

A Baseline Survey on Governance, Policies and Knowledge of Urban Sustainability in the Kisumu Local interaction Platform

1.0 Kisumu's Background

Kisumu Local Interaction Platform has a story that is related to a long process of engagement among different stakeholders in the area. It is based in Kisumu city and the beaches of Lake Victoria on the Kenyan side, Kisumu is the third largest city in Kenya, and the headquarters of Kisumu county, as well as Nyanza Province respectively. It has developed progressively from a railway terminus and internal port in 1901; it became the leading commercial/trading, industrial, communication and administrative centre in the Lake Victoria basin. In addition, Kisumu serves as the communication and trading confluence for the Great Lakes region - Tanzania, Uganda, Rwanda and Burundi

The Region and Project Sites: Kisumu City, Lake Victoria Beaches and Market Places

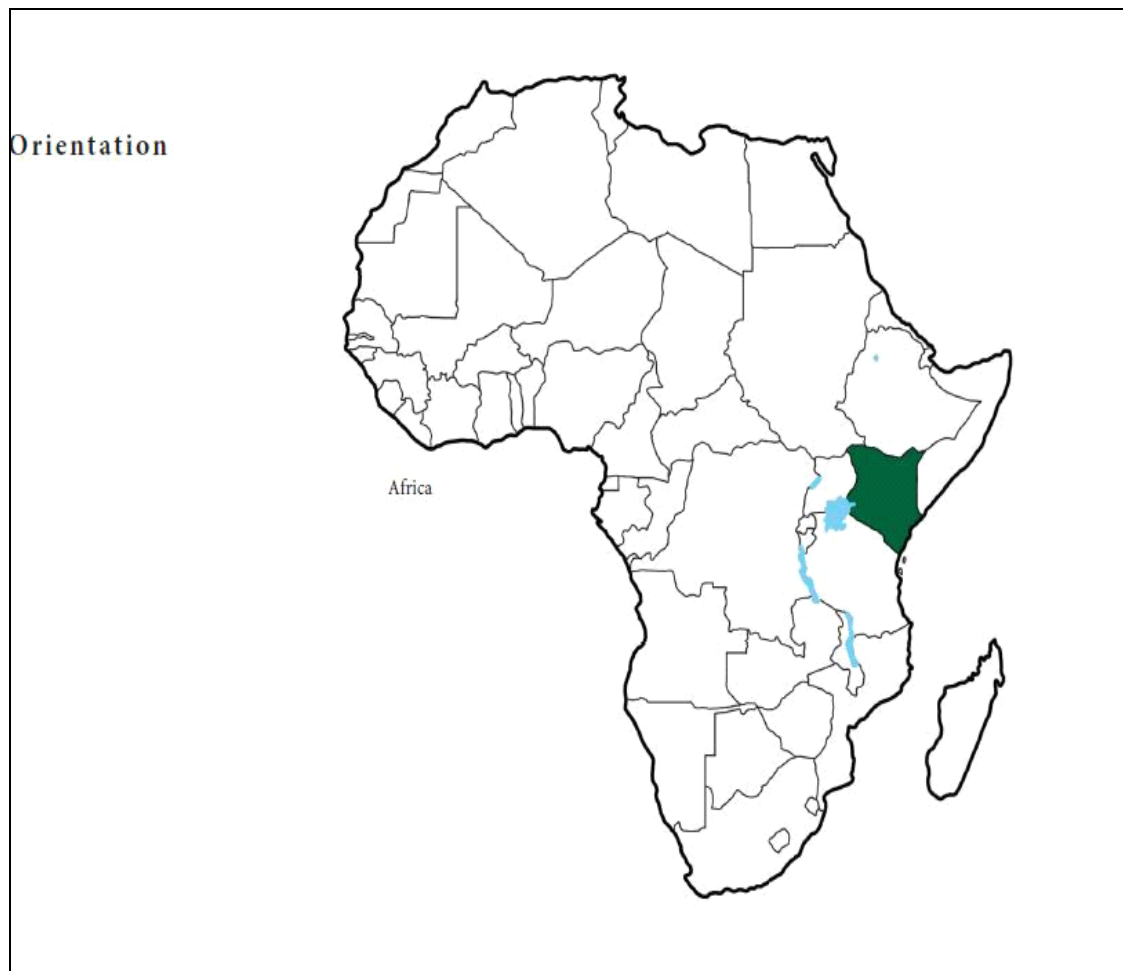


Plate1. Map showing the portion of Kenya in relation to Africa

Source; Sofie & Fabiana 2012

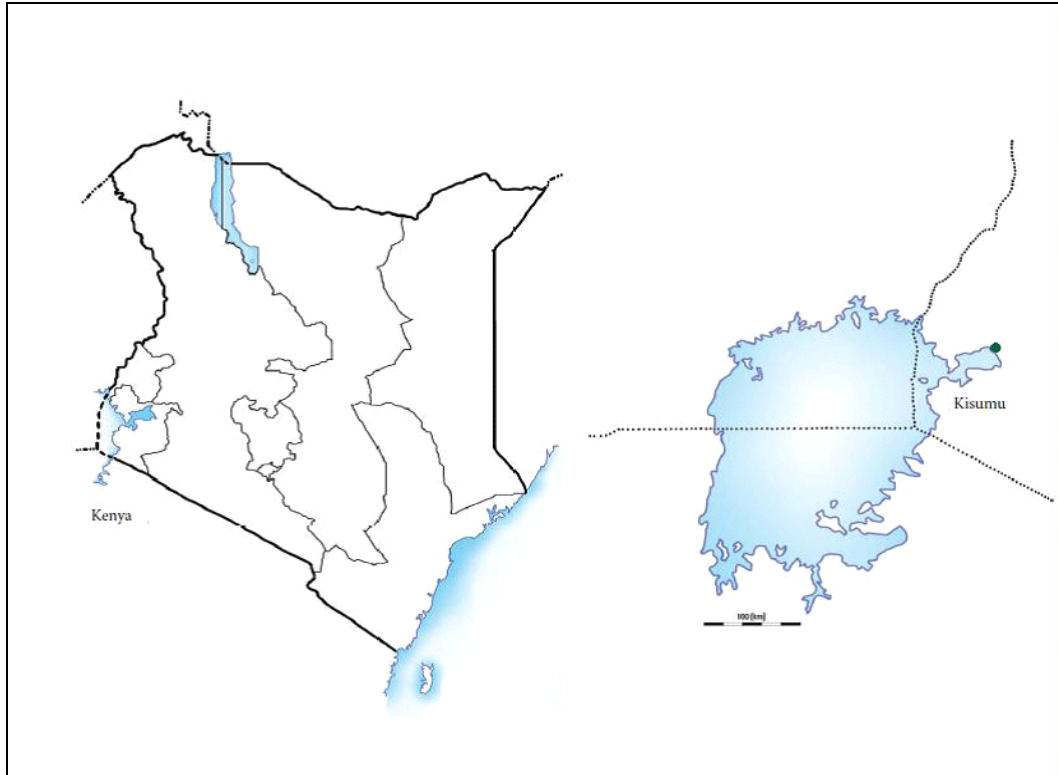


Plate2. Map showing the position of Kisumu in relation to Kenya.
 Source: Sofie and Fabiana 2012



Plate3. Map showing the KLIP's geographical area: Kisumu city and the beaches of L. Victoria

2.0 Description of the Region

2.1.1 Urban Environment

Lake Victoria is the world's second largest fresh water body whose surface area is shared by three countries: Kenya (6%), Tanzania (49%) and Uganda (45%). It is estimated that one-third of the combined population of Kenya, Tanzania and Uganda derive their livelihood from the Lake, through subsistence fishing and agriculture. Thus, the Lake represents an important economic resource for the region. However, this resource can only be sustained if the Lake's rich and diverse ecosystem is well managed.

The rapidly growing urban and peri-urban Kisumu city depends on natural resources of Lake Victoria for their economic growth. The lake is also a source of clean water for domestic use for the lakeside communities. Regrettably, Kisumu city has contributed significantly to the increased environmental degradation of the Lake. Uncontrolled municipal and industrial effluents from the industries continue to pollute the lake, threatening the very basis of the local and regional economy. The poorer communities, which rely on subsistence agriculture and fishing activities, have settled along the Lake. These communities do not have adequate shelter and infrastructure and suffer under the double burden of increased competition for degraded natural resources and the resultant increased prices for safe water. The Kisumu municipality located on the shore of Lake Victoria lack the capacity to implement sustainable development policies, especially within a regional context of rapid urbanization and weak national and regional economies. Many residents live in poor conditions with limited access to basic services and infrastructure. This is compounded by the uncontrolled pollution of the surrounding environment and dwindling economic opportunities. The poorer sections of the community are particularly at risk.

2.1.2 The Project Sites

The project sites of Kisumu city, Lake Victoria beaches and market places in Kisumu and the Lake region all reflect the scenario depicted above. These project sites' environments have been directly impacted by their proximity to the Lake.

2.1.3 Kisumu city

Key urban environmental issues here include proliferation of slums and unplanned human settlements, inadequate water supply, poor sanitation, solid waste management, increasing traffic congestion and pollution, growing crime rates, amongst others. Kisumu is the third largest urban center in Kenya after Nairobi and Mombasa. It was recently elevated to city status and has an estimated population of 500,000 people, majority being young people under the age of 19. It has a relatively well-developed urban infrastructure. It is a leading commercial, trading, fishing, industrial, communication and administrative center in the Lake Victoria basin. The city is ranked the poorest in Kenya with 48% of its inhabitants living below the poverty line. Its main environmental and development issues include poor land use planning, high HIV/AIDS prevalence, lack of public awareness owing to low literacy levels, outdated and inadequate

water and sewerage system, poor solid waste management, presence of water hyacinth on Lake Victoria hampering water supply, inadequate energy supply, and unplanned settlements. The city's authority is the Kisumu City Council.

2.1.4 Lake Victoria beaches

Lake Victoria has 844 fish landing beaches. Key sustainability issues here include accessibility, poor road infrastructure, poor sanitation, wetland destruction, waste management, high HIV/AIDS prevalence and extreme Lake Pollution. The community living in the beaches relies on the Lake for their livelihood and this exerts a lot of pressure on the already depleted lake resources. Destruction of the wetland and increased forest and vegetation clearing is some of the predominant challenges facing these unique ecotourism sites.

2.1.5 Market places

Market places in Kisumu and the Lake Victoria are crucial meeting places where trading of goods and services take place. The markets are evenly distributed within the city, all the landing beaches are market places for fish and other food products. The key challenges in most markets are; waste management, flooding, accessibility, poor planning, and sanitation facilities.

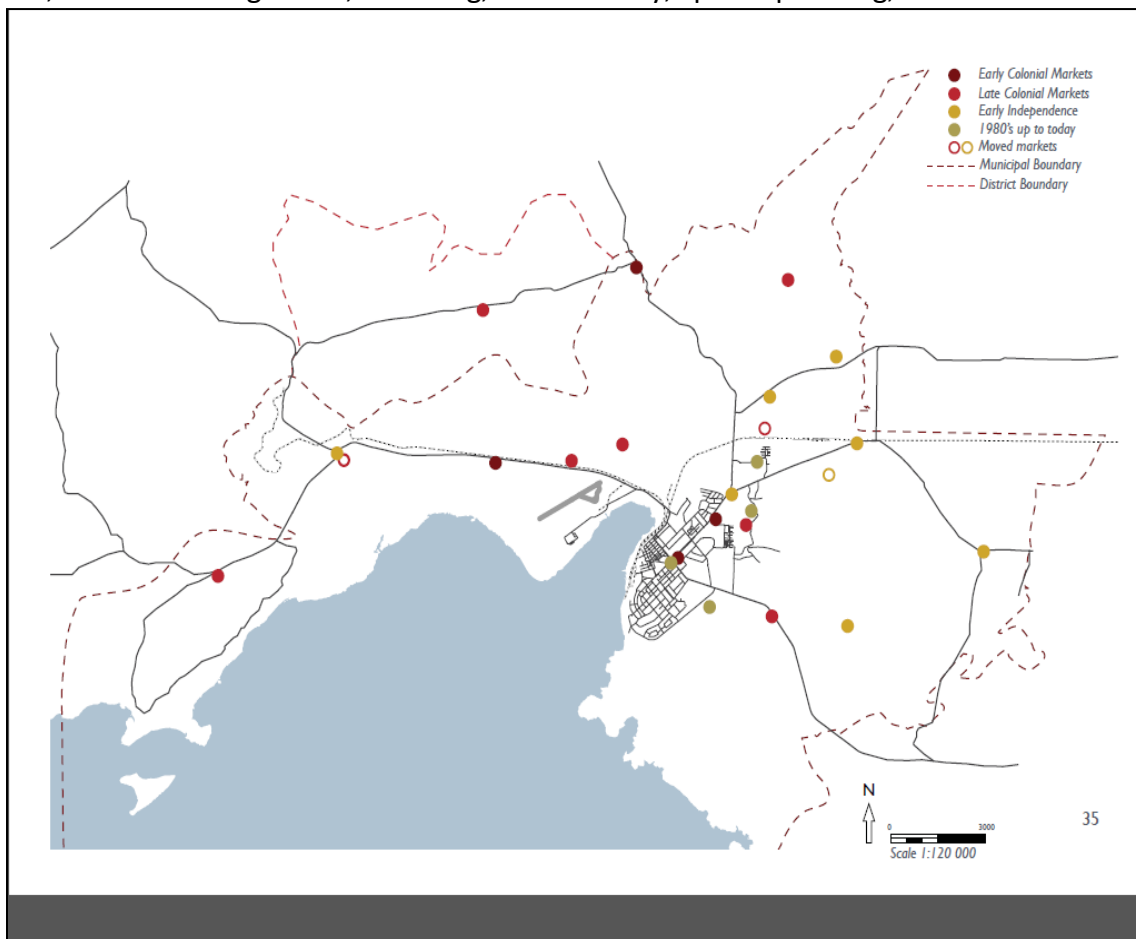


Plate 4. Location of Market places within Kisumu Municipality

Source; Skarph, 2012

3.0 Stakeholders

The following stakeholders are key players in helping to further the objectives of this Platform:

3.1 Government Organizations

- a. Kisumu Municipal Council
- b. Ministry of Local Government
- c. Physical Planning Department
- d. Ministry of Water and Irrigation
- e. Ministry of Planning and Vision 2030
- f. Ministry of Environment
- g. Ministry of Tourism
- h. Ministry of Fisheries
- i. Ministry of Agriculture

Roles as stakeholders

- Lead agencies in development in charge of policy formulation and development
- Preparation of Local Physical Development Plans-LPDP (Structure Plan)
- Preparation of the Local Authority Service Delivery Action Plan (LASDAP)
- Preparation of Environmental Development Plan (EDP)

3.2 State Corporations

- a. National Environmental Management Authority (NEMA)
- b. Kisumu Water Supply and Sewerage Company (KIWASCO)
- c. WRMA
- d. The Lake Basin Development Authority (LBDA)
- e. Kenya Marine and Fisheries Research Institute (KEMFRI)
- f. Maseno University
- g. Bondo University College
- h. Kenya Ports Authority
- i. Kisumu Museum
- j. Kenya Airports Authority
- k. Local Provincial Administration

Roles as stakeholders

- a. Preparation of Environmental Action Plan (NEMA)
- b. Management of water resources (WRMA)

- c. Conducting aquatic research (KEMFRI)
- d. Sustainable Land resource development
(Physical planning department)
- e. Community outreach, research and capacity building
(Universities)
- f. Lead agencies in specific development agendas

3.3 Non-Governmental Organizations

These organizations operate under Non-Governmental Organizations Act. They include:

- a. SANA
- b. Africa Now
- c. Ecofinder
- d. Osienala
- e. Lake Victoria Sunset Birders
- f. LVRLAC
- g. Umande Trust
- h. FIDA
- i. IFAD
- j. KEMRI/CDC
- k. Pamoja Trust
- l. KREP
- m. Faulu-Kenya
- n. Practical Action

Roles as stakeholders

- a. Community development
- b. Resource mobilization
- c. Environmental management and integration
- d. Gender parity
- e. Social inclusion
- f. Urban poverty eradication programmes
- g. Environmental awareness campaigns
- h. Health and sanitation
- i. Advocacy

3.4 Community Based Organization

- a. Kisumu Town Residents Welfare Association
- b. Kisumu Social Rights Association (KISORA)
- c. Kisumu City Business Association (KCBDA)
- d. Market Traders Association
- e. Boda boda Association in Kisumu
- f. Beach Management Units (BMUs)
- g. Boat Riders Association
- h. Hotel and Restaurant owners

- i. Association of waste handlers

Roles as stakeholders

- a. Self-help activities
- b. Addressing specific challenges in their day to day lives
- c. Developing IGA

3.5 Inter-Governmental Agencies

- a. LVBC
- b. LVEMP
- c. Africa Development Bank (AFDB)
- d. Nile Basin Initiative (NBI)
- e. LVRLAC

Roles/Activities

- a. Regional approach to development
- b. Funding opportunities

4.0 Sustainability Challenges in Kisumu Local Interaction Platform

The concept of urban sustainability governance has developed as an institutional guiding concept to holistically address the vitality of cities under a long-term perspective and is based on the collaborative efforts of government, administration, business, science, and the civil society. Yet, the initiation and implementation of this guiding concept faces a variety of barriers, including deficient conceptualization, unfamiliarity, detrimental organizational structures, and inertia (Smith, 2012). Urban sustainability involves a reexamination of urban development, including environmental, social and economic policies, politics and practices, and an acknowledgement of the role of cities in global environmental change (Stephane, 2006).

Urban areas are in fact the places where the on-going transformation of environment, society, economy and their complex impacts become concrete, need to be managed and must be taken into consideration for the present and the future generations (Flavio et.al, 2009). The sustainable urban ecosystem is expected to evolve based on the maintenance of healthy natural ecosystem functions, economic opportunities and desirable interactions among urban sectors with each other and the environment. In order to achieve these goals, a location-specific understanding of socio-economic subsector's interactions is necessary (Fath, 2006; Fath et al., 2008; Zhang et al., 2010a, b).

Urban structure focuses on how patterns in social relationships shape organizations and affect city itself and its subsectors' evolution and sustainability within those organizations (Scott, 2004). No country has ever achieved sustained economic growth or rapid social development without urbanizing. "Countries with the highest per capita income tend to be more urbanized, while low income countries are the least urbanized" This paper will focus on the three major aspects of urban sustainability i.e. economic, social and environmental processes with respect to governance in the context of Kisumu. The environmental themes addressed here are global climate change, air pollution, consumption of natural resources and environmental quality. While the socio-economic themes are health, equity, opportunities and accessibility to transport. All in all there is need for a paradigm shift to move from the dominant focus on the adjustment of physical structures towards the improvement of planning tools and governance processes and structures themselves.

Kisumu LIP faces numerous sustainability challenges that prevent it from attaining the status of a sustainable city/region. A city/region with adequate space for communication between the people and facilitates the movement of persons, goods and services. The following portends some of the sustainability challenges in this LIP.

4.1 Poor Urban Planning

The Council is the key planning institution for urban development within the city jurisdiction and is faced with several challenges in its attempt to bring order in the development activities of the city. One challenge is associated with the extension of the city boundaries to include an 80% land area that is predominantly rural in character and thus demanding a unique set of planning responses. The land ownership type in this area is mainly freehold, putting direct influence on pattern of development on the individual owners docket. With the rising demand for housing against a backdrop of limited space within the core urban centre, private developers continue to acquire private land for housing and related development within these areas often with little consideration of statutory planning requirements. Certain conflicts are emerging from this practice. For instance settlers at the bottom of the slopes have to contend with increased surface run-off and flooding from uncoordinated developments on the higher slopes.

4.1.2 Planning by-laws

The planning by-laws are to a large extent archaic and need revision to suit the dynamism associated with current city development trends. Most powers pertaining to land ownership, land use and control, land acquisition, land allocation and provisions for major land development schemes are with central government or are held by individuals under freehold ownership, necessitating close coordination that often is lacking. Issues such as settlement expansion, slum upgrading and landfill relocation and development among other projects may touch on land and space. This would take much time to implement due to such involvement. Increasing pressure from informal activities within the core urban centre, albeit as a livelihood pursuit, poses yet another growing challenge.

Most poor urban dwellers, constituting 60% of the population resides in the informal settlements in the peri-urban area with limited access to basic services, and are forced to eke a living from petty trades within the central business district. Such trading is often in areas not planned for such occupation pitting them against the law enforcement. It is no wonder that a significant section of the urban population complain of harassment by law enforcement agencies as a key issue.

Proliferation of Informal settlement is another challenge associated with rapid informal expansion. They are characterized by congestion and lack of basic service extensions. Residents of these settlements feel neglected by the planning authorities, who in turn postulate that the very temporary nature of tenure conditions of such settlements provides little justification for substantial investment. Indeed most residents of Kisumu perceive the planning responses in Kisumu as 'reactive' as opposed to being 'pro-active'. A case to mention is the constant argument of the lack of market expansion to correspond with the growing demand for such utilities, associating this to the resultant proliferation of street trading

4.1.2.1 Stakeholder participation in planning activities

Lack of adequate citizen participation in planning activities has been identified as one of the causes of poor city planning. Failure of some projects implemented by the Council has been attributed to the exclusion or low-level of stakeholder participation in the planning and implementation stages. Improper land use allocation, including land for industrial development, utilities, commercial, social infrastructure and transport points at the lack of strategic planning to guide the council's activities. This situation is exacerbated by the limitations posed by the inadequate strength of the planning department in the Council contributed by lack of equipment, personnel and finances

4.2 Inadequate Infrastructure and Services

4.2.1 Transport infrastructure

Though the city centre has of late benefited from an improvement of roads, the city land allocation under road is still quite low to support city sustainability given the fast rate at which Kisumu city is growing. Unless high degree of attention is given to this problem the city stand a risk of collapse. With the limited allocation of land for public space, it has brought difficulty in organization of a rapid transport system. Matatus are the main form of motorised public transport and bicycle taxis, commonly known as boda boda, are the most common form of non-motorised transport. Boda bodas are a significant income earner for poor youth, but no bicycle tracks or parking bays exist; safety is a major issue since the bicycles cause most traffic accidents in the city. However, boda bodas offer a cheap and environmentally friendly mode of transport that poorer groups can afford and they consequently need to be urgently incorporated into the city's transport system. The matatus and taxis are viewed as quite disorderly and are perceived to have little regard for traffic and safety regulations. Buses mainly serve as an inter-city mode of transport. There is a need to institutionalize an urban transport planning and management framework within the Municipal Council of Kisumu, as well as improving safety on Kisumu's roads and develop effective responses to the mobility needs of all transport users. Most residential areas are not served by the public transport hence the reliance on boda boda.

Residents in most of the beaches in Kisumu Municipality, Homabay County, Siaya County and other beaches in Lake Victoria continue to reel under poor road conditions, often resulting into non-competitive pricing of the fish resource further impoverishing the fisher folk community. The progressive decline in Railway and shipping services has increased the cost of trading limiting it to only local goods, as road transport is relatively expensive. Communities in the area fondly recall the days when goods would be ferried to and from areas as far as Musoma, Mwanza and Bukoba in Tanzania and Jinja, Kampala and Entebbe in Uganda via the lake, bearing great economic benefit. Intra-city transport has seen the emergence of a large influx of bicycle taxis (non-motorised transport) commonly known as 'boda boda'. Since such a development was not anticipated, no commensurate provisions were made for cyclists e.g bicycle tracks, with a resultant increase in accidents and congestion on the city roads. The 'boda

boda' trade has grown to be a significant income earner for the poor youth who can't find formal employment with an estimated 8,000 bicycle taxis servicing various routes in Kisumu. The challenge remains on how to integrate this economic activity into the urban transport system, while minimising user conflict and ensuring safety. Alongside this challenge is the begging opportunity to make public transport safer through provision of designated passenger stops on the various routes. Given that Kisumu is entirely a walking city because of its small size, a lot of potential for job creation lies in building urban roads that provides for bicycles and pedestrians use. See map below for distances estimates within Kisumu town.

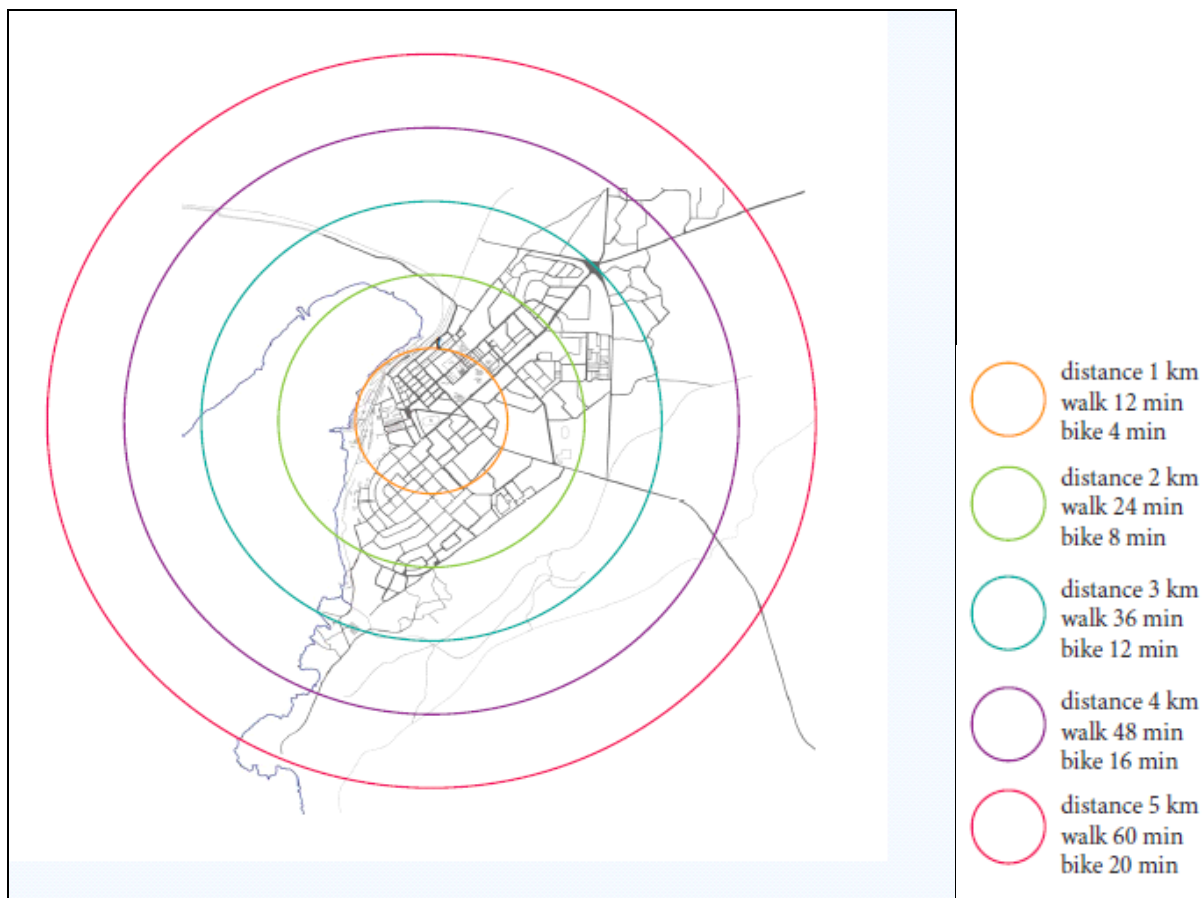


Plate 5, distance estimates within Kisumu town

Source: Sofie and Fabiana 2012

4.2.2 Water and Sewerage

The water situation in Kisumu city and the beaches of Lake Victoria presents both unique challenges and opportunities. In Kisumu the current water supply network and sewerage system commands 40% and 10% coverage respectively, mainly concentrated within the built up urban centre. For instance, the combined water supply capacity from the two water treatment

systems amounts to 20,000 m³/day against a projected demand of 50,000 m³/day. Most residents in the peri-urban areas of Kisumu have resorted to use of shallow well water, often situated in close proximity with the pit latrines increasing the chances of cross contamination.



Plate6. Picture showing a broken pipe at Carwash, contamination points

Piped water is supplied to these areas via handcart vendors who charge 50% higher than the cost of receiving the water directly through the supply meter. As a consequence, this population feels the bigger burden of disease as it has to contend with frequent exposure from use of water from shallow wells, depriving them of much needed income for other household needs. In the low-lying areas of Nyalenda and Usoma, construction of pit latrines is further inhibited by the high ground water table and the flash floods inherent in these areas. The major challenge therefore is in finding alternative technologies for affordable community water supply and sanitation systems in the interim to urgently reduce the disease burden amongst

the peri-urban poor. Kisumu City Council has on its part taken bold steps to privatise the water supply and sewerage service provision in line with the requirements of the new Water Act, and further to facilitate improved service provision and attract much needed capital investment for expansion. KIWASCO has negotiated for French funding of the rehabilitation of the Water Supply and Sewerage network and installations. At the community level, appreciation has been expressed on partnership initiatives between the Council and SANA International, AFRICANOW, and World Vision respectively in the provision of Borehole water and onsite sanitation. Such micro-level experiences provide useful foundation against which to base similar intervention and upscale options.

4.2.3 Lake Victoria beaches

In the beaches of Lake Victoria the situation is not good either. The residents draw water from the polluted Lake water with no reliable source of clean. The restaurants operating at the beaches have no alternative but use the contaminated water for services to their customers. Waste disposal at the beach is indiscriminate with human waste carried by surface run-offs into the Lake.

4.2.4 Solid Waste Management

The solid waste management scenario in Kisumu is widely reflective of the situation in the majority of cities in the lake region. Like most urban centres in the region, Kisumu is faced with problems of lack of collection facilities and low efficiencies in operation of existing facilities as well as the design, capacity and location of final disposal sites. The poor management of solid waste has resulted into generation of leachate which pollutes the ground water and soil, the spread of infectious diseases such as eyesores, blockage of sewers and drainage systems, spread of foul smoke from private burning of waste as well as pollution of Lake Victoria through run off.

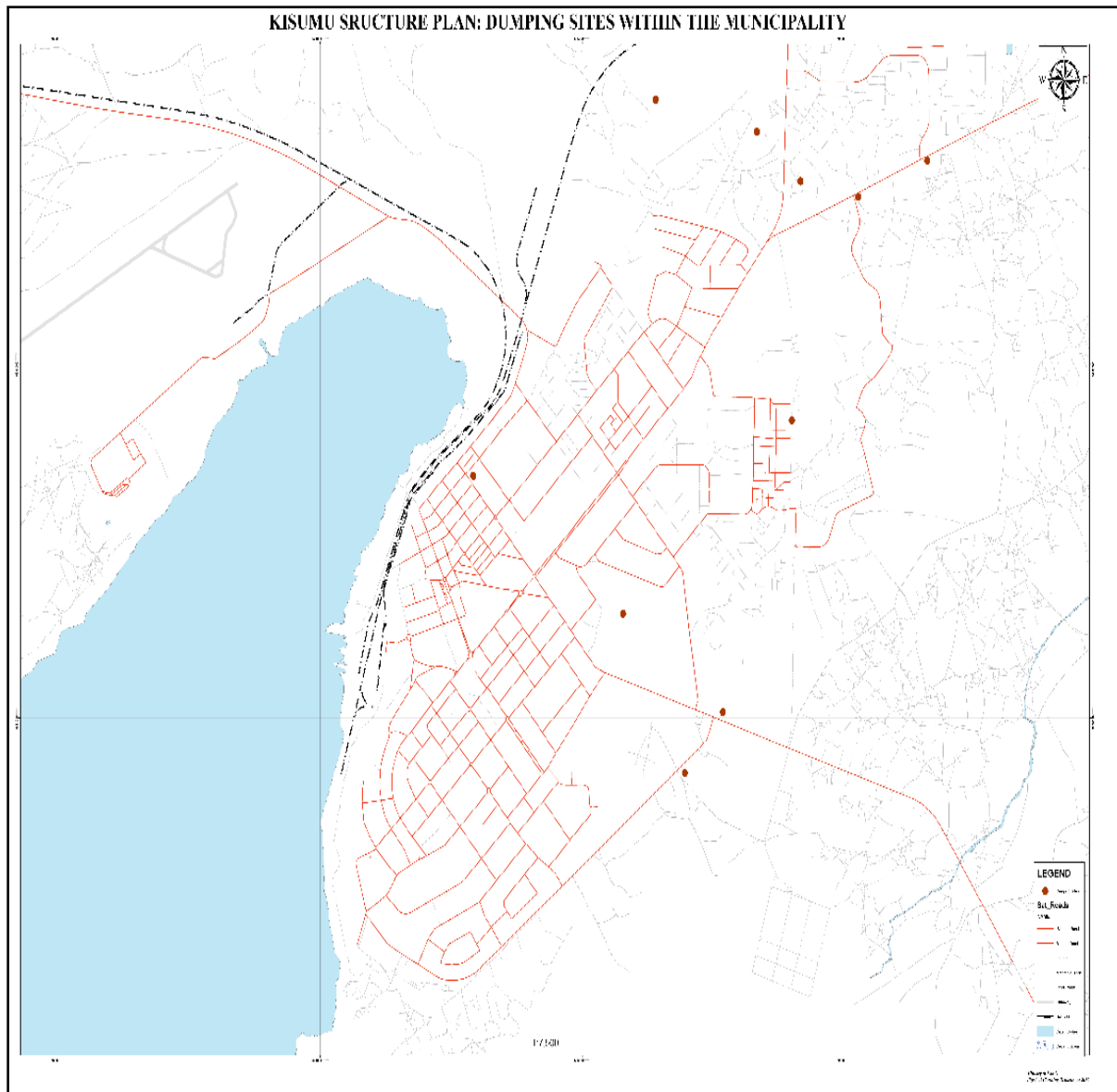


Plate 7. Mapping of the few dumpsites in Kisumu City
Source: Kisumu Municipal Council

Furthermore, scavengers and others are exposed to health risks as no separation of hazardous waste fractions is practiced. Today, most of the solid wastes generated are the municipality is Plastic wastes. This is a particular nuisance as it causes livestock deaths and blocks storm water drains. Between 60-65% of the total amount of waste collected in Kisumu is organic, which presents enormous potential for recycling.



Plate 8. A picture showing a clogged drain at Carwash

Many positive small-scale reuse and recycling initiatives are taking place and these should be further encouraged. There is a need for an environmental awareness campaign educating the residents to take more responsibility for their own waste, as well as to develop broad-based partnerships for waste management.

4.2.5 The beaches

All the beaches have no proper initiatives for solid waste management. With no waste collection and recycling facilities, all the solid waste wastes find their way into the lake through surface run-offs as well as indiscriminate waste disposal into the lake. The rest are burnt.

4.3 Degraded Urban Environment

Kisumu's environmental challenges are closely linked to the city's topography. Curved into a trough with the walls of the Nandi escarpment to the East dropping onto the floor of the Kano flood plains, and gently flowing to Dunga wetlands at the shores of Lake Victoria, each

topographical feature experiences unique environmental challenges. There also exist several environmental attributes that lend themselves to the development of Kisumu namely

- the availability of lake water,
- the expansive Dunga wetland
- good well-drained soils and
- Aquatic resources amongst others.

Kisumu is a water front city located close to Lake Victoria. There are several beaches in different shores of the Lake. The Lake is apparently the second largest freshwater Lake in the world. It has world largest freshwater fisheries. The threats facing the lake include eutrophication, over-exploitation of fisheries, introduced exotic species and climate change. Domestic and industrial waste water, solid wastes, sediments from soil erosion in the catchments areas, agricultural wastes are some of the major pollutants to the lake. Parts of the lake are now considered dead zones, unable to sustain life due to oxygen deficiency in the water. These threats facing the lake have caused hardships for the people living around the lake. It has reduced the biodiversity of the lake fauna.

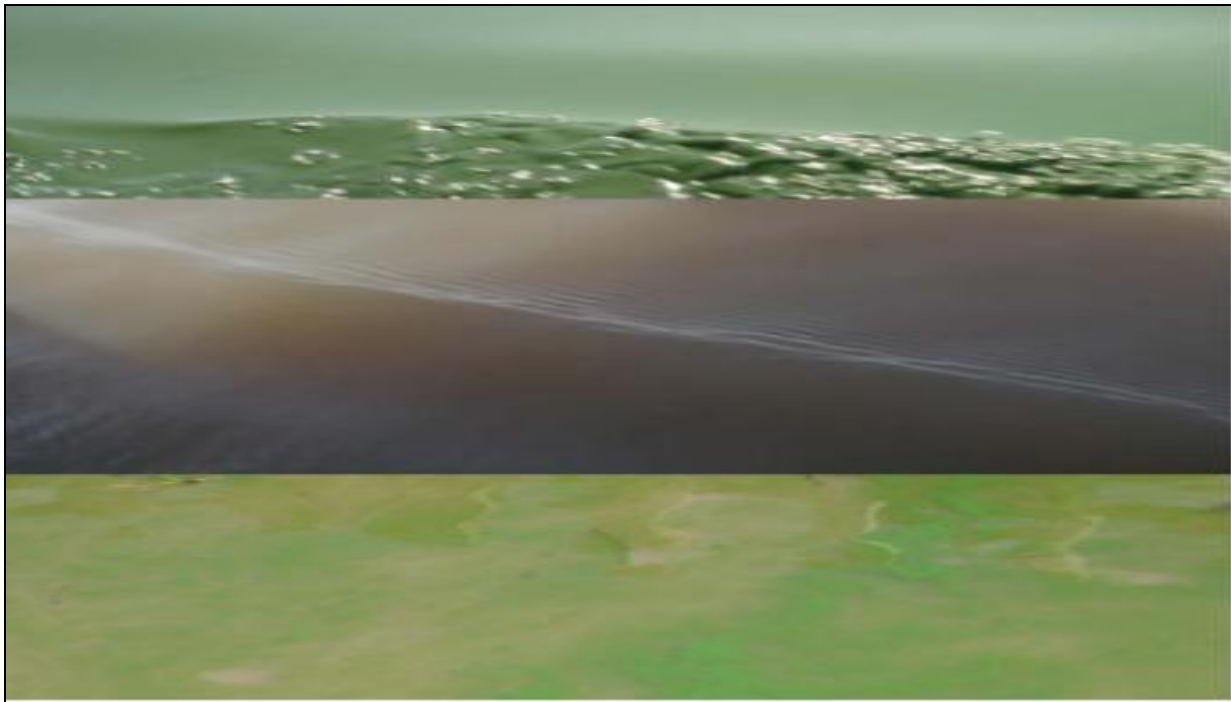


Plate 9, showing the status of pollution in the Lake Victoria at different positions in a boat tour (Source: Soffie & Fabiana, 2012)

There is also a significant challenge associated with the hilly slopes to the east of the city is the accelerated destruction of vegetative cover including trees to provide space for private housing development, agriculture as well as fuel wood for household use. This has resulted into an increase in surface run-off to the lower lying foothill areas often resulting into destruction of

property and siltation. One primary school located at the foot of Riat Hills (St. Pauls Kanyakwar) is increasingly threatened by the sheer volume of run-off during the rainy season and has recently involved the community, Council and other partners in concerted attempts aimed at arresting the problem. In recent times, there has been an increase in incidents of property destruction from high winds mostly affecting the schools in the peri-urban area, a phenomenon closely associated with the reduced tree cover.

The flood plains dropping gently from the foot of the hills towards the lake constitutes the peri-urban fringe of the city and is characterized by densely populated informal settlements with poor infrastructure and limited service outreach. Uncollected garbage and poor sanitary conditions in these settlements present a poor environmental quality in these neighborhoods, with an accompanying increase in health risk due to numerous routes of exposure to disease causing agents. The densely populated and inappropriately constructed housing units hinder access exposing these neighborhoods to eminent threat from environmental disasters such as fire outbreaks and flash floods. Due to the poverty situation prevalent in the informal settlements, a significant number of households have resorted into urban agriculture and livestock keeping practices to supplement the household food requirement and sometimes provide income.

This practice, being largely unregulated, has often drawn the wrath of some residents in these settlements with complaints of destruction and nuisance caused by the free roaming livestock. Within the core urban centre, the challenges include encroachment of informal trading into recreational space and street verges, blocked sewers, clogged drainage from illegal dumping of solid waste, lack of effluent pre-treatment facilities in industry, and discharge of inadequately treated wastewater into the natural streams from both municipal plants and industry. Such city development challenges coupled with the run-off from the rich agricultural hinterland has greatly contributed to the increasing pollution load into the lake. The wetlands along the shores of the lake are increasingly under threat from encroachment for farming purposes, destroying the fish breeding sites and the general wetland ecosystem.



Plate 10, A section of Dunga wetland, showing destructive papyrus harvesting in the ecosystem

Human practices such as direct car washing in the lake, though prohibited, has continued causing direct pollution of the lake waters. Other shoreline pollution routes include sand mining directly along the Usoma shoreline, effluent discharge from Municipal sewer and industry, waste oil from garages and pier, and siltation from the rivers. Consequences of pollution and high nutrient loading of the lake are manifest in the water hyacinth invasion and frequent algal blooms. Shoreline communities also associated the presence of water hyacinth with reduced fish availability and increase in diseases such as malaria.

4.4 Increased Urban Poverty

Between a third and half of the Kenya's urban population live in poverty, and given the pace of urbanization, urban poverty will represent almost half of the *total* poverty in Kenya by 2020 (OXFAM, 2009). Moreover, while urban poverty has been decreasing according to some measures, statistics indicate that the proportion of the urban population that are poorest of all (the 'food poor' and 'hardcore poor') has been on the rise.

In the last decade or so, Kisumu has experienced a very high frequency of collapse in industry and commercial establishments, mainly attributed to the general decline in the National economy. This, coupled with government restructuring pursuits resulting into high retrenchment levels, has placed 48% of Kisumu's urban population within the absolute poverty bracket comparing rather unfavorably to a national average figure of 29%. Majority of city inhabitants previously engaged in wage employment in the manufacturing and processing plants have had to find alternative income earning opportunities in the informal sector, causing a rapid expansion in this sector. A reported decline in fish catch accompanied by a slump in the sugar industry in the hinterland of Kisumu has greatly affected the local economy, effectively reducing the purchasing power of the citizenry. The plight of the urban poor is worsened by the lack of decent and affordable shelter, noting that public investment in the provision of low-cost decent housing has stagnated since the early 80's. Subsistence farming has emerged as widely practiced option for household livelihood support especially in the peri-urban areas, often with higher women engagement.

Kisumu lacks an investment plan, pertinent in attracting and guiding investors to the city. The development of the micro-enterprise sector of the local economy has largely been needs driven with no evidence of city institutional framework for support of the sector, exposing the rapidly expanding informal sector to direct forces associated with an open market system. Whatever gains that may accrue from the informal trading practices have not translated to any improvement of the urban poor situation, begging for support structures such as access to micro-credit opportunities. It is however encouraging noting some recent trends towards the revival of collapsed industry through strategic investment partnerships such as the revamp of the Molasses plant. The city authority has also recognized the need to engineer local investment growth and established a multi-stakeholder roundtable forum to coordinate and encourage strategic partnerships for accelerated development – the Kisumu Action Team (KAT)

4.5 Unregulated Urban Agriculture and Livestock Keeping

Kenya lacks a policy governing urban Agriculture; Kisumu Municipality has a by-law that prohibits urban farming. Kisumu with an estimated population of 500, 000 people feeds its urban population with foods mainly transported from Uganda, Kisii, Narok, Kitale and far places such as Mombasa. Lack of clear policy and initiatives to promote urban Agriculture therefore portends a serious challenge of sustainability for Kisumu city and municipality.

A recent scoping study on urban livestock keeping in peri-urban Kisumu estimated the household livestock worth from the 737 households studied at an average of KES. 150,000 per household. Urban agriculture is widely practiced in the peri-urban fringes and lakeshore areas including the wetlands, predominantly at a subsistence level to meet the household food requirements. The larger part of the land area in Kisumu (80%) incorporated as a result of the administrative boundary extension, is majorly rural in character and exhibits more intensive levels of urban agricultural and livestock keeping practices. Though Kisumu remains a net importer of food, the underlying potential in urban agriculture and livestock keeping cannot be underscored, and particularly its contribution towards improving the poor livelihood status.

The major challenge to urban agriculture and livestock keeping practices, especially amongst the poor peri-urban dwellers, is the lack of supportive local policy and legal framework. The existing by-laws are largely prohibitive, classifying such practice as a nuisance to and threat to public health. Waste from animal and dead plant matter finds its way into the sewerage system, which is not designed to accommodate such waste, and often the free grazing livestock are seen as threat to urban aesthetics pursuits and increase risk for accidents. Risk of exposure to animal diseases closely associated with the absence of extension services or institutional structures within the Council to support such practices, presents yet another challenge.

4.6 HIV/Aids Pandemic and Other Diseases

HIV/Aids pandemic remains the largest threat to the health status in Kisumu, leaving in its destructive trail, a growing population of orphaned children with missed opportunities to enjoy parental care. According to the 2001 results of sentinel surveillance by the Ministry of Health⁶, the percentage of pregnant women testing HIV-positive was 35% for Kisumu with the province (Nyanza) registering the highest cumulative figure of HIV-positive adults between the ages of 15-49 years (480,000). Most of the people interviewed in Kisumu closely associate the HIV/Aids pandemic with the rising poverty levels, observing that the little household income has to be shared between meeting the basic household needs and the medical demands of the condition. HIV/Aids has exacerbated the poverty situation and set back the socio-economic gains made in the years before the late 80's. Indeed majority of the citizens in Kisumu observed that the pandemic has not only impacted negatively on population growth, but continues to destroy the social fabric and undermining the age-old socio-cultural bedrocks such as extended family systems.

Other diseases include Malaria, Upper Respiratory Tract Infections (URTI) and waterborne diseases (e.g. Typhoid, diarrhoea). Malaria is particularly rampant amongst children during the

rainy season when blocked drains and stagnant ponds of water provide rich breeding grounds for the malaria causing agents.

Diarrhoea and typhoid has been closely linked to the limited supply of piped water and poor sanitary conditions, with higher concentration in the peri-urban areas where shallow-well water and pit latrines provide alternatives to the conventional water and sanitation systems.

The health conditions are exacerbated by the limited access to health facilities and relatively high cost of treatment, with majority of the poor resulting into unconventional 'home treatment' modes. It was established that even where the health facilities exist, they often lack the drugs for treatment. One major challenge for the City Authority remains that of designing a comprehensive plan for dealing with the HIV/Aids pandemic and its consequential outcomes.

4.7 Governance

4.7.1 Governance Situation of the City

The citizens of Kisumu city and the entire Lake region have become increasingly active in the scrutiny of public management affairs for integrity, competence and ability to deliver as opposed to the populist practice in previous years. People nowadays demand delivery of services and insist on getting quality service from the Local Authority. This drive has largely been contributed by the adoption of participatory and consultative resource and project planning and implementation processes introduced through the ongoing local government reforms.

Civic leaders together with civil society agents have frequently mobilized and sensitized members of their respective wards in order to obtain their participation and involvement in development activities. Cases in point have been mobilisation activities during the process of development of Local Authorities Service Delivery Action Plan (LASDAP), Local Authority Development Plan, and Poverty Reduction Strategy Paper. Citizens have formed community action groups/associations for the purpose of advocating and articulating their interests within their respective residential areas/communities. The civil society has made invaluable contributions in this regard.

4.7.2 Governance situation at the Beaches

The fishing communities at the beaches are organized through the formation of legally empowered Beach Management Units (BMUs). BMUs are the foundation of fisheries co-management and are community-based organizations that bring together everyone involved in fisheries at a beach – boat owners, boat crew, traders, processors, boat builders, and repairers, net repairers and others – to work with the government and other stakeholders in managing fisheries resources and improving the livelihood of community members.

The BMUs have the following features:

- Legal status, giving legal power to BMU activities.
- All stakeholder groups involved. Everyone working in fisheries at a beach must be registered with a BMU.
- At least 30 boats, so that they are big enough to plan, raise revenue and operate effectively. Some BMUs have more than one landing site.
- A committee with representatives from all stakeholder groups and at least 3 women.
- An assembly, formed by all registered members of the BMU, who should meet together at least once every 3 months and oversee the work of the committee.



Plate 11. Picture showing informal housing in Nyalenda

5.0 Legal Framework and Policy Frame Governing Urban Sustainability

5.1 Environmental Management and Coordination Act, 1999 (EMCA)

The enactment of the Environment Management and Coordination Act (1999) and establishment of statutory bodies presents a great opportunity for directing a reversal to these undesirable trends. Communities around the lake, Kisumu included, recently came up with a common vision and strategy⁵ for the sustainable management of the lake and its resources, therein recognizing the need for coordination and collective action in protecting the lake and its catchment. This Act is aimed at improving the legal and administrative co-ordination of the various sectoral initiatives in the field of environment in order to enhance the national capacity for its effective management. It thus provides a framework for ensuring that environmental considerations are successfully integrated in to the country's overall economic and social development to ensure sustainability.

The Act's parts V to IX are respectively dedicated to Protection and Conservation of the Environment; Environmental Impact Assessment; Environmental Audit and Monitoring; Environmental quality standards; Environment Restoration Orders, Environmental Conservation Orders and Environmental Easements. Various regulations within the act stipulate specific requirements regarding the issues addressed in the parts some which are summarized as follows.

5.2 Legal Notice No. 121: Kenya Gazette Supplement No. 56 EMCA – Environmental Impact Assessment and Audit Regulations, 2003.

The regulations provide detailed requirements and issues that need to be dealt with for the project report, EIA study, monitoring and auditing. Under these regulations, NEMA uses EIAs as a decision making tool in determining the issuance of licenses to new projects, and EAs as a tool for monitoring and evaluating compliance and conformity to environmental protection and conservation measures of ongoing projects.

5.3 Legal Notice No. 121: Kenya Gazette Supplement No. 69 EMCA – Waste Management Regulations, 2006.

These regulations focus on the management of solid waste, industrial waste, hazardous waste pesticides and toxic substances, biomedical wastes and radioactive substances. They provide details on the responsibility of the waste generator, adoption of cleaner production principles, waste handling and transportation, waste treatment and disposal as well as licensing, fees and penalties related to waste management. The regulations therefore act as

a guide in planning and implementation of sustainable waste management programmes for all waste generators and handlers.

5.4 Legal Notice No. 120: Kenya Gazette Supplement No. 68. EMCA – Water Quality Regulations, 2006.

The regulations address pollution of water resources as well as their conservation. Any development likely to affect water resources (both the surface and ground water) through pollution or use is required to comply with these regulations. Normally most developments are likely to affect water resources due to waste generated and their disposal, including the sinking of soak pits.

5.5 The Public Health Act, Cap. 242 of the Laws of Kenya.

The Act states it as an offence for any land owner or occupier to engage in or allow engagement in activities that are likely to cause nuisance, are injurious or dangerous to health, to be undertaken in his/her land.

5.6 Policies and legislations governing built environment

The main statutes governing building standards, design and materials today are;

- The Building Code and
- The Public Health Act. Other statutes affecting housing development are listed below.

5.7 Legislation Having Impact on Housing Development

- The Building Code, 1968, consisting of Local Government (Adoptive By-Laws) (Building Order, 1968, and Local Government (Adoptive By-Laws) (Grade II Building) Order, 1968.
- The Public Health Act Cap. 242, of 1972
- The Housing Act, Cap. 177 of 1953
- The Rent Restriction Act, Cap. 296, of 1959
- The Landlord and Tenant (Shops, Hotels and Catering Establishment) Act, Cap. 301 of 1965
- The Local Government Act, Cap 265 of 1977

- The Land Control Act, Cap. 302 of 1967
- The Streets Adoption Act, Cap. 406 of 1963
- The Water Act, Cap. 372
- Fire Inquiry Act, Cap. 103
- The Land Acquisition Act, Cap. 295 of 1968
- The Registered Land Act, Cap. 300 of 1963
- The Guarantee (Loans) Act, Cap. 461, of 1966
- The Sectional Properties Act. 1987
- The Land Planning Act, Cap. 303, 1968

Of all these laws, the Public Health Act is, arguably, the most far-reaching in respect to the latitude it enjoys over building. For instance, the Minister of Local Government can only approve by-laws proposed by a local authority with the agreement of the Minister of Health. The powers contained in the Public Health Act also constitute the outstanding conflict between building legislation and the production of low-cost housing utilizing appropriate building materials and techniques.

5.8 What the Public Health Act stipulates on space, lighting, ventilation and size of buildings

The Act is specific on, inter alia, areas such as construction and materials to be used; space around buildings, lighting and ventilation of buildings, and sizes of rooms to be used for human habitation; repairs or demolition of unsafe, dilapidated or dangerous buildings, etc.

5.9 Options for local authorities to control built environment

On the other hand, local authorities are empowered by sections of the Public Health and Local Government Acts to enact or make their own building by-laws or planning regulations. Building acts, regulations and codes are the means by which authorities control construction activities for the purpose of ensuring safety and health in the built environment.

They are, therefore, critical to all construction activities, particularly for low-income shelter where a single effort involving these procedures could lead to significant improvements. For instance, regulations and codes could be formulated for the construction of low-income

settlements, incorporating types of building materials and construction techniques which are affordable to low-income groups.

5.10 Participation of Urban dwellers in formulation and implementation of these laws

Despite the critical role these laws play in the day-to-day lives of the majority of urban dwellers, they hardly participate in their formulation and implementation. Obviously, the interests of the low-income population hardly matter if the highest standards are to be formulated! But the reality is that 40 to 70 per cent of urban dwellers in Kenya live in informal settlements where a substantial proportion of the construction depends on earth, timber-based products and other locally-available materials.

5.11 What the local by-laws says concerning the use of locally-based materials for construction

Local by-laws do not sufficiently cater for use of locally-based affordable materials for particular circumstances and emergencies prevalent in these settlements. They are, intact, specific on use of modern materials and techniques - cement and mortar, steel, electrical and mechanical installations - which are mainly for middle and high-income shelter, commercial or industrial developments. These are only affordable to a minority of the population. The result is very high building standards that are unaffordable by the majority of the low-income urban dwellers, giving rise to rapid growth of squatters and slums on public or private land, contravening the land-use controls and similar laws.

The volume of relevant legislation is also particularly confusing to developers and is compounded by the frustration caused by personal interpretations of these statutes as witnessed in several projects in Dandora and Umoja estates in Nairobi. Housing development is consequently complicated and sometimes made more costly by the difficulties in obtaining the necessary permission, particularly for low-cost housing. This scenario has made interpretation and application of these legislations slow, cumbersome and expensive. The situation is worsened by the many public, quasi-public and private-sector groups that have vested and, occasionally, conflicting interests in the implementation of these standards.

This nature of existing official standards and norms means that they are seriously considered by only a small proportion of developers. For the majority, the standards and regulations are unfortunately not fully applicable. This renders them inadequate and irrelevant to community needs and aspirations, particularly to residents in unauthorized and low-cost shelter settlements.

AGENCIES	POLICY FORMULATION	STANDARD SETTING	PLAN APPROVAL	ENFORCEMENT	NOTES
Housing Department	X	X			
NHC	0	0			
PPD	X	X	X		
Ministry of Health	X	X	X	X	
Commissioner of Lands	X	X	X		COL uses both statutory & contractual measures
NCC	X	X	X	X	
Local Authority	X	X	X	X	
KP & L Co Ltd.		0			
Water Authority	X	X		X	
AG's Chambers		X			
Courts				X	
Provincial Admin/Chief				X	Chief may be used by LA to enforce
Lending Institutions		0	0	0	
Employers		X			
Labour Department		X			
COTU		0			
Architects/Engineers & Designers			0		
Bureau of Standards	0	0			
HRDU	0	0			
Donor Agencies	0	0	0		

Source: Kenya Low-Income Housing By-Lay Study, Vol. 2

X	Public Measure
0	Quasi Government & private measures
COL	Commissioner of Lands
KP & L CO. Ltd.,	Kenya Power & Lighting Co. Ltd.,
COTU	Central Organization of Trade Unions

Table 1. Showing Agencies Responsible for Formulation and Enforcement of Residential Standards

6.0 Policy and Legal Framework for Housing and Settlements

6.1 Powers of Urban Authorities over settlement control

Since the proclamation of the **Universal Declaration of Human Rights (UDHR)**, the right to housing has found recognition among a wide range of international, regional and national instrument. **Article 25(1)** of the Declaration states that: “Everyone has the right to a standard of living adequate for the health, and well-being of himself and his family, including food, clothing, housing and medical care....” Other legal instruments within and without the UN systems have since then contributed to clarifying the legal status of the right to housing. Despite the universal understanding that the availability of adequate and reliable housing is essential to improve the quality of life of the urban population, Kenyan urban authorities and the central government have been largely unsuccessful to respond to this basic need.

In the 70s and 80s, the urban authorities and the central government implemented a programme of providing housing via the National Housing Corporation but the programme has since then declined. In the last ten years, more than 94% of shelter development has been carried out by the private sector either in the form of conventional real estate or in the form of temporary dwelling structures in unplanned settlements. It is notable that more than 70% of the urban population in the major municipalities lives in unplanned settlements that are private sector developed.

There are a number of laws that govern the regulation of settlements by urban authorities. The main laws include the **Constitution of Kenya; the Government Lands Act, Cap 280; the Land Acquisition Act, Cap 295; the Registration of Titles Act, Cap 281; the Land Titles Act, Cap 282; the Valuation of Rating Act, Cap 226; the Rating Act, Cap 267; the Rent Restriction Act, Cap 296; the Landlord and Tenant (Shops, Hotels and Catering Establishments) Act Cap 301; the Local Government Act, Cap 265; the Physical Planning Act; the Environmental Management and Coordination Act 1999; the Housing Act, Cap 117.** The constitution of Kenya clearly stipulates that, among other rights –“every person has the right....to accessible and adequate housing, and to reasonable standards of sanitation” including a right “to clean and safe water in adequate quantities”

Government Lands Act. Section 82 (7) further states that no person shall be treated in a discriminatory manner in respect of access to shops, hotels, lodgings, public restaurants, eating houses, beer halls or places of public resort maintained wholly or partly out of public funds or dedicated to the use of the general public. This section though not directly tied to the right to adequate housing guarantees the right of access to specific housing.

Section 40 of the **Government Lands Act, Cap 280** provides for licenses to occupy Unalienated land for temporary purposes. These may be granted by the Commissioner to continue for one year and to expire after a three months' notice to quit. Unalienated Government Land for purposes of this Act means Government land which is not for the time being leased to any person, or in respect of which the Commissioner has not issued any letter of allotment. Notably, **section 142** provides a penalty for unauthorized occupation of Unalienated Government Land. This creates the justification for evicting those in the informal sector who carry out businesses on such land.

Section 144 (1) of the **Local Government Act, Cap 265** grants power to the urban authorities to acquire land. This provision is buttressed by **Section 6 of the Land Acquisition Act, Cap 295** which provides that any land may be acquired for the purpose of a public body provided that the acquisition of the land is necessary in the interests of town and country planning or the development or utilization of any property in such manner as to promote the public benefit.

Under Section 166, every municipal council, town council or urban council may prohibit and control the development and use of land and buildings in the interest of the proper and orderly development of its area. For this purpose, these urban authorities are also empowered to establish and maintain sewerage and drainage works within their areas. Further a Municipal Council, Town Council or Urban Council may;

- Lay out building plots or otherwise subdivide any of its land for the purpose of housing schemes for the inhabitants of its area;
- Erect and maintain dwelling houses with their apartment outbuildings on such plots or subdivisions of land;
- Convert buildings into dwelling houses;
- Let any dwelling house erected or provided by it;
- Sell, let or otherwise dispose of any such dwelling house or any of its land to any person for the purpose and under the condition that that person will erect and maintain thereon such number of houses as may be determined by that local authority.

This provision is to be read together with the provisions of the **Housing Act, Cap 117** which establishes the National Housing Corporation and Housing Fund, from which an urban authority

may obtain loans or grants to acquire land, construct approved dwellings and carry out approved schemes for settlement of its inhabitants. Another control by urban authorities is the duty of urban authorities to maintain cleanliness and prevent nuisances pursuant to **Section 116** of the **Public Health Act, Cap 242**. Urban authorities are further bestowed with powers over planning and land use by the **Physical Planning Act. Section 30(1)** provides that no person shall carry out development, in most cases housing projects, within the area of a local authority without development permission granted by the local authority. The Act further states that the local authority shall when considering a development application submitted to it have regard to the health, amenities and conveniences of the community generally and to the proper planning and the density of the development and land use.

Kenya's housing and urban management policy framework is generally considered inadequate to realize the global goal of achieving significant improvement in the lives of urban dwellers. The **National Housing Policy of 1986** for the period 1987-2000 and the Kenya National Plan of action are outdated and have not been translated into practical programs for shelter development. In order to meet the shelter goals, there is need to develop clear urban management policy, review the existing laws and cultivate political will.

6.2 Legal Notice No. 140. Physical Planning Act No. 6 of 1996.

Under this Act, the Department of physical planning, of the Local Authorities is mandated to develop zoning plans, by subdividing areas within the municipality or city's jurisdiction and designating land uses appropriately. The zoning plans however take effect after gazettment and approval by the minister for Local Government. In the interest of proper and orderly development, the Local Authority therefore controls the use and development of land and buildings in their respective areas of jurisdiction, and issue development permission. Change of user projects are therefore required to comply with the existing zoning plan for their respective areas.

7.0 Legal and Policy Framework on waste management

7.1 Legal Notice No. 121: Kenya Gazette Supplement No. 69 EMCA – Waste Management Regulations, 2006.

These regulations focus on the management of solid waste, industrial waste, hazardous waste pesticides and toxic substances, biomedical wastes and radioactive substances. They provide details on the responsibility of the waste generator, adoption of cleaner production principles, waste handling and transportation, waste treatment and disposal as well as licensing, fees and penalties related to waste management. The regulations therefore act as a guide in planning and implementation of sustainable waste management programmes for all waste generators and handlers.

7.2 Legal Notice No. 120: Kenya Gazette Supplement No. 68. EMCA – Water Quality Regulations, 2006.

The regulations address pollution of water resources as well as their conservation. Any development likely to affect water resources (both the surface and ground water) through pollution or use is required to comply with these regulations. Normally most developments are likely to affect water resources due to waste generated and their disposal, including the sinking of soak pits.

8.0 Environmental Management and Coordination Act, 1999 (EMCA)

This Act is aimed at improving the legal and administrative co-ordination of the various sectoral initiatives in the field of environment in order to enhance the national capacity for its effective management. It thus provides a framework for ensuring that environmental considerations are successfully integrated in to the country's overall economic and social development to ensure sustainability.

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The Act states it as an offence for any land owner or occupier to engage in or allow engagement in activities that are likely to cause nuisance, are injurious or dangerous to health, to be undertaken in his/her land.

9.0 The institutional and policy framework for poverty reduction

The challenge of urban poverty and vulnerability needs to be understood in relation to the framework in place both nationally and locally for governing Kenya's urban centers. Currently

government remains highly centralized, and there has historically been reluctance at central government level to acknowledge the full scale of urbanization and urban poverty in the country. While there is now a growing recognition on the part of government of the need to improve living conditions in the informal settlements, there are further causes for concern in relation to whether its efforts to rehouse people comply with international human rights standards

In the year 2000, it was estimated that 56 per cent of Kenyans lived below poverty line that is the equivalent of 17 million people (out of the 30 million). In response to rising levels of poverty and deteriorating social conditions, the Government reiterated its commitment to tackling this situation through the development of its Poverty Reduction Strategy Paper (PRSP). There has been much criticism leveled at the policy making process in Kenya in recent years because of the seemingly unrelated processes that have seen the country develop a medium Term Expenditure Framework (MTEF) and Poverty Eradication Strategy Paper (PRSP) to govern short term interventions, a National Development Plan that is to cater for Medium term, and the National Poverty Eradication Plan (NPEP) which sets the stage for longer term anti-poverty interventions (Perspectives of the poor on anti-poverty policies in selected Districts, Ministry of Finance and Planning, 2002).

9.1 National Poverty Eradication Plan

The NPEP is a long term plan designed to fight poverty over a 15 year time frame, it was designed to be implemented in six year cycles and was launched in 1999. Its main objectives are the reduction in the incidence of poverty in both rural and urban areas by 50 per cent by 2015, and strengthening the capabilities of poor and vulnerable groups to earn income, reduce gender and geographical disparities, and to have a healthier, better educated and more productive population. Its three main pillars are improved access to basic social services, promotion of broad based economic growth, and a charter for social integration.

9.1.2 Poverty Reduction Strategy Paper

After adopting the NPEP, the Government of Kenya opted to develop a Poverty Reduction Strategy. As a first step, they developed an interim poverty reduction strategy paper (I-PRSP) in 2000. Its five basic components were to:

- Facilitate sustained and rapid economic growth
- Improve governance and security
- Increase the ability of the poor to raise their income
- Improve the quality of life of the poor
- Improve equity and participation

The PRSP was developed in 2001 to replace the I-PRSP. Its twin objective was to reduce poverty and create economic growth. It was devised from the work of nine sectoral working groups.

- Agriculture and Rural Development
- Information and technology
- Human Resource Development
- Public Administration
- Public Safety, Law and Order
- Physical Infrastructure
- Trade, Tourism and Industry
- National Security
- Macroeconomic policy

Participation of the urban dwellers has been minimal if not nonexistent.

9.1.3 Citizen participation

Efforts to bring funds to the local level for urban development also suffer from a lack of transparency, accountability and citizen participation. At the level of Kisumu, the Municipal Council is constrained by central government intervention, lack of funds and corruption. Collaboration between civil society organizations and the Municipal Council is sporadic and poorly coordinated, and relations between central and local government are similarly hampered by poor coordination and lack of clarity in the division of functions. Moreover on certain issues, such as disaster prevention and risk reduction, there is a knowledge gap evident at all levels of government.

1. Bamato Environmental and Sanitation Programme

Bamato Environmental and Sanitation Programme is a non-profit making, non-political community focused development organization based within Nyalenda informal settlement of Kisumu city, Kenya. The organization was initiated upon a firm belief in the ability of the urban poor/less fortunate to participate and contribute meaningfully to bring about desirable change in their communities. "BAMATO" in the other hand is an acronym of three Kiswahili words (Baba, Mama, and Toto) which means, 'Ba' – Baba (father), 'Ma' – Mama (Mother), 'To' – Toto (Child) thus a holistic way of approach in terms of effectively managing the environmental and health related issues within the lake region. Since inception, this approach has realized considerable impact on the community in achieving the set objectives.



Plate . Picture showing the sign board leading to BAMATO

The project aspires to have in place empowered vulnerable communities with the ability to enhance sustainable development. It further seeks to facilitate

processes that promote development structures of the urban poor and fisher folk communities towards managing their environmental challenges in regard to improved livelihood. The program's niche is community empowerment for sustainable development.

Aims and objectives of the activity

- To protect Kisumu and its environs from environmental degradation.
- To reduce poverty within the informal settlements through effective utilization / management of solid waste resources
- To have improved water and sanitation situation/services within the informal settlements and fisher folk communities.
- To produce effective information education and communication exchange medium among the urban poor with regard to HIV/AIDS.
- To have community empowered to succeed without gender disparity.

It's Importance and approach to Urban Sustainability in the city

The Bamato Environmental and Sanitation Project in Kisumu works with 40 registered groups. The groups, which are mostly comprised of urban dwellers, have found ingenious ways of making a living while cleaning up their neighborhoods through waste management strategies. With the support of the Kisumu Municipal Council, Bamato has organized the groups to collect waste from specific collection points across the city. Each group operates within a designated location and collects a monthly fee from each household. On average, a

group of 10-15 members catering to a specific location makes over 60,000 a month by collecting garbage alone.

Source of Funds

1. SHELTER FORUM/SIDA - 1,750,000/= GRANT YEAR 2007/2008
2. SECODE I/KOEE - 75,000/= GRANT YEAR 2009
3. SHELTER FORUM - 75,000/= GRANT 2009
4. PARADEP/USAID DAI 2,200,000/= IN KIND GRANT 2009/2010
5. K-REP BANK 3,000,000/= LOAN/GUARANTEE FUND 2010
6. SECODE II 170,000/= GRANT 2012
7. CHASEBANK/ENABLIS/ILO 500,000/= PRIZE 2012
8. PRACTICAL ACTION 150,000/= IN KIND GRANT JUNE 2011



Plate 13. Picture showing the sorting area at Bamato

Some of the Key Development Partners are;

- USAID - DAI KTI
- African Community Deevlopment Foundation - ACDF UK
- VSO UKKUAP-Pandpieri



Plate 12. Showing a worker sorting the waste plastic

- Kisumu Polytechnic
- Haki Jamii
- Kenya Forest Services
- ECOVIC
- SUSWATCH
- Civil Society Urban Development Programme
- CSO Network
- UN-Habitat
- ILO
- ENABLIS
- K-REP BANK
- CHASE BANK
- EQUITY BANK
- Kenya Wildlife Services
- Ministry of Environment
- Ministry of Education
- Lake Victoria Local Region Authorities
- Co-operation -LAVLARC
- CORDAID/URBAN MATTERS
- Millenium Cities Initiative - MCI

- Grassroots Trust
- UMANDE TRUST
- KENASVIT
- WEIGO
- LVEMP II
- CARE KENYA
- ECOTACT
- Support for Tropical Initiative in Poverty Alleviation - STIPA.
- Kisumu Waste Management Association and SACCO (KIWANA).
- Kenya National Waste Handlers Association - KENAWAHA
- Nyalenda Housing Co-operative Society
- Church of Christ in Africa - CCA

Those involved in this activity

In 2009, with the help of USAID/Kenya through the Office of Transition Initiatives (OTI), Bamato took on plastic waste recycling as an effective way of managing inorganic solid waste. It has engaged community members and empowered them economically through training on the recycling process using locally available materials. Over 200 groups that include men, women, and the youth have received training to collect and sort out hard plastics which are then delivered to the Bamato project site for recycling.



Plate 14. Picture showing shedde plastic being sun dried

The plastics are sorted by type and color and cleaned before they are cut into small chips by a machine and smelted for molding into various items. Besides giving training on waste recycling, USAID/Kenya also supported the project by buying a molding machine used to make the various plastic items. It also expanded the rooms where the molding process was being carried out to improve ventilation in the work area.



Plate 15. Picture showing a pelletizer used at the recycling plant.

Success indicators

The production of recycled items has not disappointed. The project churns out beautifully designed buckets, basins, necklaces, earrings, belts, hats and sandals. These products are sold in markets in Kisumu and surrounding towns and are very popular due to their affordable cost. The proceeds go towards improving the living standards of project members and have helped to reduce the rate of unemployment in the area



Plate 16. A sample of item generated from the waste plastic

2. Umande Trust Biocentres

Aims and objectives of the activity

This Project is a multi-purpose pilot project which combines sanitation improvement, renewable energy promotion and income-generation. If the pilot works, the successful experience of the project could be shared with other informal settlements or communities in Kenya and will benefit a large population of people living in poor conditions



Plate 17. A toilet in the slums

Its importance and approach to urban sustainability in the city

60% of Kisumu's population lives in slums which are characterized by inadequate housing and sanitation conditions. Human waste lies on paths and drains and an average of 650 people share each toilet cubicle. The most prevalent childhood sicknesses and 40% of infant mortality are caused by inadequate sanitation. To

address this, Umande Trust, a Kenyan rights-based organization, has developed the BioCentre concept. This is a biogas generating latrine block, managed by community groups, which can be located anywhere in a slum as it treats human waste in-situ without requiring sewerage infrastructure. It comprises of the following:

- Digester: Mixes water and human waste in anaerobic conditions to make biogas; remaining liquid effluent is 90% pathogen free and filtered on site.
- BioGas: Used for cooking and can be linked to children's feeding projects. It reduces carbon emissions by converting methane to CO₂ and water and by substituting the need for other fuels.
- Toilets and washrooms: Ground floor to ensure disabled access with free 'child only' cubicles
- Water Kiosk: selling affordable clean water
- Upper Floors: Maximizes restricted urban space, has a hall and ancillary rooms for community and livelihoods activities e.g. cottage industries or a restaurant.



Plate 18. Picture showing a two plate burner that uses methane from the bio center



Plate 19. Picture showing the Obunga Biocentre

Factors and conditions that contribute to the success of the activity

Income generated through rental can subsidize the operation of the toilets. The Bio Centre can be built with locally available technology, local unskilled labor and requires minimal maintenance as it has no movable parts.



Plate 20. Similar project in Nyalenda

GOAL, an international NGO working with Umade, adds value to the Bio Centre concept by linking it to a comprehensive community mapping analysis which highlights specific locations in greatest need of improved sanitation and by incorporating in each Bio Centre a room for a community health worker. These are community members, trained by GOAL to disseminate hygiene and health information, e.g. to women queuing for water each day, and to make referrals to local institutions for health, HIV/AIDS and child protection issues.



Plate 21. Picture showing a section of the Nyalenda Bio Centre under construction

Most other initiatives offering sanitation services are plot-based pit latrines which are exhaust human waste into nearby rivers regularly overflow and often charge high usage fees. The Bio Centre is a

breakthrough, as it treats human waste in-situ, offers affordable sanitation through its mechanism of subsidizing operational costs, reduces carbon emissions and links to hygiene promotion, health and child protection services.

3. Kisumu Sustainable Urban mobility (SUM)

Boda bodas (local mode of transport using bicycles taxis) are a common phenomenon in Kisumu. They are cheap, relatively fast and stop wherever the passenger wants to get off. The problem is that they are not safe, mainly because of the missing corresponding infrastructure and of ignorance of the various road users regarding road regulations. This was one of the reasons for the selection of Kisumu, as the first SUM demonstration city.

The Sustainable Urban Mobility (SUM) component is a new activity within the SCP Programme. Active since mid-2003, this component offers SCP cities the opportunity of technical support and limited funding to build technical capacity in the area of low-cost mobility (walking and cycling) planning and management. It will also demonstrate the positive impacts of infrastructure interventions aimed at increasing the efficiency and safety of these modes of transport.

Lessons and experiences obtained by the participating cities will be disseminated SCP-wide through newsletters and a dedicated website. The SUM initiative is aimed at strengthening the technical knowledge of local authorities and their partners on sustainable urban mobility and to institutionalize it through the SCP/Environmental Planning and Management process. The support will focus on improving the readiness and ability of local authorities to allocate financial and human resources towards enhancing sustainable urban mobility with a strong

focus on poverty reduction and therefore on low cost transportation.



Plate 22. Picture showing the congestion on the main city street before the project

The first SUM demonstration project was done in Kisumu, Kenya a middle size town with a population of approximate 550,000 people and is located in western Kenya at the shore of Lake Victoria. Many residents in Kisumu travel by boda boda. Despite their popularity, boda bodas are not safe because of the missing supporting infrastructure and the fact that many road users are ignorant of road regulations.



Plate 23. Picture of Kisumu CBD devoid of the nuisance boda boda and matatu menace after the implementation of SUM project

Following a city consultation held with SCP, ITDG, IHE-UNESCO, and the various stakeholders a city wide urban mobility strategy was developed that will provide a framework for area specific action plans for selected hotspots.

Aims and Objectives

- To sensitise/train policy makers, technical staff and stakeholders on the socio-economic importance of mobility, and low-cost mobility in particular
- To equip KCC technical staff to continuously and independently analyze, plan and monitor the Kisumu mobility situation, with a focus on low-cost mobility
- To equip KCC staff and key stakeholders to use EPM tools by applying them in the SUM demonstration project
- To safeguard and promote safe and efficient cycling as a sustainable mode of transport in Kisumu
- To demonstrate the benefits of the application of tested physical interventions within that context



Plate 24. Increased use of pedestrian pathways due to absence of public transport within the CBD

Those involved in this activity

In order to be able to respond better to the demands of cities aiming at more sustainable urban development, the Sustainable Cities Programme and InWEnt - Capacity Building International, Germany have agreed to use InWEnt's practice-oriented professional training, international dialogue and exchange programs to improve urban management capacities among the partners of the Sustainable Cities Programme.



Plate 25. Picture showing a section of the Oginga odinga street

This helped in strengthening South-South cooperation within the Programme and linking it with partners working with InWEnt and other relevant networks. A number of practitioners from SCP partner were shortlisted for training courses in Germany.

InWEnt was established in 2002 through a merger of Carl Duisberg Gesellschaft e.V.

(CDG) and the German Foundation for International Development (DSE). The new organizations draw on five decades of experience that both organisations have gained in the field of international cooperation and dialogue. It focused on experts, managers and decision-makers from business and industry, politics, public administration and civil society from all over the world.

Funding was primarily by the German federal and state governments and multilateral organizations, nearly 35,000 people participated in InWEnt's training and capacity building activities a year. InWEnt invites all partners of SCP to give feedback about their priorities for action in the field of urban management and their assessment of training needs for decision-makers from local governments and infrastructure providers.

4. Zingira Crafts Centre

Zingira Nyanza is a community based organization situated in Kisumu, Western Kenya it co-ordinates the efforts of local artisans to produce a range of handicraft products made from recycled and locally sourced materials. Their work is inclusive of all tribes living in the Kisumu area. And they work with people of both genders from 18 years old and upwards. There are currently 20 artisans working in the organization. The CBO attempts to use unwanted materials to create handicrafts, thereby helping to create employment and conserve the environment. Income from products helps the local people to have a better standard of living allowing them better shelter, food, electricity, clothing, school fees, health insurance and more. They employ local artisans who make handcrafted gifts and products from locally sourced materials, which they distribute and sell to a wider and more lucrative market beyond Kisumu.

All profits generated from the sale of these crafts are used to sustain and expand the market base and to train more artisans. This provides job security and alternative employment for the local community. As they train more people they also teach the importance of recycling and caring for our own environment. At present they make little or no profit, but as the project develops they aim to provide financial assistance towards local projects such as well-building and providing much needed resources to local schools.

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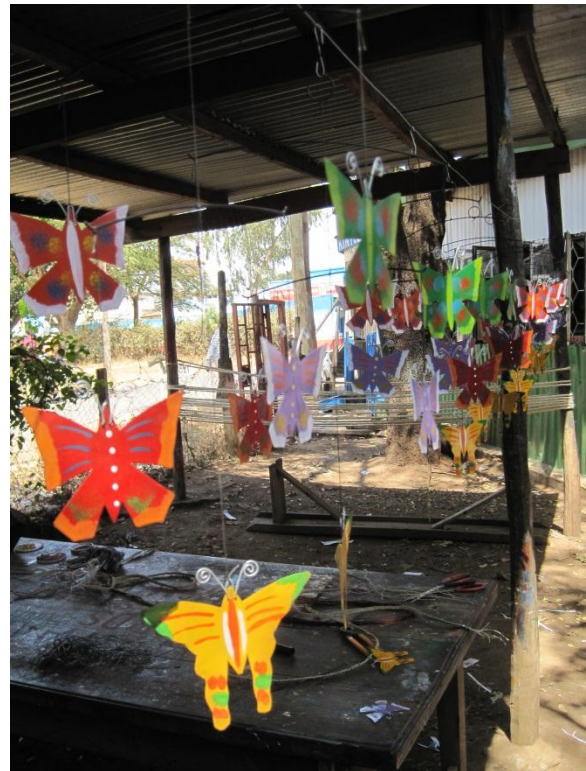


Plate 26. Picture showing products made at Zingira

Aims and objectives

Their aim is to provide training, employment and education in the interest of empowerment and social welfare, with the objective of improving life for the inhabitants of Kisumu. Their values include

- Using education as a tool to enable empowerment. Promoting a healthy and

sustainable lifestyle through environmental awareness. Inclusiveness through equal opportunities employment.

- Independence and poverty reduction through fair wages.
- Flexibility to enable and ensure participation.

Importance of the project and its value in urban sustainability

Currently, there are no proper waste disposal services in Kisumu. All rubbish is swept into piles and burnt each day releasing toxic gases into the air. At present there are little or no recycling centers in Kisumu. Proper solid waste disposal is a serious problem in Kisumu and this in turn, creates huge rubbish dumpsites that adversely affect the community's health. Kisumu does not have the resources or the infrastructure to deal with its own waste.



Plate 27. Waste disposal in Kisumu

Zigira therefore tries to overcome these development problems within the community of Kisumu by focusing on the environmental challenges of the region and providing the much needed employment to talented artisans who struggle to find alternative employment. This they do by

using solely recycled materials or materials from natural sustainable resources to create crafts. By creating arts and crafts that minimize the damage to the environment by reducing the destruction of natural resources. The following are the types of raw materials that they use.



Plate 28. Picture showing a member of Zigira with a sample or recycled paper

Plastic:

Plastic bags are the most noticeable waste problem throughout Kisumu. An estimated 4,000 tonnes of plastic bags are produced country wide each month mainly for shopping purposes. Many bags are discarded after one use and cause a huge eyesore in both urban and countryside areas. Plastic bags also block gutters and drains, choke farm animals and marine wildlife and pollute the soil as they gradually break down.



Plate 29. Picture showing one of the workshops in Zingira

Zingira workers regularly collect as many plastic bags as they can use from the streets and countryside of Kisumu, clean and organize them, then re-use them to weave strong durable products such as bags.

WaterHyacinth

The Hyacinth a highly invasive native South American plant which was introduced to the lake. Has rapidly spread across the edges of the lake, choking native species, trapping waste and environmental hazards from factories which are disposed of into the lake on the shoreline, and thus into the part of the lake people use for drinking and bathing.

Zingira deals with this issue by regularly removing water hyacinth from the lake, and using the material to form products which can be of use to the local population in the form of furniture and sold to generate income for our community. Other materials that Zingira uses are waste paper and metals which they procure from local businesses and factories. By doing this they encourage other organizations to realize



Plate 30. Our guide explaining the uses of the hyacinth

- both the financial and environmental benefits of recycling in the community.



Plate 31. Picture showing the machine used to prepare the recycled paper made out of waste paper mache and the water hyacinth

5. Tich Kouma

Tich Kuoma is a CBO based in Dunga, Kisumu that specializes in ecotourism. The group is comprised of individuals who work on the farm collectively to generate income but they still hold their private businesses. The farm has been transformed into a recreational park where visitors can enjoy the biodiversity and sample the organic vegetables grown on the farm. The farm also hosts numerous fish farms where the shareholders and visitors can all learn various aspects of urban farming. Initially the farm was waste land and very swampy and used to harbor criminals and illicit drug users. The project is an initiative of SECODE in partnership with the local residents of dunga.



Plate 32. Picture showing the entrance to Tich Kuoma

The Aim and objective of the project

The project aims to:

- Construct a model ecotourism site as a viable project in collaboration with relevant stakeholders.
- Show case specific climate change mitigation and adaptation programmes

- Showcase food security programs that integrates with eco-tourism
- To provide an alternative livelihood for the residence while conserving the environment at the same time.



Plate 33. Picture showing one of the fish farms in the park

Its importance and approach to urban sustainability in the city region

Ecotourism is ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation (Ecotourism Australia, 2003)” and the International Ecotourism Society-IES (2004): “Responsible travel to natural areas that conserve the environmental and sustain the well-being of local people”.



Plate 34. Picture showing one of the animals in the park

Kisumu City and its environs adjacent to a major lake resource, the Lake Victoria, have an opportunity for Lake-connectivity as a development path that is anchored in transforming ecotourism (Hayombe, 2011; UN-Habitat, 2012). For all time Dunga has been synonymous with urban poverty due to its proximity with Nyalenda slum in Kisumu. Therefore the presence of this oasis with in the in formal settlement is a ray of hope and a demonstration that transformation can occur once there is a change of mind.



Plate 35. Picture showing a section of the park fed by a spring

Scale and Scope

The park is currently located next to a protected marshland that belongs to the Kisumu municipal council. The project initially got funding under the umbrella of SECODE but later on picked up and is currently self-sustaining itself. This it does by running a restaurant that specializes in organic dishes, the monthly contribution of the members and from the fish sales.



Plate 36. Picture showing patrons preparing to have a meal at the restaurant

The success of this project

The success can be witnessed by the extent to which the program has managed to transform the immediate environment around the marshland in dunga and to provide a sustainable livelihood for the members of the community who work in the farm. All the objectives that the program set out to achieve were met and accomplished appropriately.



Plate 37. Picture showing fish ponds in the park from the comfort of the restaurant.

6. Muungano ya wanavijiji

Muungano wa Wanavijiji is a federation of slum dwellers that was started in 1996 as a network of slums in Nairobi and Athi River. Muungano was formed by slum dwellers facing eviction threats, as an avenue for resistance against brutal evictions and land grabbing that was rampant from the mid 1990s to early 2000s. Muungano has since then spread to other regions and now includes Kisumu, Timau, Mombasa, Kitale, Nakuru, Makindu, Ndia. The movement represents over 100,000 members spanning over 300 informal settlements across Kenya.

Aims and objectives

The movement champions for acquisition of secure tenure for residents of informal settlements, while at the same time, agitating for provision of better services and amenities within the settlements. This is done through a raft of measures including advocacy at Government, Private Sector and Civil Society Organization levels as well as litigation among other strategies. Muungano primarily organizes communities around issues affecting them and mobilizes through daily savings in savings schemes, conducts community-led enumeration, propagates cross-settlement learning and sharing through periodic exchanges and implements community driven housing and infrastructure projects. Muungano also operates an urban poverty fund and this Special Purpose Vehicle is mandated to provide affordable project financing to the Muungano membership.



Plate 38. Showing a meeting with members of pamoja trust an affiliate partner

The facility has so far disbursed over 75 million shillings which has been used in community led slum upgrading projects



Plate 39. Picture showing members of the muungano ya wana vijiji.

The fund has been used to finance water connections a project in Nyalenda, Kisumu dubbed Maji Mashinani and stems out of a partnership between Pamoja Trust and the Kisumu Water & Sewerage Company with support from Water.org. Other than housing and infrastructure, Muungano members have been able to access financing for other projects including land

buying. The groups' vision is to develop a well-informed community that is able to fully participate in development and is fully recognized by government. While their mission is to mobilize communities and resources to facilitate development within the settlements.



Plate 40. Showing one of the Muungano forums in Nyalenda

It's Importance in the city region

There are 59 Muungano groups in Manyatta (wards A & B) and it is 300ksh for a group to join (there doesn't seem to be individual membership for groups in Kisumu). All activities (such as microfinance training) are done through the Makika local network an affiliate partner. Due to lack of consistent funding, the group is currently looking into other sources of finance, mostly either microfinance (on an individual or group basis), or some of the banks are also starting schemes to loan to groups.

Muungano themselves (in the Nyanza region) are also in discussions about setting up their own microfinance group to loan funds to their members at a lower interest rate than that of the banks. Groups save on

a weekly or daily basis in their local group, as well as on a weekly basis with the larger network. They also conduct exchanges (so far to Nakuru, Nairobi, Mombasa, Uganda, Tanzania, and they are hoping to go to India) to see what is happening elsewhere, and if they can apply what they learn to their own situation.



Plate 41. Showing part of the members of the muungano network

There are a range of types of groups that are members, but all have to be registered with the social services, and therefore fall into the categories of women's, youths' or general self-help groups. Each group has 15 – 40 members, 15 being the minimum specified by the social services department.

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