















PUBLIC SPACE REHABILITATION TURKANA, KENYA

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1 Introduction

UN-Habitat has been providing various workshops to support Refugee and Host communities in developing contexts towards achieving sustainable urban development; a notable project includes planning and implementation of the Kalobeyei New Settlement as part of the Kalobeyei Integrated Socio-Economic Development Program (KISEDP). Complementary to this project, UN-Habitat works with various specialised programs internally and externally to develop training methodologies to help develop practical, feasible approaches to implementing these urban planning interventions. This methodology has successfully been applied in numerous contexts.

UN-Habitat's Public Space Programme has been supporting the engagement of communities internationally in revitalizing their neighborhoods through public space designs, such as the creation of court yards, streets and shared facilities etc. Participants are taught in an engaging and creative way on how to visualize the potentials of public spaces within their neighborhoods. Not only can this provide for better management of public spaces within the Kalobeyei New Settlement or Kalobeyei Town, it also supports the Kalobeyei New Settlement's transition from a short-term, emergency planning to long-term, sustainable development model, and to better provide for infrastructure to communities within Kalobeyei Town, strengthening the integration of Host Communities and Refugees.

Minecraft Design Workshops for Kalobeyei New Settlement Refugee and Kalobeyei Host Communities was conducted based on the Public Space Program's Minecraft Software ICT Technology, to provide a platform for youth and members of the communities to contribute to designing their own public spaces, enhancing capacity with the process of formulating and implementing more integrated urban elements in the settlement. The outputs of Public Space site 1, in Neighbourhood 1 is captured within this report, with a way forward for the remaining three sites (Kalobeyei Town, Neighbourhood 2 and Neighbourhood 3).

Kalobeyei New Settlement

In 2016, UN-Habitat started a project to plan, develop and construct a new Refugee settlement in Kalobeyei, northwestern Kenya, expected to Host over 60,000 Refugees and people from the local Host communities. Multiple UN agencies, international and national organizations are involved in the project under the leadership of the Turkana County Government. The Kalobeyei project has been designed in order to play a key role in the paradigm shift from the traditional camp planning processes beyond relief and temporary settlement, taking into consideration the fact that they often remain in place for many years, highlighting the gradual transition from humanitarian support to sustainable development.

The Kalobeyei Settlement Spatial Plan has been developed by UN-Habitat in collaboration with the Kenya Ministry of Land and Urban Development according to Kenyan urban planning regulations, and is now being used by humanitarian actors to implement emergency infrastructure and facilities in the settlement. Unlike in a typical camp, education, health and public facilities are established for both Refugees and Host communities. The market, as a public space, is particularly important for encouraging integration and economic development for all. Currently, (December 2017) 35,000 people live in Kalobeyei Settlement, and one market is active and managed by the World Food Programme (WFP).

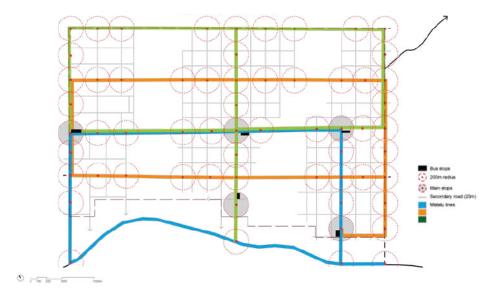
The Spatial Plan of Kalobeyei Settlement provides a well-designed network of public spaces and streets that can be a key asset for the settlement's economy that, if well managed, can increase property values, multiply retail activity, as well as improving health and well-being. Public space is important for neighborhood safety and contributes to developing a sense of ownership of the settlement, improving the quality of stay for the Refugees and increased opportunities for cooperation between Refugees and Host communities.

Transportation and Mobility Strategy

The Spatial Plan of Kalobeyei New Settlement also provides for well-designed networks of public spaces and streets that can be key assets for the settlement's economy, and if well managed, can drive increased property values, multiply retail activity, as well as improving health and well-being. Currently the Kalobeyei New Settlement residents often travel to Kalobeyei and Kakuma town for services such as shopping for food items and other necessities. The main form of public transportation to Kalobeyei and Kakuma town is motor-bikes (bodaboda) which is often charged at a high cost. There is currently no public transport provided for travelling within the settlement.

The development of an effective transportation system and street network would promote further integration within host and refugee communities through reducing taxing distances of travel and allowing for better efficiency. It supports the public space network in determining the living quality of a neighbourhood at the local scale and the functionality of a settlement at a larger scale.

Figure 1.1: Kalobeyei New Settlement Mobility Strategy



The overall objectives of the strategy would be to achieve the following:

 Develop and implement a Public Space Transportation and Mobility Strategy within the Kalobeyei New Settlement.

Transportation and mobility strategy will guide the long term development of efficient, multi-modal sustainable public transport systems for the settlement catering for safe walking and cycling, bodabodas, matatus and buses. The strategy will allow for greater connectivity within the settlement neighbourhoods, and foster greater convenience of travel. In the long term, greater connectivity and efficiency can contribute to stonger and more resilient economic growth of Kalobeyei New Settlement.

2. Equip host and refugee communities within the Kalobeyei New Settlement the skills in utilizing ICT for greater civic engagement in infrastructure design proposals.

With ICT being a catalyst to improve planning and increase levels of participation, efficiency and accountability in public urban development, through directly impacting civic engagement and youth participation, Minecraft and Ericsson's Virtual Reality Simulation Tools can be utilized in urban design formulation as part of UN-Habitat's participatory process. In design of

streets, emphasis will be on the design of complete streets that cater for all road users (non-motorised transport and motorised vehicles) and access for people with disabilities.

3. Promote greater livelihoods creation through the Transportation and Mobility strategies service providing and maintenance.

Through the adoption of a mobility strategy, and with utilizing different modes of transportation such as bodabodas, matatus and buses, a network of transportation services could create greater livelihood opportunities for members within various communities, in aspects of service and maintenance. It would also be viable to have community members lead in managing the transportation services to prove it more sustainable in the long term.

Additionally, the project builds on the Public Space Project in Kalobeyei, which seeks to establish a network of public spaces to foster the integration of host and refugee communities - through the construction of four public space pilot projects, capacity development at community levels to promote the importance of public and harness its potential for economic and environmental integration, and the establishment of public space community management groups.

Public Space Program for Kalobeyei

The UN-Habitat approach to public space focuses on integrity and equality, defining public space as "all places publicly owned or of public use, accessible and enjoyable by all for free and without a profit motive". At the 23rd Governing Council of UN-Habitat in 2011, Member States mandated UN-Habitat to place a larger focus on public space and how it can contribute to sustainable urban development. A public space resolution was adopted to consolidate local and international approaches to creating inclusive settlements, enhance the knowledge of UN-Habitat and local authorities of public spaces and the quality of urban life.

Overall Objectives of the Public Space Program

The objective is to assess different typologies of



Bridge humanitarian support with development through a properly planned, designed, implemented, managed and maintained public space network, with the continuous involvement and ownership of the local community.

public space in close relation to their surroundings and current use and to link the Host and Refugee communities within a network. By encouraging liaison with the local communities and groups, public space is the key tool for integrating communities and fosters community management of space, reducing reliance on humanitarian support. Kalobeyei is situated in a very dry area, where strong sun, sand storms and dry lands are factors to consider in site location and design process.



Establish a network of public spaces to foster integration of Host and Refugees communities.

Outputs of the Program

The network was initiated through construction of public spaces, which was to demonstrate the added value that investment in public space brings in supporting the settlement's transition from emergency to development phase. These public space pilot projects have been strategically chosen in collaboration with local stakeholders to ensure that they align, contribute to the overall development of the Kalobeyei Local Physical Development Plan, and facilitate the integration of Refugees and Host communities.



Establishment of public space community management groups around each public space to promote self sustainability of infrastructure and processes.

The development of the public space network nclude capacity development at the community level, to promote public space as an opportunity for integrated livelihoods, but also to provide opportunities for economic and environmentally responsible activities. The proposed achievement indicators will measure the increase in the community's capacity to plan and implement projects in public space, and the extent to which the public spaces support socio-economic and environmental development at the neighbourhood scale.

The groups constituted both Host community members and Refugees from the immediately surrounding neighbourhood to ensure engagement, contribution and ownership. The objective aimed to increase the capacity and skills of Host and Refugee community members to plan, design, implement and maintain public spaces. The groups were trained and supported to develop and implement different public space designs and strategies for maintenance and management of public spaces. This can increasingly lead the way to integration of communities for leisure and economic purposes, and make it possible to implement future actions which will improve the neighbourhood climate and liveability.

The first training component focused on design and management purposes, including design workshops, but also a component on management and group self-sustenance. The second training component addressed skill development for youth that will contribute to implementation and future maintenance of the public spaces.

Proposed Activities

Through a participatory processes, the UN-Habitat approach to public space targets capacity development, design workshops, upgrading and implementation of activities through the following structure:



Team discussing on laptops while using MineCraft. © UN-Habitat

- Establishment of community groups for design, implementation upgrading and maintenance of public spaces in the settlement. Potential division of groups between design/ management and implementation according to the skills/interests of community members involved;
- 2 Mapping and demarcation of public space intervention areas in agreement with community leaders;
- Participatory design, with public space management by community-based organizations, aiming to facilitate sustainable small-scale economic and socio-cultural activities;

- Support implementation of a public space design that will improve neighborhood accessibility and livability, providing space for small-scale economic activities focusing on skill training;
- Presentation of project progress in a conference with all groups involved in pilot projects which was developed in collaboration between the Minecraft creators, Mojang, and UN-Habitat.
- Establishment of public space management committee as led through advisory by UN-Habitat to encourage greater long-term self sustainability.

Land Acquisition Process

Land Title changing for Public Space Allocation

To allocate the land for public space, UN-Habitat Public Space and Kakuma Field Office seeked to change the title of the land area from Communal Land to Public Land through the following processes.

- Hosting participatory meetings with the community, SDGs, Local leaders, including area members of the county assembly.

 Since the land is communal and held in trust by the county government on behalf of the community, we sought the consent of the community to allocate land for the public space in Kalobeyei town. The criteria used was to have the land in proximity to the main transportation corridor to support the planned functions of the public space.
- The Land administrator within the area made an agreement to document the acceptance of the community to allocate the land to UN-Habitat.

The agreement was signed by the local leaders as a requirement by the county to reference the issuance of land by the community for such purposes.

- The County Government Planner and surveyor for Turkana west conducted a survey for the land, after which a Physical Development Plan(PDP) was developed from the survey map. The PDP is the current document used by the county for land adjudication as they wait for the right legislations to facilitate proper land titling in the county. The PDP was signed by the county surveyor, direction of physical planning, chief officer and minister of Lands, Energy, Housing, and Urban Area Management.
- The ministry conducted a circulation of the PDP to local stakeholders, especially to other county ministries for validation.

 A national circulation in the Kenyan gazette allowed

the general Kenyan public to validate the project.

PDP was delivered to UN-Habitat for implementation, after which the project will be handed over to the county to maintain the public space as a county resource.



Public Space Development Timeline

1

SITE SELECTION

Different stakeholders are involved to create a network of transport transit centers - Government, host community and refugee representatives, community leaders, NGOs and international organisations.

3D MODEL PREPARATION

The 3D models of Public Spaces are virtually representative of existing public spaces built with UN-Habitat Minecraft experts.

3

MINECRAFT TRAINING

The introduction for Minecraft provided participants the opportunity to practice for 2 hours on how to use the software.

4

COMMUNITY LEAD SITE VISIT

Community visited public space site to study and analyse the challenges present. They mapped different activities and real time challenges.

5

CHALLENGES AND PPORTUNITIES

After the site visit, participants discussed in depth with team members and presented their findings to a larger audience, corresponding to questions raised by other participants.

6

COMMUNITY LEAD SITE VISIT

Community visited each public space site to study and analyse the challenges present. They mapped different activities and real time challenges.

7

MINECRAFT DESIGN

Re-designing public space using minecraft, preparaing for the final model, and proposal presentation by different groups of host and refugee communities.

MONITORING AND EVALUATION

KICK START OF OTHER PUBLIC SPACE SITES

OPEN FOR USE

Diverse use of the public spaces can be observed by people of all age, gender and nationalities, including women, youth and children.

1 YEAR MARK —

SITE DEMARCATION

At the public space site, the boundaries of the public space and its adjoining functions and streets are demarcated as part of the exercise.

10

IMPLEMENTATION

The public space is constructed in phases. The women group were champion of the project by planting more than 400 trees in the public space.

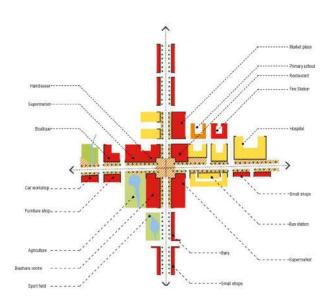
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CONSTRUCTION DRAWING

AAR Japan and UN-Habitat design team drafted construction drawings based on the different proposals and concepts.

Site For An Innovative Playground -Kalobeyei New Settlement

Neighborhood 1 is hosting the first Refugee inhabitants of Kalobeyei Settlement, who were engaged in the participatory planning process for the Settlement Land Use Plan. Consequently, the market, main roads, infrastructure and economic activities have been established and are being maintained by organizations with support from the community. However they are currently being developed in a sub-optimal manner, limiting their long term value to the settlement. As such the pilot sites have been chosen as areas to showcase the potential added value that good public space can deliver.



Kalobeyei New Settlement Neighbourhood Land Use Strategy Image Source: UN-Habitat



Kalobeyei New Settlement Neighbourhood 1 Image Source: UN-Habitat



Kalobeyei New Settlement Neighbourhood 1 Image Source: Google Earth

The site locations are near the market, adjacent to the main road connecting the three neighborhoods of Kalobeyei Settlement and to Kalobeyei Town. It is in the proximity of residential areas, as well as in close proximity to economic facilities and along a transit route. Lack of demarcation for future facilities, lack of shade, wind and sand storms, and lack of public space facilities are some of the challenges a public space design should address.

Specific Considerations -

- 1. Soil is slighty sloped but mostly leveled
- 2. Safaricom mast/ Signal Tower located in the middle of allocated plot

- Recycling center, firewood distribution, and motor spare shop located nearby
- 4. Located close to the Bamba Chakula informal market place
- 5. Lack of trees on the site
- 6. Located at the periphery of the Kalobeyei Settlement and is accessible also by Host community
- 7. Located near to UNHCR offices
- 8. One of the main streets, the connected to A1
- 9. Sandstorms/ very hot



)4

Process of Digital Design

The main portion of this report describes the community-engagement and design process to rehabilitate two pilot public spaces in in Kalobeyei, Turkana County in Kenya. Minecraft was used as a community participatory public space design tool to rehabilitate and activate these two public spaces. The two spaces are expected to be amongst the main platform to integrate the two communities naturally and contribute to greater outdoor engagements of the two communities to improve the quality of life. The Minecraft workshop was organized in applying the same concept of integration between the two communities, inviting them to work together in the same venue and promoting vibrant discussions.

Six different nationalities participated from Refugee and Host communities. The participants from the two settlements utilized the "Block by Block" 3D Information Communication Technology (ICT) tool, which was developed in collaboration between the Minecraft creators, Mojang, and UN-Habitat.

Objectives of Workshop

- Establish a network of public spaces to foster integration of Host and Refugee communities.
- Bring the humanitarian support with development through a properly planned, designed, implemented, managed and maintained public space, with the continuous involvement and ownership of the local community.
- 3. Establish public space community management groups around identified public space, formed by both Host community members and Refugees from the immediate surroundings to ensure engagement, contribution and ownership.

Process of utilising Block by Block, Minecraft Software

- Participants utilized the "Block by Block" 3D Information Communication Technology (ICT) tool, a collaboration between creators of Minecraft, Mojang, and UN-Habitat. Participants are taught in an engaging and creative way on how to visualize the potentials of public spaces within their neighborhoods.
- Participants will be encouraged to engage in discussions on potential challenges and adequate solutions to the establishment and maintenance of these public spaces.
- At the end of the workshop, participants will receive the opportunities to present their public space designs to the team. Their designs and suggestions will guide the designing of these public spaces in the near future.

Methodology

Site Selection:

The site was selected following discussions with the community, local government officials and with discussion stakeholders and UN-Habitat. After the site selection, data collection including different angle pictures and small video clips as input to develop the Minecraft models of the respective sites.

Visit to the Site:

Participants received an introduction on the site, where the local leaders and UN-Habitat team were briefed on the project. Participants were also asked to introduce themselves and their backgrounds. The first site visit was held in Kalobeyei Town with the Host community.

3 Public Space Minecraft Design:

UN-Habitat shared examples of well-equipped public spaces and how they served their communities, highlighting their importance which often goes neglected in traditional communities or Refugee settlements. Participants from the respective communities were then divided into smaller working groups of 2-3, to familiarize with Minecraft software, before spending the remaining days producing final public space designs, which were presented at the end of the workshop.

Model Presentation:

UN-Habitat Workshop Facilitators worked together with the community to finalize the models to present the public space models to the different stakeholders. UN-Habitat invited other representatives (UNHCR, AAR, WFP, and Government) to the event, showcasing and sharing the potential facilities and resources that could be used towards public space development within the two sites and more.

5 Post Workshop Activities and Outputs:

- Working drawing preparation
- Validation workshop
- Implementation
- Management and protection of the public spaces

Expected outputs and implications for UN-Habitat

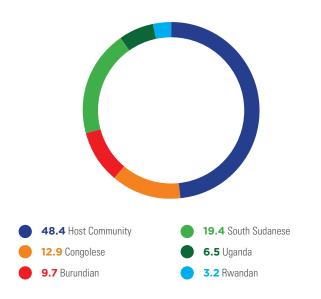
In addition to UN-Habitat staff, other relevant organisations and partners attended presentations of the public space designs (UNHCR, County Government, WFP, AAR), and presentations of constructed public spaces (Block by Block, AAR, County Government). Over the course of the Public Space Design Workshop, Minecraft designs were produced by participants from the Kalobeyei Host Community and Kalobeyei Refugee Community contributing to the public space design for selected sites. The following were the project highlights, results and implications for UN-Habitat:

- Challenges and solutions belonging to specific sites
 were explored and discussed with participants and
 organisers, and will be taken into consideration when
 consolidating and advising for designs of public
 space. Designs and concepts prepared by UN-Habitat
 in the future will consider the overall contexts of each
 site and specific community needs;
- UN-Habitat's technical insight and input were considered in the final public space designs, providing advice towards future implementation partners;
- Bridging humanitarian support with development through a properly planned, designed, implemented, managed and maintained public space network, and the establishment of public space community management groups around each public space.

Not only can these considerations provide for better management of public spaces within the Kalobeyei New Settlement or Kalobeyei Town, it also supports the Kalobeyei New Settlement's transition from a short-term, emergency planning to long-term, sustainable development model. The public space program also better provides for infrastructure to communities within Kalobeyei Town, strengthening the integration of Host Communities and Refugees.

Participants Backgrounds

Over 30 participant from the Host community and Refugee settlement used Minecraft to collaboratively come up with ideas for upgrading two public spaces in the respective settlement. Participants included a mix of teenagers and adults, men and women from seven different nationalities.



Computer Skills

Nearly 36% or 11 of the participants had never used computers before this Minecraft workshop. Only 16% or 5 of the participants rated themselves with a computer skill of 5 (from a range of 1 to 5, where 5 is the highest rating), and 9 participants claimed a fair knowledge of computers by rating themselves between 2 and 3.

Less percentage share (13%) of women participated in the public space design workshop (2 girls from Host community and 3 girls from the Refugee community). However, during the workshop the majority of participants were successfully able to build confidence and start designing public space in 3D using Minecraft

Age

The participants' age range from 17 years to 31 years old, with the majority in their early 20s. All the participants from Host community settlement are in their 20s, and the participant's age from the Refugee settlement range from 17 to 31 years of age.



Participants from **Refugee Community**

Participants from Host Community





Workshop Proceedings

Analysing potential sites challenges and solutions

On the first day, participants were divided into Host and Refugee Communities, and further divided into working groups. Within the working groups of 2-3 people each, participants were guided to brainstorm on potential challenges and solutions within the chosen public space sites.

The results from the brainstorming session were presented in further discussions, and were utilized in the conceptualization stages of the project, supporting the participants in gathering and analyzing potential design ideas to be used in the Minecraft.

In summary, many points highlighted by groups within the Host Community and the Refugee Community were shared amongst their respective members. The detailed expressed points can be found within the Annex.

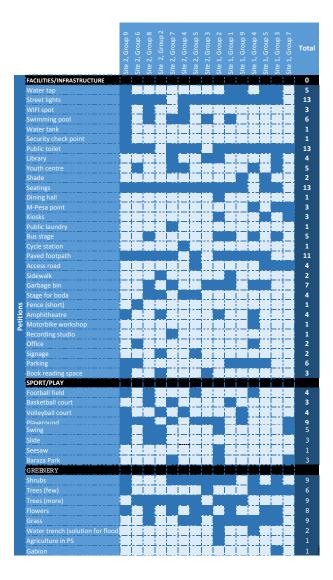
Group Presentations

After the groups were given sufficient time to produce their designs and subsequent presentations, the participants presented their final Minecraft designs to UN-Habitat and other representatives (UNHCR, AAR, WFP, County Government). There, participants showcased their designs and shared ideas of potential facilities and resources that could be used towards public space development within the two pilot sites and more. The eventual construction of these public space pilot projects seeks to demonstrate the added value that investment in public space brings to communities.

Public Space Elements Petitions Sheet

In this section, the respective designs from different groups will be presented. Alongside the presentations, a petition sheet, displayed to the right on this page, was created and completed once the participants finalized their Minecraft designs, to compile the different public space elements highlighted across all designs. This creates an effective means to quickly indicate the greater demanded for public space facilities and to advice future designs on pilot sites. From the petitions sheet, the top 10 most demanded public space elements include the following (starting from the greatest) -

- 1. Public Space Seating (13)
- 2. Street Lights (13)
- 3. Public Toilets (13)
- 4. Paved footpaths (11)
- 5. Playground (9)
- 6. Shrubbery (9)
- 7. Trees (9)
- 8. Grass (9)
- 9. Flowers (8)
- 10. Garbage Bins (7)



Minecraft designs for the site - Kalobeyei New Settlement Neighbourhood 1









Original Minecraft Base Model



Adequate sporting facilities and recreational areas.



Adequate pedestrianized streets to remove car access.

MEMBERS: TWO YOUTH

Challenges/Problems identified:

- Lack of playground
- Lack of barazza park, avenue to conduct celebrations and festivities
- Lack of pedestrian security near roads
- Lack of multi-purpose social halls, cyber cafes

Main elements proposed

- More street lighting to increase visibility and reduce propensities of dangerous occurences.
- Providing for sporting facilities and playground and social halls for youth and children to activate the area.
- Providing for Barazza park near Bamba Chakula market place with adequate resting space.
- Plan pedestrianized public areas to reduce car access to public spaces.

G2



Transport center to facilitate ease of accessing public space.



Sporting facilities and library to activate public space.

MEMBERS: TWO YOUTH

Challenges/Problems identified

- Lack of playground
- Lack of street lighting
- High levels of insecurity moving around in public spaces
- Flood prone area
- Lack of well-developed roads to reduce congestion
- Issues of flooding on roads and within public space
- Lack of transport centre to public space.

Main elements proposed

- Providing for a transport centre near the public space to allow for people to travel via boda or bus.
- Improved side walk construction.
- Providing for sporting facilities, playground and library space.

G3



Well planned streets and tree line.



Adequate shade and public space elements.





Providence of adequate shade and public space elements.



Adequate seating, public toilets and social space.

MEMBERS: TWO YOUTH

Challenges/Problems identified:

- Lack of shrubbery and trees
- Lack of street lighting
- Lack of playground and sporting facilities
- Lack of bus stop
- Lack of working centres

Main elements proposed:

- Providing of transport centre to increase accessibility to public space.
- More street lighting along the major street and within the public space itself.

 This is so to increase visibility and reduce propensities of dangerous occurences.
- Greater shrubbery and trees to reduce and address risks of erosion and flooding.
- Providing for a football field for youth and children to activate the area.
- Improved side walk construction.
- Providing for a small youth centre to create job opportunities and increase availability of services in the area.

MEMBERS: TWO YOUTH

Challenges/Problems identified:

- Lack of social halls and adequate seating
- Lack of adequate shading
- Lack of playground

Main elements proposed

- Providing for a playground and adequate resting spaces for youth and children to activate the area.
- Greater shrubbery and trees to reduce and address risks of erosion and flooding.
- Provide for better side walk construction and pedestrianised streets to reduce car access.
- Provide for social centres with adequate shading for the community.

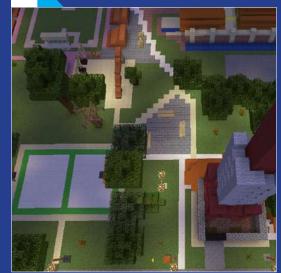


Well planned streets and tree line.



Basketball court and sporting facilities for youth and children.





Well designed pedestrian streets to different public space elements.



Sufficient resting areas and congregation zones.

MEMBERS: TWO YOUTH

Challenges/Problems identified:

- Poor defined streets for pedestrians
- Lack of playground and elements
- Lack of shrubbery and trees
- Lack of playground and sporting facilities
- Lack of transport centre
- Lack of social hall and cyber cafe

Main elements proposed

- Greater shrubbery and trees to reduce and address risks of erosion and flooding.
- Providing for a playground and football/ basketball court for youth and children to activate the area.
- Providing for a small youth centre and social hall to create job opportunities and increase availability of services in the area.
- Provide of a transport centre to increase accessibility to public space
- Paving pedestrian paths using the existing pattern, sport field, basketball court, more tree
 plantation along the street, BodaBoda/ Motorbike station, well thought seating along
 the street and under shades, youth center, shrub to define and along paved foot path.

MEMBERS: TWO YOUTH

Challenges/Problems identified:

- Lack of shrubbery and trees
- Lack of adequate shading
- Lack of playground and sporting facilities
- Lack of potential wifi zone
- Lack of public toilets
- Lack of transport centre
- Lack of street lighting

Main elements proposed

- More street lighting along the major street and within the public space itself.
 This is so to increase visibility and reduce propensities of dangerous occurences.
- Providing for a playground and sporting facilities for youth and children to activate the area.
- Greater shrubbery and trees to reduce and address risks of erosion and flooding.
- Providence of potential wifi zone with adequate shade and seating.

G7



Sporting facilities and pedestrianised areas to reduce car access.



Greater sporting accessories and greenery.



MineCraft software on laptop.

MEMBERS: TWO YOUTH

Challenges/Problems identified:

- High levels of insecurity moving around in public spaces
- Flood prone area
- Lack of playground and sporting facilities
- Lack of Public Toilets

Main elements proposed:

- More street lighting along the major street and within the public space itself.

 This is so to increase visibility and reduce propensities of dangerous occurences.
- Greater shrubbery and trees to reduce and address risks of erosion and flooding.
- Providing for a playground and basketball court for youth and children to activate the area.
- Providing for a small youth centre to create job opportunities and increase availability of services in the area.
- Providing for adequate seating and shaded area within Barazza Park.



Workshop Feedback and Implications

Minecraft as a participatory design tool

The purpose of the workshop was to increase the capacity and skills of Host and Refugee community members to plan, design, implement and maintain public spaces. It was well supported with the use of Minecraft as a participatory design tool. It proved to be a successful tool for mobilizing and engaging both the Host and Refugee community. Despite 36% of participants having never used a computer or equivalent softwares before, the majority were able to quickly learn how to use Minecraft, engage successfully with the software, and eloquently express their design ideas and opinions in virtual elements.

In addition, participants also received the opportunity to harness new ICT skills through the Minecraft design workshop, such as through the use of Microsoft PowerPoint to layout their final presentations of their designs. Through the workshop, participants received the opportunity to develop their problem-solving, consensus building and teamwork skills through varied kinds of engaging discussions and brainstorming sessions on public space. After the workshop, many participants had also expressed their appreciation for being able to learn new ICT skills and improve in their communicated desires to continue to develop such skills. This was strongly expressed as that they often lack opportunities to do so.

Following the workshop, UN-Habitat has also selected several participants to be involved in future workshops for

the remaining two public space sites in Kalobeyei New Settlement - where they will provide participants with Minecraft support and have the opportunity to further improve their ICT and teamwork skills.

Integration of refugee and host community

The Minecraft design workshop successfully fostered dialogue and debate amongst and between participants from both Host and Refugee communities. It provided them with a platform where they were encouraged to explore and discuss the challenges of potential public space creation within their communities, the significant challenges that exist on the sites and possible solutions. In Kalobeyei, there is often tension between the Host and Refugee communities. However, it was encouraging that the exercise helped participants to further realize that despite their different nationalities and backgrounds, they share numerous similar concerns and challenges in their communities. Some participants from the Refugee community had also expressed that they often felt they did not have a voice to speak up on their issues, and that the workshop had provided them with the opportunity to express the challenges they faced living in Turkana county, and addressed them through their Minecraft designs.

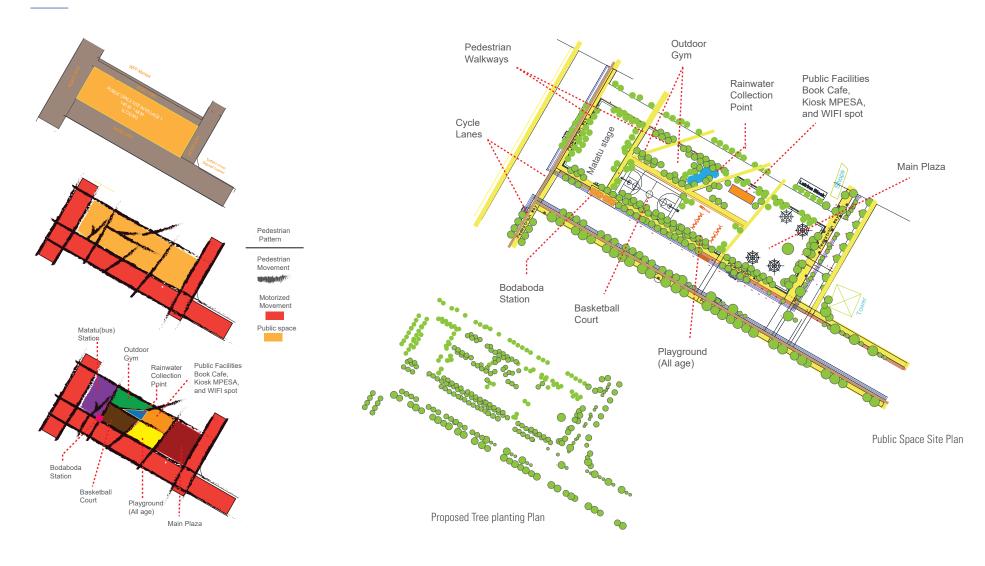
The way forward

While the workshop fostered positive public space dialogue and debate between participants, leading to interesting designs, the group of participants was not as diverse as was anticipated. The age of participants ranged from 17 to 31 years old - with the majority being in their 20s, and 87% being male. Participants for each community were selected by community development group members, who were likely to have been chosen for having adequate ICT skills. For the upcoming workshops for further development of these two public space sites, and future workshops on the remaining public sites in Kalobeyei New Settlement, it will be a value add to include more women and children as participants. In order to ensure that a diverse group of persons needs are considered anaddressed, a more well distributed gender and age ratio should be present in further discussions.

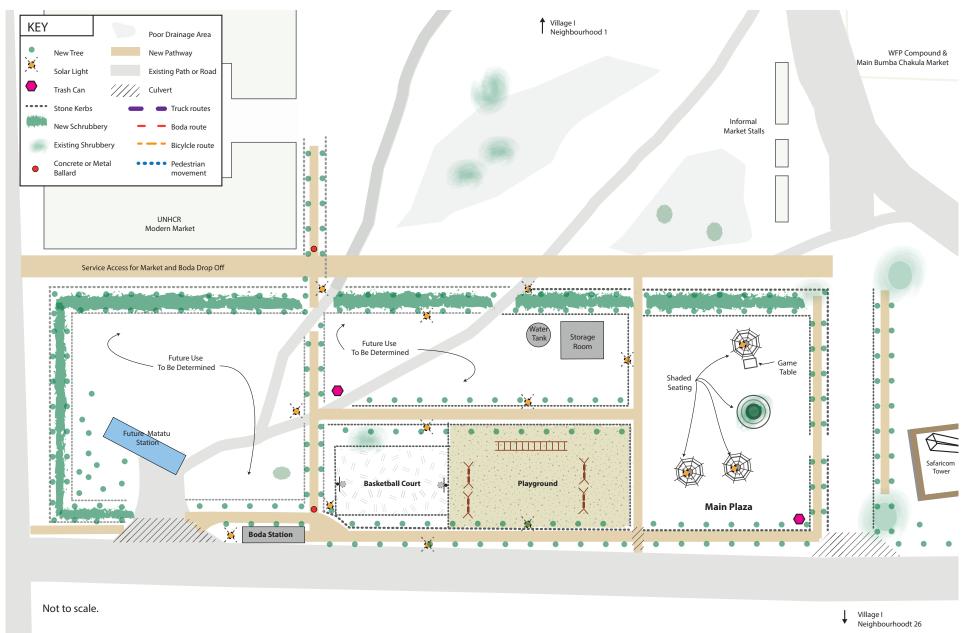
Another concern worth mentioning involves the apparent sizes of the public spaces - that of the public space site for the Host community is much smaller in comparison than the site for the Refugee community. This is due to the planning procedures incorporated within the designs for the Kalobeyei New Settlement that take into account adequate spatial allowance to public spaces. Three of the four public space sites as part of the public space program are - located in Kalobeyei New Settlement, leaving only one public space site to the Host community. As Kalobeyei New Settlement was established under a 50:50 agreement with the Host community, meaning that they should benefit in the same and equal manner as Refugees, the public spaces will need to be allocated and managed in a way to prevent additional disputes between the two communities.

7

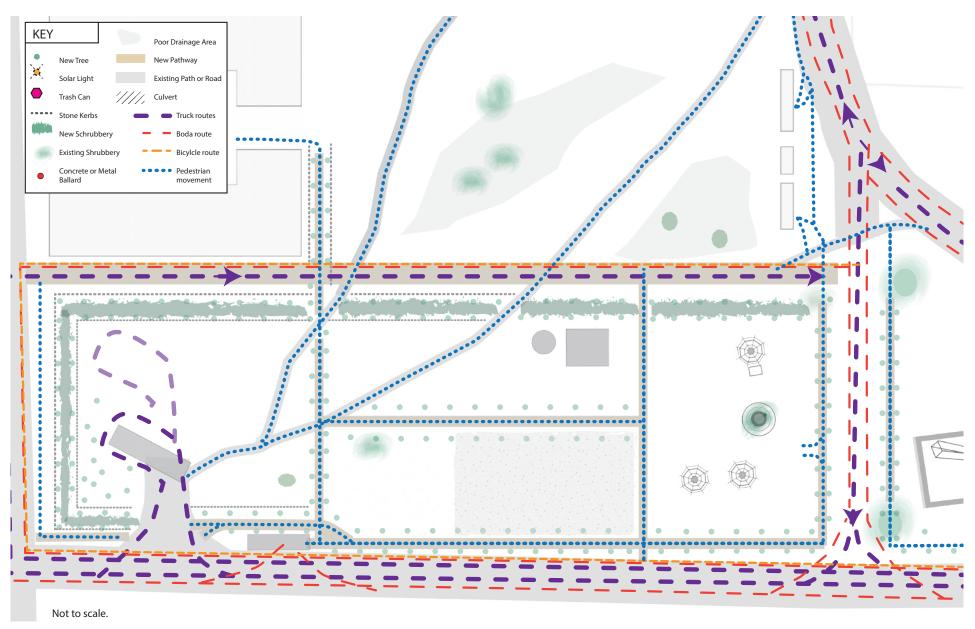
Innovative Playground Public Space Design Strategy



Public Space Site Plan



Public Space Site Circulation Plan



Public Space Element: Artificial Shading Structures

The design of these artificial shading structures in Kalobeyei New Settlement's public space was inspired by the traditional weaving patterns of necklaces from Turkana women.

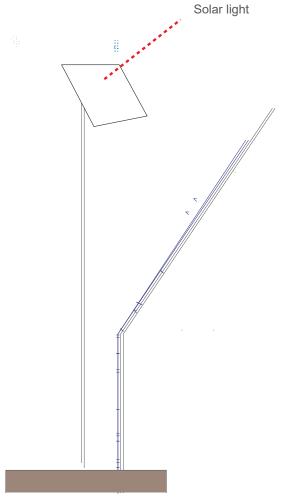
As it would take a long time for the planted trees to grow and provide shade, the alternative solution was proposed to answer to pressing demand. The shading structures also act as land marks of the area, attracting people from different neighbourhoods to visit the public space and enhancing the integration between communities. The dramatic colours, and textures of materials also hope to beautify the location. In addition, the solar light inside the shading structures helps to create interesting light patterns in the surroundings.

2.20

Seating under Shade



Turkana Women weaved necklaces.



Section of Solar Light Powered Artifical Shading Structure

Public Space Element: Paved Walkway and Boda Boda Station

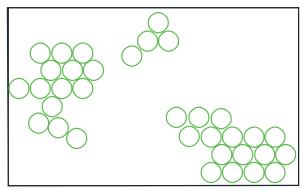
An interesting design is proposed for a paved walkway within the public space site, involving the use of different colour plastic covers to create different visual textures and appealing walkways in the public space. A variety of design can be ensured, using different material availability, size of plastic cover and colour that can be changed for a better result. Community and youth will be trained in advance on how to create different patterns, textures and colours for them to create and construct their own pieces of art in the public space.

Steps to consider:

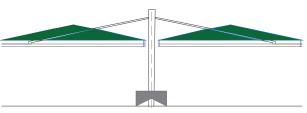
- 1. Collect plastic bottle, arrange in different size and shape.
- 2. Dig the ground along the pavement demarcations to a depth of the height of plastic bottles
- 3. Fill plastic bottles with soil removed from digging the pavement.
- 4. Place the plastic bottle with soil along the digged path, making sure the bottles are arranged in staggered positions, and that the ground is level before placing the plastic bottle.
- 5. Ensure the top of the plastic bottles are level.
- 6. Tie the top of the plastic bottles to one another.
- 7. Mix concrete and fill on top of the plastic bottles and level accordingly.
- Make sure the pavement is well filled with concrete and that it settles well.

Encountered Challenges

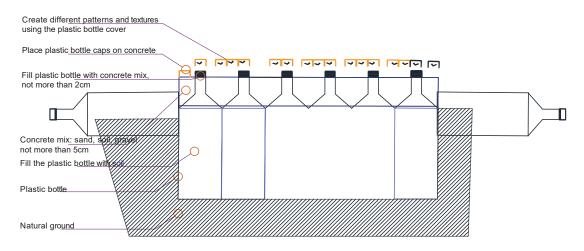
- Lack of various species of seedlings (small trees) in the area.
- Harsh weather conditions affecting survivability of trees
- Lack of material options for construction resulting in challenge of innovative design possibilities
- Lack of available energy source on site for construction, resulting in challenges coming from hand building structures
- Overuse of public space facilities due to high demand, affecting durability of urban furnitures



Plan of paved walkway



Boda Boda Station



Section Detail of paved walkway



Public Space Implementation Feedback

Successes

Participatory Process with Community

The single largest factor contributing to the success of the project was the stakeholder engagement prior to the commencement of the project. Members from both the refugee and host communities were engaged from the very beginning of the planning stages. This cultivated a greater sense of ownership from members and a willingness to support the formulation and realization of the project. The participants of the Minecraft Design Workshop had reflected that the felt that their ideas and designs were being brought to life by the project. Some of them would come to see the progress of the project and see how their designs were being implemented. This sense of ownership averted conflicts and made it easier to solve any conflicts that arose on site.

Lumping up work

The implementation team devised a way lumping up work as opposed to implementation of project components individually. On top of the obvious benefit from the ease of supervision, the main benefit was the promotion of inclusivity in the distribution of casual jobs. The labour force represented various demographics, reflected by the different nationalities and villages for the refugees and host communities respectively. It was easier to balance age, gender, and other diverse

demographics, when many work opportunities were made available as opposed to when only a handful of labourers were required.

Lumping up procurement

The project site was located approximately 15Km from Kakuma Town, which is the main trading centre in the area. Over time, it was realised that a lot of time and resources were wasted in the transportation of materials from the town to the project site. Often, there was a need to hire vehicles for the transportation of materials, an added component that had not been captured in the bill of quantities. Lumping up procurement procedures gave the implementing team a basis to negotiate for discounts and include complimentary transportation services from the supplier. It also resulted in less work stoppages during implementation. On the flip side, it required the work plan to be revised so that activities using similar materials (e.g. cement), would be implemented concurrently.

Consistent payment schedules

Most workplace conflicts in Kalobeyei Settlement result from balancing conflicts between refugee and host community, reflected keenly in labour payment issues. To avert any conflict related to payment issues, the implementation team allocated a fixed daily wage for skilled and unskilled labourers. A weekly payment model

was adopted and a payment day (Saturday) was fixed. As such, all payments for work carried out within the week would be given every Saturday irrespective of when specific work components were done.

With time, the labourers were able to plan their schedules and finances with the certain knowledge that payments would be made on Saturday. They also developed a system where one of them would provide meals to them on credit, and receive payment on the payment day. With this system, no payment related conflict was reported throughout the project.

Conflict Resolution

A conflict resolution mechanism was developed where any conflicts arising on site were resolved fairly and within the shortest time frame possible. This was done in the presence of interested parties from the community, including an elder, the youth leader in village one and the project engineer. Physical threats, violence of any kind, and discriminatory behaviour was not tolerated and individuals who engaged in violence were not considered for future casual jobs.

Challenges

Long procurement and contractor engagement processes

The Kenyan law stipulates time lines for engaging a contractor with reference to minimum time lines for placement of advertisements. It also stipulates maximum contract sums that can be awarded by single sourcing. The procurement process is characterised by a lot of paper work before a supplier can be selected. The request for quotations also has legal time lines that must be met. All factors, compounded with the fact that implementation was done in many small phases resulted in long time delays.

For future implementation of the project, there would be a need to lump the works together and implement them as a single project, or at least in at reduced number of phases (e.g. three annually). This will ensure that the procurement cycle is completed more smoothly and efficiently, preventing delays in implementation.

Concurrent design and implementation processes

Due to the fixed and urgent project time lines, in some situations, implementation and construction would begin while some components of the design were still not finalized. Although this helped to ensure that specific project milestones were achieved on time, it presented implications on the project management and delivery from staff. For instance, it resulted in several revisions of the work plan and the BoQ affecting the implementation schedule. In the future, early planning should be done in projects so that the design and BoQ are completed before the project commences.

Fabrication vs buying of project components

Challenges were faced in the fabrication of some metallic components of the project. These included the swings and monkey bars. These challenges arose from the inadequacy of capacity in the project area. Some of the fabricated materials are available for sale in Nairobi as ready-made components.

While fabrication offers a growth opportunity for the local industry it may come with the downside of poor quality. A balance should be made between these two scenarios and a decision made on whether to fabricate or to buy custom made components.

Engaging Volunteers

At the initial stages of the project, community volunteers were engaged to carry out implementation works for the project. No payment was made to the volunteers but refreshments were provided. However, the volunteers would more often than not, request for some cash incentive at the end of the working day. Ordinarily, a job that would be done by 5 casual workers working for a full day, would involve at least 15 volunteers considering that they do not work for the full day.

It was realised that providing refreshments for these people cost almost the same if not more than engaging casual labourers. The labourers had the added advantage of being reassigned to other duties if they completed their tasks before the end of the working day. As such, the use of volunteers was removed.

A more structured way of engaging volunteers is required, if this noble concept of volunteer-ism is to be used in future.

Use of trainees in implementation

Before the implementation commenced, community members were engaged in a three-day workshop that used MineCraft to generate design concepts for the project. It was expected that these participants would be engaged in the implementation process. However, most of these participants shunned the implementation, terming the work as too 'manual'.

The criteria for selection of participants of such workshops/trainings, should be reviewed to make sure that those engaged, are willing and able to also participate in the implementation activities.

)9

Photographs



Metal structures for shade are erected on the site



A solar lamp is installed in the middle of the shading structure to provide for lighting at night



Community members work together to raise the weaved shade structure onto site



Completed installation of artifical shading structures

COMMUNITY DRIVEN **PUBLIC SPACE**REHABILITATION TURKANA, KENYA



UN-Habitat and Block by Block Foundation under the colourful shade structures



Constructed swingsets are utlised by children at the playground



Constructed swingsets are utlised by children at the playground



Swingsets and Monkey Bar Posts are utlized by children at the playground



UN-Habitat and Block by Block team partake in Neem tree planting



Planted Neem Trees line the public space site as demarcated by community members



UN-Habitat and Block by Block team partake in Neem tree planting



Planted Neem Trees in the Public Space following site demarcation

COMMUNITY DRIVEN **PUBLIC SPACE** REHABILITATION TURKANA, KENYA



Completed local game corner and seating place for communities



Completed local game corner and seating place for communities



Beginning of construction process of local game area, using cement and soil



All designs and photographs are captured in an exhibition for Block by Block Foundation's visit

10 Way Forward

As a way forward, similar participatory design processes have been conducted on three other public space sites within Kalobeyei New Settlement or Kalobeyei Town. UN-Habitat aims to progress with designing and implementation processes to create a Public Space Network to facilitate mobility and transportation solutions to integrate the Settlement and neighbouring developments.

Public Space Site - Kalobeyei Town

Kalobeyei town is situated at 8km from Kalobeyei Refugee Settlement, and most of the land is community owned. The majority of traders in the current market in Kalobeyei Settlement come from town (Host community). It is expected that Host community members will have access to more jobs in the Settlement, and the town itself will be subject to rapid development due to its proximity to the Refugee Settlement, including urban migrants, investors and NGO staff. Public space in Kalobeyei town is intensively used for commercial, transport and leisure activities. Public spaces are defined by roads, shops and trees, with no other infrastructure for public use. The selected site is a meeting point, in the proximity of the main road, public facility and direct connectivity with Kalobeyei Settlement.

Specific Considerations -

- Located near the A1 Highway and Kalobeyei town
- 2. Prone to flooding
- 3. Located within a Residential zone with traditional turkana pastoralists houses on both sides
- Located in front of a church, with two pedestrian pathways from the main road going beside th church
- Located within the city center, walkable distance of 50m from the town center
- Uneven dirt road, causing potential slipping hazards for boda-bodas and difficulty walking in rainy weather
- 7. Quite a number of large green trees for shading on the site



Kalobeyei Town Public Space Site. Image Source: UN-Habitat



Kalobeyei Town Public Space Site. Image Source: UN-Habitat



Public Space Sites - Neighbourhood 2 and 3

Neighbourhood 2 and 3 are situated beside Neighbourhood 1 where the first Public Space site was implemented. As they are less developed than Neighbourhood 1, there is greater lack of adequate infrastructure, developed communal facilities, which reflect an imbalance in provision of resources and access to opportunities across the different villages. They are currently being developed in a sub-optimal manner, limiting their long term value to the settlement. As such the pilot sites have been chosen as areas to showcase the potential added value that good public space can deliver.

The site locations are near the market, adjacent to the main road connecting the three neighbourhoods of Kalobeyei Settlement and connected to Kalobeyei Town. It is in the proximity of residential areas, as well as in close proximity to economic facilities and along a transit route. Lack of demarcation for future facilities, lack of shade, wind and sand storms, and lack of public space facilities are some of the challenges a public space design should address.

Specific Considerations -

- 1. Located near the A1 Highway and to Village 1
- Lack of facilities and amenities, including play fornutire and seatings
- 3. Lack of shade
- 4. Lack of trees on site
- Lack of grass cover, dusty and strenuous due to heavy winds on site

- 6. Insecurity during evening hours
- 7. Water is collected over field surfaces during rainy seasons
- 8. Accidents near the site by Bodaboda
- 9. Sandstorms/ very hot



Kalobeyei Neighbourhood 2 Public Space Site. Image Source: UN-Habitat



Kalobeyei Neighbourhood 3 Public Space Site. Image Source: UN-Habitat

11 Annex

Programme

Minecraft Design WORKSHOP DAY 1

Торіс	Presenter / Facilitator
Site visit to Public Space	David Kitenge
Nalobeyei New Settlement David Kitenge Workshop Opening	
Breakfast	
Introduction to Public Space Setting up of Computers	Mitiku Woldesenbet
Lunch	
Training on Design session using Minecraft Discussion session for participants on challenges and solutions	Mitiku Woldesenbet
	Site visit to Public Space 1) Kalobeyei New Settlement Workshop Opening Breakfast Introduction to Public Space Setting up of Computers Lunch Training on Design session using Minecraft

Minecraft Design WORKSHOP DAY 2

Start Time	Торіс	Presenter / Facilitator
9.00	Workshop Opening	David Kitenge
	Breakfast	
9:45 - 11:00	Presentation on Challenges and Solutions	Mitiku Woldesenbet
11:00 - 12:30	Design session using Minecraft	Mitiku Woldesenbet
13:00 - 16:30	Lunch	
	Design session using Minecraft	Mitiku Woldesenbet

Minecraft Design WORKSHOP DAY 3

Start Time	Торіс	Presenter / Facilitator
9.00	Workshop Opening	David Kitenge
	Breakfast	
9:30 - 12:30	Design session using Minecraft	Mitiku Woldesenbet
	Lunch	
13:00 - 1630	Design session using Minecraft	Mitiku Woldesenbet

Minecraft Design WORKSHOP DAY 4

Start Time	Topic	Presenter / Facilitator
9.00	Workshop Opening	David Kitenge
	Breakfast	
9:30 - 12:30	Final Design session using Minecraft	Mitiku Woldesenbet
	Lunch	
13:00 - 14:00	Making Minecraft Presentation	Mitiku Woldesenbet
14:00 - 16:00	Final Presentations	Yuka Terada
16:00 - 16:30	Workshop Closing	Yuka Terada

Rapid Assessment Survey

In order to facilitate the selection of potential Public Space Sites within the Host Community and Kalobeyei New Settlement, a Rapid Assessment was conducted across different communities. The series of questions seek to probe the users on their understanding of existing public spaces and ways in which they could be rejuvenated for greater use.

The following is a format of the Rapid Assessment Survey.

I. Which village do you live in?	5.	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1		Do you generally feel safe in the public open space?
☐ Kalobeyei Town		space could be improved?		During the day
☐ Kalobeyei Settlement Village 1			_	Yes
☐ Kalobeyei Settlement Village 2			-	□ No
☐ Kalobeyei Settlement Village 3				During the night
2. Are you aware of any open public spaces in your	6.	How long do you take to access the public space?		Yes
village, neighborhood or compound?			_	□ No
Yes			10.	If you answered "no" please say why?
□ No				
3. What groups of people use the public space?	7.	If yes, what do you currently use it for?		
☐ Elderly		☐ To meet people		
☐ Youth		☐ Walking/exercise		Is the public space clean? Who maintains it? Who should maintain it?
☐ Women		☐ Bike riding		
☐ Disabled Members		☐ Formal sport		
☐ Workers		☐ Appreciation of nature		
☐ Children		☐ Playground use		
		☐ Other (please specify)	12.	What do you think about littering?
4. Are there any facilities/ public amenities in the selected public space?	8.	How do you access the public space?		
	_		_	
	_		_	
	_		_	

COMMUNITY DRIVEN **PUBLIC SPACE** REHABILITATION TURKANA, KENYA

13. Are there any economic activities happening in the public space?	17. Do you visit the other public spaces/ playgrounds? ☐ Yes	22. What type of public space experiences do you prefer?
	_ No	☐ Playground for children; e.g. swing/slide/spin/climb
	- 18. Which is your favorite?	☐ Entertraining; e.g. performance areas/cultural dances
Are you interested in using the public space? (e.g. maintenence, economic activities)		Business and economic activity
	19. Why are these your favorite?	Other (please specify)
15. Do you think people who use the public space to make profit should pay a fee?		22. Do any of the following factors currently limit your
	20. How often do you visit playgrounds?	23. Do any of the following factors currently limit your stay/ use the public spaces?
OTHER PUBLIC SPACES (further distances) 16. What other public spaces are around the neighborhood, town/ settlement?	 ☐ More than once per week ☐ Once per week ☐ Once per fortnight ☐ Once per month ☐ Other (please specify) 	☐ Limited variety of play opportunities ☐ Lack of park furniture such as seating ☐ Lack of shade/shelter ☐ No access to toilets ☐ Other (please specify)
☐ Playgrounds,		
☐ Meeting places, ☐ Road side,		
☐ Park ☐ Other	21. Do the public spaces have any sitting facilities/ furniture? Is it useful?	24. Are there barriers that stop or limit you using your nearest playground?
	-	What are they?
-	-	☐ Too far to walk ☐ Brownfields/ Undeveloped playgrounds
		☐ Significant barrier like a river and high density for current users

Recommended Learning Materials

Training (rps) background resource materials

- Urban Planning For City Leaders
 https://unhabitat.org/books/urban-planning-for-city-leaders/#
- Urban Finance for City Leaders Handbook https://unhabitat.org/books/finance-for-city-leaders-handbook/

UN-Habitat support to sustainable urban development in Kenya (publication series):

3. Vol 1- Report on Training for Kenya Municipal Programme Cluster III & IV Counties

https://unhabitat.org/books/un-habitat-support-to-sustainable-urban-development-in-kenya/

 Vol 2- Report on Training for Kenya Municipal Programme Cluster I & II Counties

https://unhabitat.org/books/un-habitat-support-to-sustainable-urban-development-in-kenya-v-2/

 Vol 3- Report On International Design Competition for Kenya Towns

https://unhabitat.org/books/un-habitat-support-to-sustainable-urban-development-in-kenya-volume-3/

 Vol 4- Report On Training for Informal Settlement Leaders on Urban Planning (Addressing Urban Informality)

https://unhabitat.org/books/un-habitat-support-to-sustainable-urban-development-in-kenya-volume-4/

Additional Resource Materials

7. A Practical Guide to Designing, Planning, and Executing Citywide Slum Upgrading Programmes

https://unhabitat.org/books/a-practical-guide-to-designing-planning-and-executing-citywide-slum-upgrading-programmes/

8. Designing and Implementing Street-Led Citywide Slum Upgrading Programmes: A training module companion

https://unhabitat.org/books/designing-and-implementing-street-led-citywide-slum-upgrading-programmes-a-training-module-companion/

Streets as Tools for Urban Transformation in Slums:
 A Street-led Approach to Citywide Slum Upgrading

https://unhabitat.org/books/streets-as-tools-for-urban-transformation-in-slums/

10. Handbook on Financing Urban Infrastructure

https://bitly.com/NCFUrbanFinance

 Guidebook on Capital Investment Planning For Local Governments http://www.rumboahabitat3.ec/docs/webinars/urban-frameworks/ Reading_Capital_Investment_Planning_quidebook.pdf

12. Planned City Extensions: Analysis of Historical Example

https://unhabitat.org/books/planned-city-extensions-analysis-ofhistorical-examples/

13. Planning For Climate Change: Guide –

A Strategic, Values-Based Approach for Urban Planners

https://unhabitat.org/books/planning-for-climate-change-a-strategic-values-based-approach-for-urban-planners-cities-and-climate-change-initiative/

14. International Guidelines on Urban and Territorial Planning

https://unhabitat.org/books/international-guidelines-on-urban-and-territorial-planning/

15. The Symbio City Approach : A Conceptual Framework for Sustainable Urban Development

http://www.symbiocity.org/PublicDownloads/The%20SymbioCity%20 Approach/SCA%20full%20version%20(6,1%20Mb).pdf

 New Urban Agenda (for Spatial Planning- annotated version for City and Regional Planners)

https://isocarp.org/app/uploads/2016/11/New-Urban-Agenda-Planning.pdf

17. Sustainable Development Goals

http://www.un.org/sustainabledevelopment/sustainabledevelopment-goals/

UN-Habitat Kenya Urban Planning Website

18. Kenya Urban Planning - Kalobeyei

http://www.urbangateway.org/kenya-urban-planning/

Block by Block Minecraft Software by UN-Habitat and Mojang

19. Block By Block

https://blockbyblock.org/

COMMUNITY DRIVEN

PUBLIC SPACE

REHABILITATION TURKANA, KENYA

SUPPORT TO KALOBEYEI NEW SETTLEMENT PROJECT AS PART OF KALOBEYEI INTEGRATED SOCIO-ECONOMIC DEVELOPMENT PROGRAM (KISEDP)

HS/027/19E



