to social (health/education) facilities. Very poor highway-hinterland connectivity discourages efficient and spatially balanced growth of Ontulili (beyond highway ribbon development).

Governance, administration and management sustainability issues

Inaccessible administrative services for local citizens

As an emerging town Ontulili has no administrative and management structure to oversee the delivery of basic services to the town's residents. The only County Government structure serving Ontulili residents is the Ward Administration Office located in Timau and responsible for serving the wider area. It is headed by the Ward Administrator. This service is rarely available on-the-ground in Ontulili. The coordination and linkages with, and between, the various sectors and actors that serve Ontulili town residents is inefficient. There is weak involvement of the local community in decision-making and a lack of information on what the County and National governments are doing and planning for the town. There is no community support centre where residents can get services, report complaints or receive information. Corruption is common with both County and National governments officials and there is no accountability to the residents.

Uncontrolled development resulting in the sub-optimal use of land

Ontulili lacks a spatial planning framework. The result is uncontrolled and the disorderly development of socio-economic activities. Lack of land use zoning has negative impacts on the environment and creates an inefficient town. The development of fresh produce sheds along the A2 Highway and the existence of informal settlements/shanties in Ontulili is a clear indication that the town has no plan to guide and regulate development. The increasing subdivision of agricultural land into commercial and residential use without any guidance is a threat to the food security of the area and encourages urban sprawl. Land use conflicts are also emerging in Ontulili between urban and agriculture development, and urban / agricultural development and environmental conservation. This has resulted in the degradation of natural resources, particularly Mount Kenya and Ontulili forest reserves, which are being denuded through the shamba system.

Our Capacity

Institutional capacity

The National and County Government have created policies, laws, regulations and plans for sustainable urban development (listed in References). However most towns in Meru County, including Ontulili, do not have Integrated Spatial Plans which are a statutory requirement for budgeting guiding the government expenditure and for accountability purposes. There are no County Spatial Plans, Land Use Plans and Urban Spatial Plans to guide and coordinate socio-economic development.

There is a lack of County towns/urban areas legislation, policies and guidelines for the planning, management and governance of urban areas and public involvement in this process. There is poor coordination in the implementation of policies and legislations amongst the various development agencies. Duplications in implementations between different departments/agencies also exist. There is lack of awareness of existing policies, laws, plans and guidelines by the residents of Ontulili.

The County does have administrative structures (11 departments that are adequately staffed and capacitated) to implement its delegated mandate for physical planning and related matters for sustainable urban development. The county government's structure of constitutes

Organizational capacity

Devolution has not been cascaded to the village and grassroots level where Village Committees and Village Administrators are the lead agencies or champions of local development. Urban areas (i.e. municipalities, towns and markets) should have management boards and committees according to the law which should manage, provide services and ensure the public is involved in the running of their towns. But these boards and committees are yet to be constituted. In the absence of boards and committees there is no public engagement in the management of the towns as provided for in the existing legislation.

The County Government of Meru has young management systems that are not fully developed. For a town to get funding to implement its development agenda there must be an integrated plan which Ontulili lacks. Urban priorities are also not clearly identified as there no public engagements particularly focused on urban areas during budget preparation. Public involvement is mainly during the preparation of the CIDP which is not town specific in term of improvement of urban areas. Even where budget plans have been prepared, there is no certainty that resources will flow and not be diverted to non-priority areas. There are no visible decision making/enforcement structures in Ontulili except the Ward and Sub County development Committees at the upper level. Grassroots structures such as urban fora do not exist. Just like any other town in Meru, Ontulili does not have a budget to run its affairs.

Ontulili town does not have the capacity in terms of personnel, capital assets and equipment. There is lack of public awareness about existing policy and law, the role of the different departments of the County Government of Meru as their obligation to residents of Ontulili. There are no deliberate methods outside political representation to hold delivery organizations to account, even with the increasing presence of ICT. Public participation organized by the County Government is ineffective in delivery as a direct reflection of ineffective representation.

Financial capacity

There is scant information on the various source and amounts of revenue to the County Government from our town or the extent of allocation of financial resources. While there is absence of accounts on how much financial resources are allocated annually to our town for development expenditure, data on the allocation from the national level to the county government is available. Additionally county budgets and the commitment by the county government leadership to provide the requisite financial allocation to the SymbioCity programme demonstrate the financial ability to executing this programme. For instance, Ksh. 2 million has been proposed in the FY 2017/18 budget to support the operationalization of the SymbioCity programme. Other county departments have also provided for development activity in our town in line with the needs identified during the preparation of this USR report.



4. CHAPTER FOUR

OUR VISION AND OBJECTIVES

Vision:

»A well-planned, managed and economically sustainable town.«

This is our vision for the future Ontulili (20 years from now). The development of this vision took shape in the context of the broad national and international urban development agenda and, most importantly, the views and aspirations of all our stakeholders. Some of the policy guidelines considered in the development of this vision include the Sustainable Development Goals (SDGs), Kenya Vision 2030 and the first County Integrated Development Plan (CIDP). The local residents together with stakeholder groups articulated the town's desired future state as follows:

1. An environmentally friendly town – emphasizing use of alternative (green) energy, waste efficiency (reduce, reuse and recycling), conservation of resources and rain water harvesting
2. A green town – tree lined roads, green open spaces, alternative energy sources, and clean water sources
3. A clean town – appropriate collection and disposal of waste, clean and well maintained streets and proper sanitation
4. An economically sustainable town – where local skills and labour are well-used and supported, businesses have been opened, a local economy that conserves resources, a vibrant economy, employment and high income
5. A socially inclusive and safe town – housing for all community facilities, safety for road users, good mobility for pedestrians, crime free and street lights
6. A well planned town where development has been controlled, roads have been well developed with pedestrian facilities, services are sensibly located, density is appropriate and adequate open spaces provided
7. A well-managed town with excellent leadership, local administration that is quick and responsive, a town board that listens and responds to its citizens

Our aspirations for the future have been used to develop the following objectives, and as a response to the sustainability challenges identified.

1. Create a green town: a) protect, conserve and enhance our natural resources (forest, water and land), b) develop a livable urban environment.
2. An efficient and hygienic waste management system (solid and liquid) for a clean town.
3. Improve water supply and ensure a resilient water supply system.
4. Ensure safe and efficient mobility in Ontulili for all road users (pedestrians, cyclists and vehicles) to enhance access to services and markets.
5. a) create more commercial and employment opportunities in diversified sectors (agriculture, hospitality, transport), b) Increase productivity of agricultural land by assisting farmers with knowledge
6. Ensure accessible and affordable social (education and health) service delivery.
7. Promote affordable, safe and decent low-cost housing.
8. Provide better sustainable urban spatial planning leading to a well-managed town and enforced development.
9. Provide accessible administrative and urban management services within Ontulili.

For each of these objectives we have identified targets and actions designed to achieve our objectives. The actions are categorized by those that need to happen soon, to more complex and costly actions that will need to be dealt with later. The categories are:

- Quick win actions: smaller scale, low cost interventions that can be quickly implemented within the coming months (within 6 months).
- Short-term actions: larger and more involved actions that take more planning and development than quick win actions but that can be undertaken within the next two years.
- Medium-term actions: complex, ambitious proposals that need considerable planning and/or financing, or actions that are not yet required but will be needed within the next 3 to 5 years as Ontulili grows and develops.
- Long-term actions: complex, ambitious proposals that need considerable planning and/or financing, or actions that are not yet required but are likely to be needed in the longer term (5 + years) as Ontulili grows and develops.

Our objectives express our views on what needs to be achieved to ensure a sustainable future for Ontulili. They provide a framework for change that will influence the County Integrated Development Plan and the development of a spatial plan for the sub-county. The objectives provide us with a sense of direction on how we can achieve our vision. They are reasonable and achievable, and capable of being taken seriously by all. They provide an integrated and inclusive approach to the development of Ontulili so everyone can benefit. These objectives are visible, understood and can be shared. They are encouraging and inspiring, to motivate commitment and action by all stakeholders.

The following matrices provide a summary of each of the objectives, the targets and actions.



**CORE SUSTAINABILITY ISSUE 1:
ENVIRONMENTAL DEGRADATION AND A LACK OF GREEN
AND RECREATIONAL SPACES**

OBJECTIVE 1: Develop an attractive urban landscape with recreational opportunities

TARGET(S):

- Tree planting in target areas (roads, riparian reserves, private lands, institutional lands) (50,000 by 2020)
- 10% tree cover by 2025
- 100% of citizens undertaking natural resources awareness raising (by 2020)
- Develop a recreational space (by 2023)

Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Pilot natural resources awareness campaign	Natural resources awareness campaign (4 x per year)		
Acquisition of seedlings from suppliers (50,000)	Tree Planting Implementation Strategy developed (community organization timing, varieties, locations, O&M, incentives, monitoring)	Acquire and develop public recreational space(s)	
Raise awareness on the effects of the shamba system on natural resources (forest, water etc.)	Priverbank riparian reserves enforcement (Sirimon, Likii and Geku Rivers)		
	Mukutano–Katheri roadside tree planting (A2 Highway) – 125 roadside trees		



**CORE SUSTAINABILITY ISSUE 2:
INADEQUATE BASIC ENVIRONMENTAL SERVICES RESULTING IN
AN UNHEALTHY AND UNSAFE URBAN ENVIRONMENT**

OBJECTIVE 2: An efficient and hygienic waste management system (solid and liquid) for a clean town

TARGET(S):

- All residents made aware of 3Rs (reduce, recycle, reuse) and importance of good waste management by 2020
- 50% reuse of organic waste (by 2020)
- 25% ceiling of total solid waste going to landfill (by 2023)
- 80% of all households connected to a sewerage network (by 2027)

Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Awareness campaign on good waste management	Develop straightforward solid and liquid waste management framework / strategy	Identify and acquire a landfill site and sewage treatment area	Town-wide sewerage system installed and operational
Pilot household / community composter introduced	Purchase waste disposal equipment (vehicles, secondary transfer containers, bins)	Develop and start-up sanitary landfill	
Community/resident-based environment management group established (to drive good environmental management)	Targeted SWM Training (residents County Officers, schools, NGOs, FBOs, CBOs)		
Introduction of secondary collection container	Collection bins introduced at strategic locations		



**CORE SUSTAINABILITY ISSUE 3:
INADEQUATE WATER SUPPLY FOR DOMESTIC, COMMERCIAL
AND AGRICULTURAL PURPOSES**

OBJECTIVE 3: Improve water supply and ensure a resilient water supply system

TARGET(S):

- 80% (by 2021) of all households with a rain water harvesting / storage system
- 100% piped water supply household connections (by 2023)
- 40 litres per person per day (by 2023)
- 80% of water for agricultural purposes (by 2028)

Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Wise water use campaign	Develop Sustainable Water Management Plan-study water demand		have one water intake for all the water groups
Roads-for-Water (sensitization and field inspection)	Demand management measures (domestic gadgets)	Water supply pipe network	Drill 3 boreholes
Construct water pans for roof catchment (2 water pans per day-with liners)	Repair of water tank (2 km from Makutano)	Rehabilitate riparian areas/along the rivers Likii, Sirimon	Water dam construction
Rehabilitate two existing dams	Road water harvesting from road to dam (approx.1.5 kilometre from Makutano)	Construct water weirs along the rivers	
	Rain water harvesting from rehabilitated roads (see Objective 4)		



**CORE SUSTAINABILITY ISSUE 2:
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OBJECTIVE 2: An efficient and hygienic waste management system (solid and liquid) for a clean town

TARGET(S):

- All residents made aware of 3Rs (reduce, recycle, reuse) and importance of good waste management by 2020
- 50% reuse of organic waste (by 2020)
- 25% ceiling of total solid waste going to landfill (by 2023)
- 80% of all households connected to a sewerage network (by 2027)

Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Awareness campaign on good waste management	Develop straight-forward solid and liquid waste management framework / strategy	Identify and acquire a landfill site and sewage treatment area	Town-wide sewerage system installed and operational
Pilot household / community composter introduced	Purchase waste disposal equipment (vehicles, secondary transfer containers, bins)	Develop and start-up sanitary landfill	
Community/resident-based environment management group established (to drive good environmental management)	Targeted SWM Training (residents County Officers, schools, NGOs, FBOs, CBOs)		
Introduction of secondary collection container	Collection bins introduced at strategic locations		



CORE SUSTAINABILITY ISSUE 5: SUB-OPTIMAL ECONOMIC DEVELOPMENT, PRODUCTIVITY AND GROWTH IN EMPLOYMENT OPPORTUNITIES			
<p>OBJECTIVE 5: Create more commercial and employment opportunities in diversified sectors (agriculture, hospitality, transport), b) Increase productivity of agricultural land by assisting farmers with knowledge</p>			
<p>TARGET(S):</p> <ul style="list-style-type: none"> • Number of traders in renewed Makutano Market (1000 by 2022) • Train 2000 farmers in modern farming techniques/farm management • Set up 2 demonstration farms in Ontulili at Makutano and Katheri 			
Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
	Develop Local Economic Development Framework (with special focus on the potential for development in the hospitality sector)		
Secure Ontulili Market site (fencing)	Introduction of quota of local employment (on SymbioCity actions) where applicable	Integrated Makutano Market development	
	Establish a one-stop agricultural support unit		
	Milk processing plant and storage facilities		
	Construct a cold storage plant		



**CORE SUSTAINABILITY ISSUE 6:
INADEQUATE SOCIAL (EDUCATION AND HEALTH FACILITY)
SERVICE DELIVERY AND ACCESSIBILITY**

OBJECTIVE 6: Ensure accessible and affordable social (education and health) service delivery

TARGET(S):

- 100% enrolment of 2–6 year olds to ECDE (by 2023)
- 100% transition from primary school (14 year old) to either secondary school or vocational training institute (by 2023)
- 70% transition from secondary to vocational training institutes or colleges (by 2023)
- Improve teacher/student ratio to 1:25 (ECDE) (by 2020) / 1:40 (primary and secondary schools)
- 90% patient satisfaction with medical services available at revamped Ontulili and Sirimon Heath Centres

Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Introduce ECDE feeding programme (to attract and retain, and improve nutritional intake) and sensitize parents for programme support	Establish and equip public ECDE facility at Makutano	Establish and equip public ECDE facilities at Katheri	
Construct public sanitary block at Makutano and Katheri	Improve on-the-job capacity of ECDE teachers (through short training courses)	Expand and equip existing vocational training centre	
	Improve teacher student ratio	New dispensary facility with development of Makutano Market (see Objective 5)	
	Enhance sanitation at existing education and health facilities		
	Equip Ontulili resource centre/library to provide access to internet		
	Upgrade the existing Ontulili Heath Centre (number and availability of medical staff, equipment, ambulance, pharmacy) (see Objective 6)		



**CORE SUSTAINABILITY ISSUE 7:
A LACK OF AFFORDABLE HOUSING**

OBJECTIVE 7: Promote affordable, safe and decent low-cost housing

TARGET(S):

- Accessibility to low cost housing finance (2028)
- Community based housing groups formed (by 2020)
- 10,000 m² land areas zoned for low cost housing in the spatial plan

Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Create awareness of the importance of Vocational Training centres (VTCs)	Sensitize citizens on modern, low cost, housing technology (through leaflets, guides, information, workshops)		
Create awareness on the use of locally available materials	Encourage local investors to build low cost housing through Meru Micro Finance and Meru County Investment and Development Corporation		
	Form community based housing groups for the promotion of savings / credit and self-build schemes using low cost sustainable technology		
	Increase the availability of locally sourced construction materials (see Objective 1)		
	Use spatial plan zoning to allocate areas for low cost housing		
	Establish a course at the local polytechnic on low cost building technology		
	Encourage modern and affordable building technology/ training in our local vocational training centres (VTCs)		



**CORE SUSTAINABILITY ISSUE 8:
UNCONTROLLED DEVELOPMENT RESULTING IN THE SUB-OPTIMAL
USE OF LAND**

OBJECTIVE 8: Provide better sustainable urban spatial planning leading to well managed town and enforced development

TARGET(S):

- Spatial development plan developed (Ontulili and Antu Ba Mwituu locations) and approved by June 2018
- 90% of all developments are approved (by 2020)

Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Terms of Reference for spatial plan development approved and procured	Constitute an Urban Management Committee able to use enforcement responsibilities effectively (Committee training and sensitization)	Develop digitized based public land registry system (available remotely or at one-stop-shop) (see Objectives 5 and 9)	
	Develop, approve and implement a spatial plan		
	Build GIS capability to inform planning decision making		
	Develop an efficient and effective development control system		



CORE SUSTAINABILITY ISSUE 9: INACCESSIBLE ADMINISTRATIVE SERVICES FOR LOCAL CITIZENS			
OBJECTIVE 9: Provide accessible administrative and urban management services within Ontulili			
TARGET(S):			
<ul style="list-style-type: none"> • Establishment of an Urban Management Committee (by end of 2017) • 90% Customer satisfaction with the accessibility of County Government services (by 2020) 			
Quick Win Action	Short-term Action (1–2 years)	Medium-term Action (3–5 years)	Long-term Action (5 years +)
Civic education on service availability ('where to go')		Makutano one-stop-shop for all County Government services designed, implemented and operational (modeled on the Huduma Way) (see Objective 5)	
Urban Management Committee established and operational			
Establish a police post in Makutano market			

5. CHAPTER FIVE

OUR PRIORITIES

Our town is in its infancy. We are working from something of a blank canvas. There are no basic urban services to speak of, and the needs are many. Stakeholders recognize that not everything can be done at one time and that the process of development will be a long road.

It is clear that there are many opportunities for us to address more than one objective through an integrated project(s) that seeks to target a number of the actions we have identified above. The identification of our integrated solutions has been done through various stakeholder workshops and discussions (the SWOC, Visioning and objectives workshops) and refined and prioritized in the context of the agreed vision and objectives. In developing the priorities we have considered what is realistic and affordable.

At this stage the identified areas for the development of integrated proposals are broad in scope and will be detailed with stakeholders. Three priority clusters were discussed by stakeholders with pros and cons of the clusters identified. In response to seed funds available from SymbioCity Kenya, we have identified potential Quick Wins and Change Projects which are presented in matrices tables (see table 4).

Quick Win Proposal: This is a smaller scale intervention that can be quickly implemented within the coming months (it must be completed by December 2017) and which showcases immediate effects in reaching the vision and objectives set out in our USR. Our Quick Win proposal will be developed and submitted by 30 June 2017. The implementation will commence in July 2017.

Change Project: This will be a larger and more involved proposal developed with stakeholders over the coming 4 months and submitted to the COG for approval by mid November 2017. It will be a sustainable urban development solution identified as a USR priority and implemented between February and November 2018.

There are ideas that appear in more than one proposal cluster and this provides the basis to move towards integrated urban proposals. We also attempted to ensure integration in our proposals by thinking broadly about all the different ways we can achieve our solution objectives – to do this we have used a simple grid to remind to organize our thinking and discussion.

Table 4: Working towards developing integrated solutions

<p>PHYSICAL SOLUTIONS What infrastructure do we require in Ontulili – both the traditional kind (roads, pipes, buildings) and green infrastructure (trees, vegetation, open spaces) to support sustainable development?</p>	<p>ORGANISATION SOLUTIONS Is there management and/or administrative changes we can make that would support a better managed and planned Ontulili?</p>
<p>FINANCIAL SOLUTIONS We know financing is crucial, so how can we strengthen our finances in Ontulili through taxation, fees, and financial incentives and disincentives?</p>	<p>INSTITUTIONAL SOLUTIONS Do we need new policy, laws and regulation in the County to ensure success in Ontulili, and what plans do we need and how can we make sure they are implemented?</p>

Our stakeholders agreed unanimously that our first priority should be the development of a modern integrated market using the existing site in Makutano – providing a hub of activity and a sense of identity in our young town.

Title: Integrated area (market) improvement proposal – a sense of place for Ontulili	
Broad Scope: Lighting, perimeter road improvement (incl. pedestrian facilities, bus stop/terminus, area greening, model stall development (incl. rain water harvesting), area SWM systems developed, one-stop-shop introduced (phase 1 of area development)	
What USR objectives will it address?	
	
Quick Win: Floodlighting in Makutano–Katheri markets 1st priority, road and drainage improvement Makutano market 2nd priority	
Change Project: Integrated Urban (market) area improvement – a sense of place for Ontulili: Broad scope-lighting, perimeter road improvement including pedestrian facilities, bus stop/terminus, area greening, model stall development including rain water harvesting, develop area solid waste management system, one stop shop	
Pros	Cons
Stimulates economic development for the area and high priority for stakeholders	Ambitious and will need to be carefully designed in line with available resources
Provides an integrated hub and heart for Ontulili (a place where people want to be, a place to be proud of)	Will require careful stakeholder management
Capable of addressing a number of issues – security, safe transport hub, provision of administrative services, recreation space and a market	Effective relocation of households
Public land is available, and achievable (time/cost)	Limited to one area (Makutano)
Creating opportunities for investment for the future	No Matatu stopping at present – so may not be feasible
Street lighting increases working / trading hours	Is economic development possible / feasible?
Provides a stimulus to a healthy environment through greening and waste management	Perceived security threat due to proximity to Likii slum
Creates an ambient, beautiful, attractive area	
Use of natural 'infrastructure' provides a model for conserving and protecting roads and development of a sustainable market	
A proposal that can be phased and possible attract other investment	

Title: Diversified water supply proposal	
Broad Scope: Boreholes (Makutano, Katheri), storage tanks, pipeline network, models for roads-for-water, rain water harvesting (public buildings), awareness-raising	
What USR objectives will it address?	
	
Quick Win: Stakeholders preferred the change project	
Change Project: Proposal Diversified water supply – Borehole Makutano Katheri, storage tanks, pipeline network, roads for water models, rainwater harvesting (public buildings)	
Pros	Cons
Addresses the highest priority issue – not enough water	Likely to be very capital intensive, with high O&M costs
Rain water harvesting strengthens sustainable water supply	Not achievable in the implementation timeline (Feb–Nov 2018)
Storage facilities provide for water conservation	Would require intensive technical investigation
Economic development requires water – agricultural productivity, sustaining business	No public land available for infrastructure development
Topography (gradients provides efficient water distribution)	Rain capture may not be possible (land availability)
There are available water sources (reservoir)	Boreholes may not be sustainable
Water critical element in hygiene / environmental health	

Title: Integrated urban environment improvement proposal	
Broad Scope: Highway/road side tree growing and model landscape ‘hubs’ (parking and pedestrian access, food stalls, shaded bodaboda stands), provision of open space, and introduction of area based solid waste management system, awareness-raising	
What USR objectives will it address?	
	
Quick Win: Urban greening, limited tree growing along the highway, Makutano and Katheri roads and recreational area in Makutano market 1st priority, provision of solid waste collection Makutano–Katheri	
Change Project: Urban environment improvement – green Ontulili: highway/roadside tree growing and landscaping hubs parking and pedestrian access, shade bodaboda stands, provisions of open spaces, introduction of area based waste management system and awareness creation	
Pros	Cons
Potential benefits spread across the focal area	Traffic may be increased with people driving to landscape hubs
Provides small scale stimulus at landscape hubs	Efficient / effective SWM system will require disposal and sorting facilities, and additional equipment
Highway / road side planting conserves roadside	No locally accessible land available for a hygienic / sanitary waste treatment and disposal
Ambience and attractiveness of the area is greatly enhanced	Overall scope may be too broad for cost and implementation timeline (and result in smaller initiative)
Achievable in terms of cost and time if designed to proper scale	Inefficient economic catalyst for the Ontulili area
Land is available	Capacity to sustain and protect greening efforts may not be present
Greening approach raises awareness of the environment and importance of conservation	Effective household waste management practice (separation) will take time
Greening supports the development of a more attractive environment critical to the hospitality industry	Livestock grazing is a threat to the greening initiatives and will require careful management
Solid waste management system introduces the 3Rs and waste becomes a resource not a problem	The capacity to operate and sustain a new SWM system
Can create employment for growing trees, and collecting and sorting waste	
Provides the potential of getting the community involved in looking after their environment	
Cooler climate is sympathetic to a SWM system (collection points can be left for longer before collection)	

ANNEXES

Annex 1: List of Steering Committee members

ONTULILI SYMBIOCITY MERU COUNTY IPLOT STEERING COMMITTEE MEMBERS			
Julius Kimathi	County Secretary and Head of Public Service (Chairperson)	Juliuskimathi34@yahoo.com	0720088043
Martin Bikuri	County Executive Committee Member Department of Land, ICT and Planning, Member	mbikuri@gmail.com	0728153733
Martin Gikunda	Chief Officer, Department of Land, ICT and Planning (Secretary)	Mgikunda2001@yahoo.com	0728647135
Julius Mbijiwe	Chairperson – County Assembly of Meru, land Planning and ICT Committee, Member		072682801
Kinoti	Member of County Assembly Timau Ward		0723347870
Newton Itobi	County Executive Committee Member Department of Transport and Infrastructure, Member	ntoitobi@yahoo.com	0724548702
Jacob Muthomi Kirera	County Executive Committee Member Department of Finance/Treasury, Member	jackirera@yahoo.com	0722608673
Mithiaru N'toitha	County Executive Committee member Department of Cooperatives and Enterprise Development, Member		
Mary Mwiti	County Executive Committee member Department of Water, Environment, Natural Resources, Member		0722822260

Annex 2: List of Working Group members

ONTULILI SYMBIOCITY MERU COUNTY PILOT WORKING GROUP MEMBERS			
Ronald Mwenda Ntongai	Planner/Department of Lands, ICT and Planning	ntongaironnie@yahoo.com	0720851741
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Eng. Stanley Kirimi			

FOR YOUR NOTES

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COUNCIL OF GOVERNORS



Embassy of Sweden
Nairobi



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Swedish Association
of Local Authorities
and Regions