



**48**  
PERCENT



**KIJIJI YEETU COMMUNITY NETWORK**

**KIJITECH BANDWIDTH USAGE STUDY  
REPORT**

**1ST -31ST DECEMBER 2023**

Kijiji Yeetu Project  
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## EXECUTIVE SUMMARY

The Internet Society Kenya chapter, with the support of 48percent.org, launched a 12-month connectivity project in Ugunja Sub-County - Siaya to help connect the unconnected communities around Ugunja. This project is hosted and implemented by the Kijiji Yeetu Network in Ugunja. Kijiji Yeetu is a Community Network located in Ugunja, Siaya County in the Western region of Kenya, Nyanza.

Kijiji Yeetu as a Community Network contributes significantly toward the realization of an inclusive digital economy in rural communities and intends to bridge the digital divide through the provision of affordable and reliable internet to community schools, organizations, self-help groups, community-based organizations, households, and the public through the adoption of convenient computer network technologies and infrastructure that can be deployed within communities to position Ugunja as a major contributor to the digital economy.

The overall goal is to provide affordable internet access to underserved and unconnected communities to enable them access government services, educational resources, opportunities for business engagement, and online job opportunities to accelerate innovation and creativity in local rural communities. To achieve this Kijiji Yeetu has deployed a last mile connectivity to Kijiji Yeetu Centre in Ugunja with a 100mbps Cambium Network wireless broadband solutions. This led to the need to conduct user design study to determine data consumption in the first month of rollout and the following aspects were given considered: -

- a) Present an overview of the users on the Kijiji Yeetu hotspot
- b) Identify the devices connected on the Kijiji Yeetu hotspot
- c) Determine the bandwidth consumption on the Kijiji Yeetu hotspot
- d) Analyze traffic patterns on the Kijiji Yeetu hotspot

## 1.0 INTRODUCTION

Using the internet in a community can have numerous benefits that contribute to social, economic, educational, and cultural development. The integration of the internet in rural villages can have a transformative impact on various aspects of community life. The community gains access to a vast amount of information on agriculture, healthcare, education, government services, and more. This can empower them with knowledge that can improve various aspects of their lives.

While the benefits are substantial, challenges such as infrastructure limitations, digital literacy, and affordability must be addressed to ensure equitable access and maximize the positive impact of the internet in rural villages. Efforts to bridge the digital divide and promote inclusive development are crucial for harnessing the full potential of the internet in rural communities.

Determining the appropriate bandwidth for your internet connection involves assessing the specific needs and usage patterns of the users and devices in your network. Identifying the number of users and devices that will be connected to the network is important.

One must consider the type of activities they will be engaged in, such as web browsing, streaming video, online gaming, or large file downloads. For example, in a household, multiple users may be streaming video, conducting video calls, or playing online games at the same time.

## 2.0 OBJECTIVES OF THE REPORT

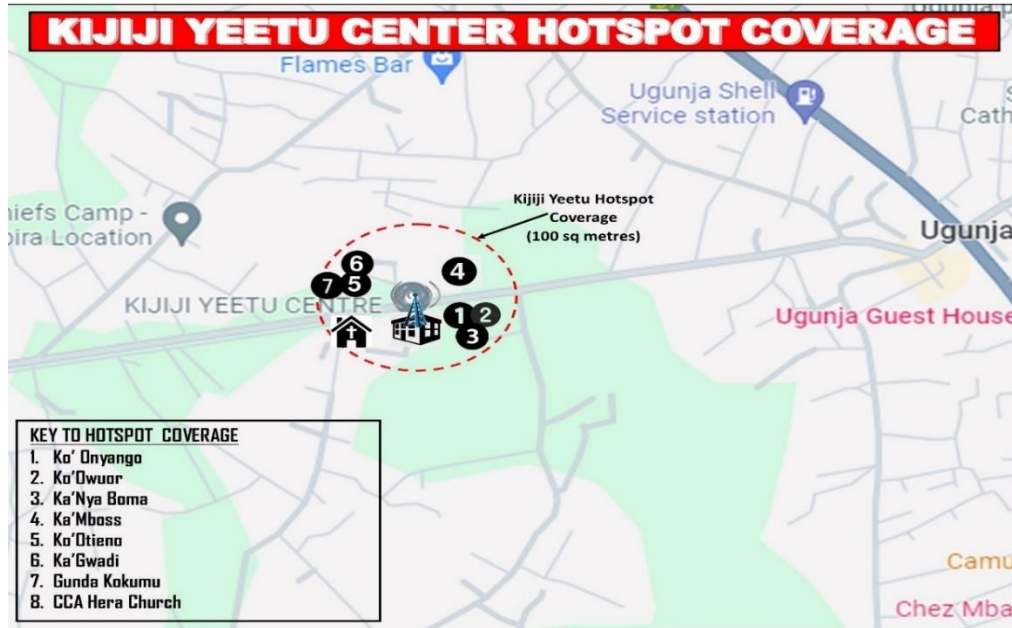
The general objective was to determine the state of internet usage at Kijiji Yeetu Centre – Ugunja for the month of December 2023.

The specific objectives of the project are:

- i) To identify the current users on the Kijiji Yeetu hotspot
- ii) To Identify the devices connected on the Kijiji Yeetu hotspot
- iii) To determine the usage sessions by the users on the Kijiji Yeetu hotspot

### 3.0 SCOPE OF THE REPORT

The report covers the period from 1<sup>st</sup> December 2023 to 28<sup>th</sup> December 2023. The target was to produce a comprehensive report highlighting the state of internet usage of the Kijiji Yeetu Hotspot installed at Kijiji Yeetu Centre – Ugunja.



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## 4.0 METHODOLOGY OF THE REPORT

The report revolved around collecting data from the Kijiji Yeetu Hotspot and office Internet usage.

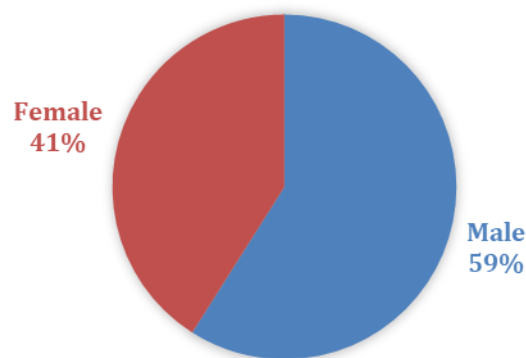
## 5.0 ANALYSIS AND FINDINGS

The results of the bandwidth tests showing current users, devices connected and bandwidth usage are reported and findings given.

### 5.1 Gender of the Users

The report looked at the gender of users on the Kijiji Yeetu Hotspot as recorded below

Gender	Frequency	Percent
Male	22	59.00%
Female	15	41.00%
Total	37	100.00%



The report shows that 59.00% of the respondents were males, while 41.00% were females. This implies that intake of internet has been received by both genders. This is in line with the ITU that states that Globally, in 2022, 62% of men are using the Internet, compared with 57% of women (ITU, 2023). It shows that Digital technologies are an essential pathway to gender equality and empowerment of all women and girls. Achieving the United Nations Sustainable Development Goals (SDGs) will not be possible until we close the digital gender gap.



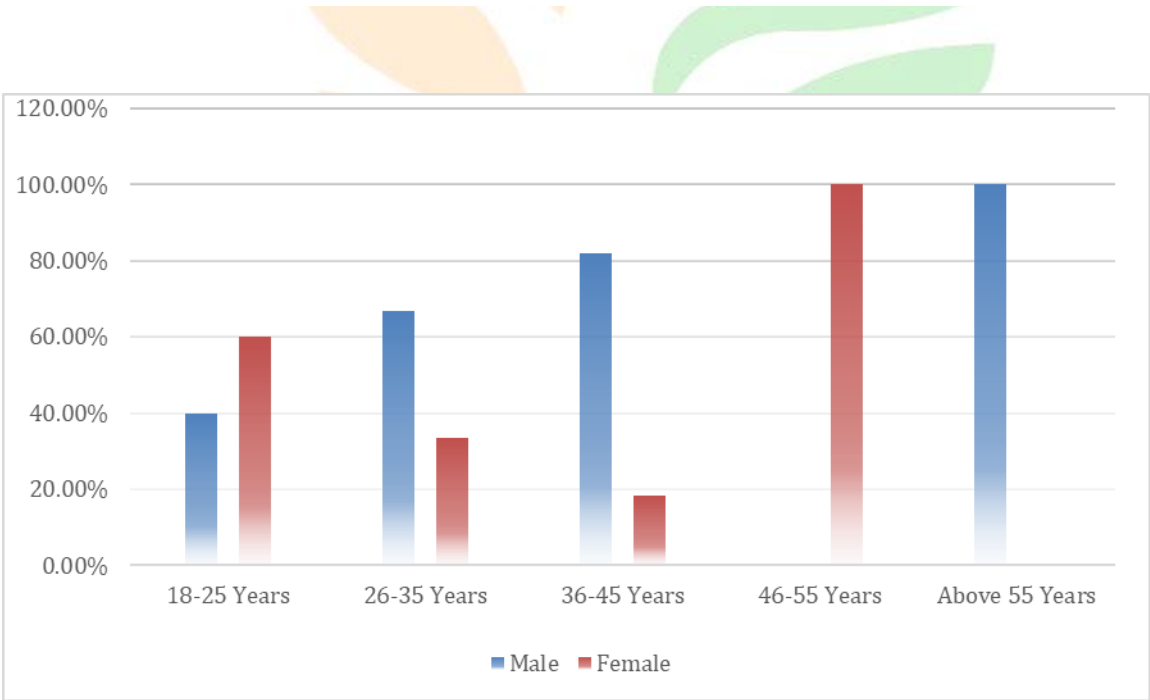
## 5.1 Current Users on the Kijiji Yeetu Hotspot

The report looked at various aspects of the current hotspot users of bandwidth as reported in the tables and graphs below

### 5.1.1 Ages of the Users

The report looked at the ages of the users connected to the hotspot as reported in the tables and graphs below

Item	Male		Female	
	Frequency	%	Frequency	%
18-25 Years	4	40.00%	6	60.00%
26-35 Years	8	66.70%	4	33.30%
36-45 Years	9	81.80%	2	18.20%
46-55 years	0	0.00%	3	100.00%
Over 45 years	1	100.00%	0	0.00%
Total	22	59.50%	15	40.50%



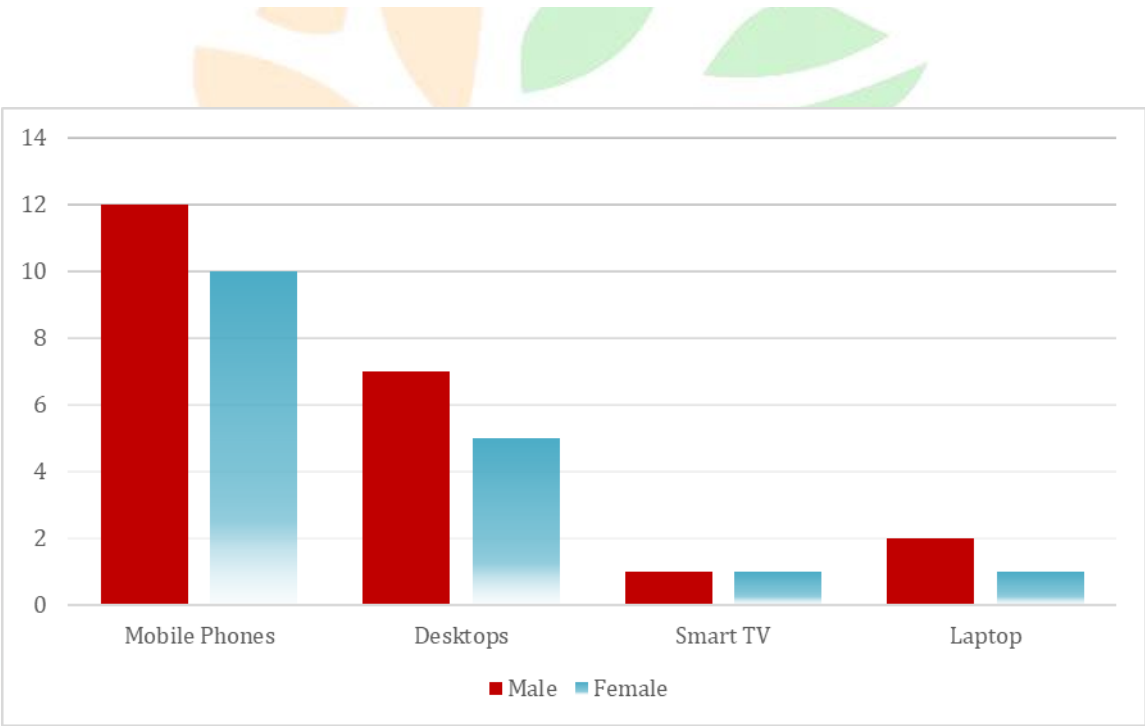
The table and graph above indicate that most of the users were in the age bracket of 36-45 years (81.80 % male and 18.20% female) followed by the 26-35 (66.7% male and 33.3% female). The least users of the installed Hotspot were in the above 55 (66.7% male and 33.3% female) age

bracket. It can therefore be concluded that all the age brackets have shown an interest in the using the installed Hotspot.

## 5.2 Gadgets Used on the Kijiji Yeetu Hotspot

The report looked at the gadgets used on the Kijiji Yeetu hotspot as reported below

Gadgets used	Male		Female	
	Frequency	%	Frequency	%
Mobile Phones	12	54.5%	10	45.5%
Desktops	7	58.3%	5	41.7%
Smart TV	1	50.0%	1	50.0%
Laptop	2	75.0%	1	25.0%
<b>Total</b>	<b>22</b>		<b>15</b>	



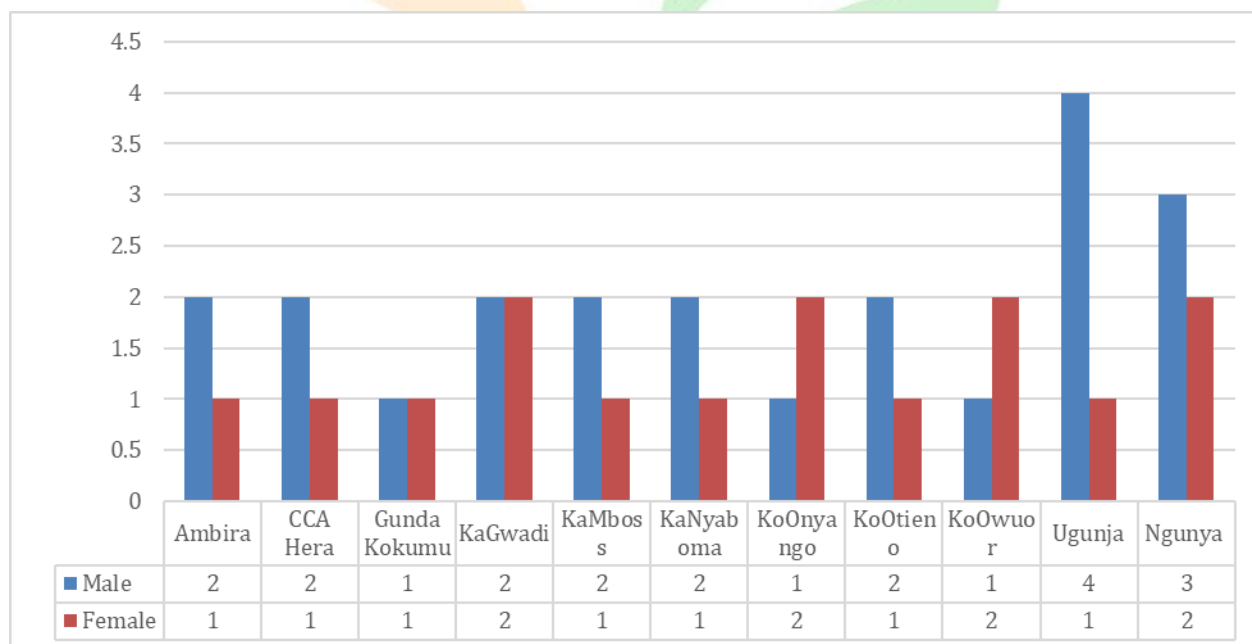
The table and graph above indicate that most of the users used mobile phones (54.5% male and 45.5% female) to connect to the hotspot, another set used Desktops (58.3% male and 41.7% female) that are within the Kijiji Yeetu Centre to connect to the hotspot. Some users connected to the hotspot with their Smart TVs (50.0% male and 50.0% female) and laptops (75.0% male and 25.0% female).



### 5.3 Users Location

The report looked at the areas covered by the hotspot and areas users are coming from as reported in the tables and graphs below

Users Location	Male		Female	
	Frequency	%	Frequency	%
CCA Hera	2	11.00	1	15.00
Gunda Kokumu	1	22.00	1	15.00
Ka'Gwadi	2	11.00	2	7.50
Ka'Mboss	2	11.00	1	15.00
Ka'Nyaboma	2	11.00	1	15.00
Ko'Onyango	1	22.00	2	7.50
Ko'Otieno	2	11.00	1	15.00
Ko'Owuor	1	22.00	2	7.50
Ambira	2	11.00	1	15.00
Ugunja	4	5.50	1	15.00
Ngunya	3	7.33	2	7.50



The graph and table above indicate the homes connected to the Kijiji Yeetu hotspot that covers 100m<sup>2</sup> from the Centre the homes include Konyango, Kowuor, Kanyaboma, Kamboss, Kotieno,

Kagwadi, Gunda Kokumu, and CCA Hera. There are also walk in clients using desktops and their mobile phones within the center

### 5.3 User Sessions

The report looked at the sessions the users connect to the hotspot as reported in the tables and graphs below.

Session	Male		Female	
	Frequency	%	Frequency	%
Morning	8	50.00%	8	50.00%
Afternoon	4	80.00%	1	20.00%
Evening	7	58.30%	5	41.70%
All Day	3	75.00%	1	25.00%
<b>Total</b>	<b>22</b>	<b>59.50%</b>	<b>15</b>	<b>40.50%</b>



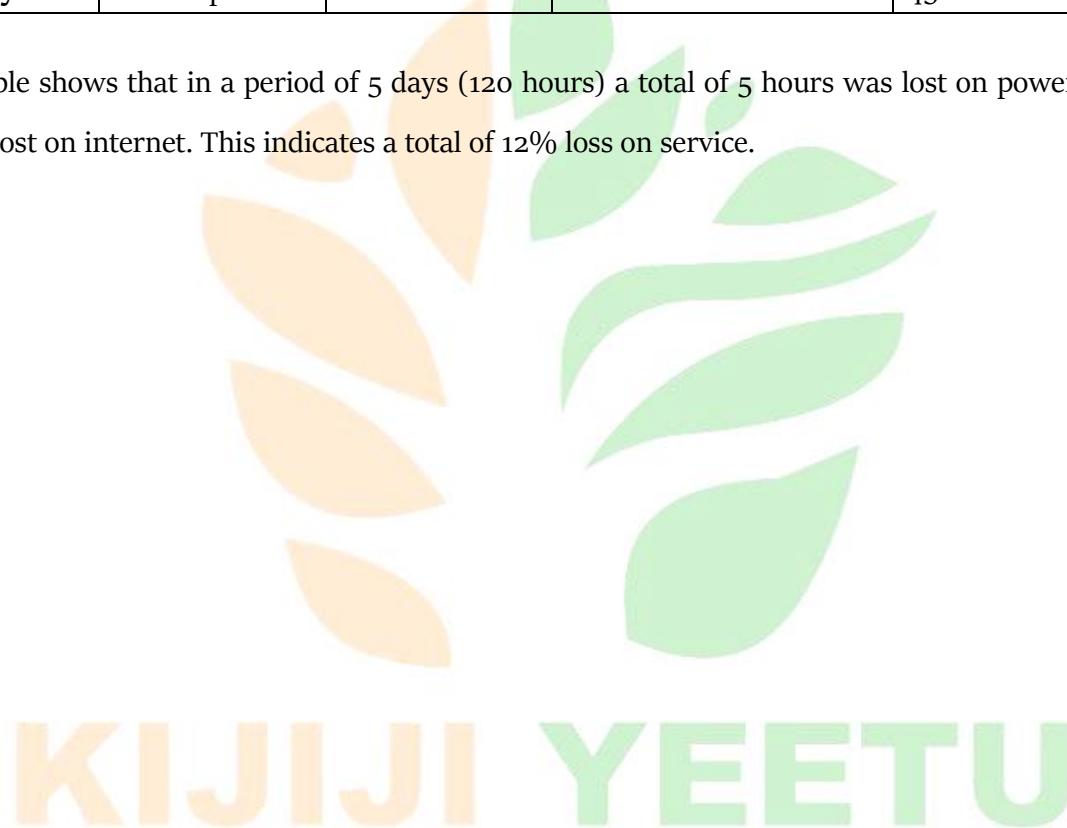
The table and graphs indicate that both genders are active during each session/ the preferred browsing (50% male and 50% female) and evening (58.30 % male and 41.70 % female). Very few users are able to be online the all day/ it is important to note that there is always a user online at any particular time.

## 5.4 Incident Analysis

The report looked at any incidences that affected bandwidth the users responsible for bandwidth usage as reported in the tables and graphs below.

	<b>Incidence</b>	<b>Impact</b>	<b>Resolution</b>	<b>Time taken</b>
<b>Monday</b>	None	None	None	n/a
<b>Tuesday</b>	Loss of internet	Loss of service	Contact Customer Care	6 hrs
<b>Wednesday</b>	Loss of power	Loss of internet	Contact KPLC	3 hrs
<b>Thursday</b>	Loss of power	Loss of internet	Contact KPLC	1 hr
<b>Friday</b>	Loss of power	Loss of internet	Contact KPLC	45 minutes

The table shows that in a period of 5 days (120 hours) a total of 5 hours was lost on power and 6 hours lost on internet. This indicates a total of 12% loss on service.



## 6.0 CONCLUSIONS AND RECOMMENDATIONS

It can therefore be concluded that the Hotspot at Kijiji Yeetu is used throughout the day by both genders.

### 6.1 Recommendations

To enhance service delivery the study recommends that there is need to

- a) Have a backup solar to stabilize the service offered to the end users
- b) Extend the services to community hotspots and connect individual homes
- c) Acquire a software to determine bandwidth consumed to determine whether the users are currently exhausting the paid for bandwidth

### 6.2 Conclusion:

First and foremost, the report notes that the community has embraced usage of the deployed internet and are using it on a daily basis. Secondly, it should be understood that users are using Mobile Phones, Desktops, Smart TV and even Laptops to use the bandwidth deployed. Finally, the report finds that the center has been experiencing walk in clients cutting across the sub county. It is therefore important to escalate the deployment as [er the projected timelines to meet the needs of the users.



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## APPENDIX

No	Name	Home	Phone No	Gadget	Remarks
1.	Dan Asst. Chief	Ambira	0723277872	Mobile	Morning Hours
2.	Celestine Chief	Ambira	0728441591	Desktop	Morning Hours
3.	Peter Maina	Ambira	0724867662	Mobile	Afternoon Hours
4.	Moses Wekesa	CCA Hera	0758040829	Mobile	Afternoon Hours
5.	Rose Ben	CCA Hera	0731272840	Mobile	Evening Hours
6.	Ben Otieno	CCA Hera	0721647494	Mobile	Morning Hours
7.	Fred Otieno	Gunda Ka'were	0725787810	Desktop	Morning Hours
8.	Erick Mulefu	Gunda Ka'were	0789913569	Mobile	Morning Hours
9.	Newton Apindi	Gunda Ka'were	0742818350	Mobile	Morning Hours
10.	Julius Gwadi	Ka'Gwadi	0727363752	Mobile	Evening Hours
11.	Mama Daddy	Ka'Gwadi	0700163105	Mobile	Afternoon Hours
12.	Verah Awuor	Ka'Gwadi	0746806961	Mobile	Morning Hours
13.	Jacob Ouma	Ka'Gwadi	0702533460	Mobile	Evening Hours
14.	Verah Awuor	Ka'Gwadi	0706722334	Mobile	Morning Hours
15.	Natalie Gwadi	Ka'Gwadi	0703574646	Mobile	Evening Hours
16.	Vitalis Mboss	Ka'Mboss	0707324273	Desktop	Evening Hours
17.	Peter Mboss	Ka'Mboss	0790046056	Mobile	Evening Hours
18.	Layila Mboss	Ka'Mboss	0707695180	Desktop	Morning Hours
19.	Regina Onyango	Ko'Onyango	0720250666	Mobile	All Day
20.	Adrian Alpha	Ko'Onyango	0726120000	Mobile	All Day
21.	Annette Onyango	Ko'Onyango	0740488541	Mobile	Evening Hours
22.	Cornel Juma	Ko'Otieno	0722900612	Mobile	Evening Hours
23.	Daudi Otieno	Ko'Otieno	0725070792	Mobile	Evening Hours
24.	Milly Cornel	Ko'Otieno	0798324686	Mobile	Evening Hours
25.	Michelle Owuor	Ko'Owuor	0715727282	Mobile	Evening Hours
26.	Nikita Owuor	Ko'Owuor	0732802332	Desktop	Morning Hours
27.	Godfrey Rapudo	Ko'Owuor	0781600844	Mobile	Evening Hours
28.	Victor Otieno	Net Warden	0769956617	Laptop	Morning Hours
29.	Wycliffe Olwanda	Net Warden	0708517051	Desktop	All Day
30.	Kennedy Oluoch	Net Warden	0790847851	Desktop	All Day
31.	Angeline Awiny	Ngunya	0701642417	Desktop	Morning Hours
32.	Omondi Bernard	Ngunya	0700603203	Desktop	Morning Hours
33.	William Onyango	Ngunya	0798273245	Desktop	Afternoon Hours
34.	Maureen Rajula	Ugunja	0738233786	Mobile	Morning Hours
35.	Job Rajula	Ugunja	0792072433	Desktop	Morning Hours
36.	Joy Rajula	Ugunja	0792072433	Desktop	Morning Hours
37.	Jeremiah Ochieng	Ugunja	0728721292	Desktop	Afternoon Hours