RP1370

Resettlement Action Plan

(RAP)

For the Sierra Leone Energy Access Project: Rehabilitation of Sub-Stations and transmission line in Freetown, Sierra Leone

November 29, 2012

Prepared for:
National Power Authority SIERRA LEONE
Power and Water Project (P126180)
Ministry of Energy and Power

Project Implementation Unit

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LIST OF ABBREVIATIONS

GoSL	**Government of Sierra Leone**
RoW	**Right of Way**
MoEWR	**Ministry of Energy and Water Resources**
MW	**Megawatts**
NPA	**National Power Authority**
kV	**kilovolts**
AGO	**Diesel oil**
MFO	**Marine fuel oil**
IEC	**International Electricity Commission**
ICNRIP	**International Commission on Non-ionizing Radiation Protection**
kms	**kilometers**
EU	**European Union**
RAP	**Resettlement Action Plan**
PAPs	**Project affected persons**
MLCP	**Ministry of Lands and Country Planning**
RAC	**Resettlement Advisory Committee**
M&E	**Monitoring and evaluation**
FCC	**Freetown City Council**
ONS	**Office of National Security**
HV	**High voltage**
EHV	**Extra high voltage**
XLPE	**HV cross linked polypropylhene**

1.0 BACKGROUND

This Resettlement Action Plan (RAP) is an update of the RAP that was prepared for the Sierra Leone Power and Water project, which closed in March 2011. The RAP Completion Report for the earlier Project was finalized in November 2011.

The Energy Access Project covers a segment of the distribution network from the Blackhall Road substation to Wellington substation with large density of households and commercial activities, most of whom have already received compensation under the Sierra Leone Power and Water Project with which the Energy Access Project overlaps in this segment.[1] A 13 km-long 11kV section line, which included the 7.6 km Blackhall Rd-Wellington line, was added under the old Power and Water project during project restructuring in December 2007. Although 95% of compensation was paid at that time, a portion of the upgrade of 11kV transmission lines was not completed under the old project. **This 7.6 km. unfinished portion is the segment of the 11kV** network between the Blackhall Road and Wellington sub-stations that is to be rehabilitated and upgraded to 33 kV under the proposed Energy Access Project**.** It is expected that there will be few Project Affected Persons (PAPs) in the Energy Access project, or, that the amounts of compensation will be relatively small because they are primarily for temporary disturbances during project implementation of the rehabilitation of the 7.5 km section of the distribution network between the Blackhall Roadand Wellington sub-stations. Nevertheless, the Government of Sierra Leone has decided to prepare an updated RAP in case there are any resettlement/compensation issues, especially for temporary disturbances, along the Blackhall Road – Wellington line to be rehabilitated under this Project.

The Energy Access project includes the following three components:

- **Component I**: Rehabilitation of Primary Distribution Network, Loss Reduction and Improvement of NPA's Operational and Commercial Performance (US$12.200 million)[2]. This component envisages multiple investment and technical assistance activities. The Project has identified priority investments in network upgrade including the provision of additional 161/33kV transformer and a 33kV earthing transformer at Freetown substation. Further investments will focus on the upgrading of other critical components of the primary MV network, including the 33kV upgrade of the line from Blackhall Road to Wellington substations, currently operated at 11kV; a 33/11kV transformer at Wellington substation, a 5MVA transformer

[1] This updated RAP may contain some information pertaining to the entire scope of lines covered under the earlier Power and Water Project. It should be emphasized that the Energy Access project proposed supports rehabilitation of the line between the Wellington and Blackhall Road sub-stations, which is only a part of the network intended to be covered under the Power and Water project.
[2] Cost estimate exclude contingencies.

at the Portii sub-station, and related substation equipment at Freetown, Blackhall Road, Wellington, Portii and Wilberforce substations.

The focus of these upgrades is to: (i) improve evacuation capacity from the 16.5 MW Blackhall Road thermal power station during times when insufficient hydropower is available from Bumbuna; (ii) reduce overloading and hence technical losses; and (iii) improve network reliability and hence reduce the number of service interruptions. All these distribution system rehabilitation investments have been appraised as suitable for significantly improving network evacuation capacity, reducing technical losses and improving system reliability.

The investments in the distribution network will raise its transfer capacity by approximately 8MW. In addition, the Project will finance supply and installation of approximately 20,000 pre-paid meters as well as an appropriate vending and control system to replace the current aging system. Since NPA currently has no means of precisely locating high loss areas in the network, the Project will also finance supply and installation of a statistical metering and data management system. Finally, an appropriate business information system will be installed to replace manual systems and improve utility management, particularly in the financial, commercial and logistics areas. Investments in each area will be complemented with extensive technical assistance to ensure optimal application of the investment support. Additional technical assistance will focus on strengthening NPA's expertise in two key areas: (i) operations, through focused training on system operation with an emphasis on operating regulations and safety; and (ii) commercial management, by providing support to the implementation of the loss reduction program.

A handful of encroaching structures have been identified inside the RoW along the Blackhall Road-Wellington line, posing safety issues, and could be eligible for compensation, if they were inside the RoW as of the end of March 2012 and not previously compensated under the Power and Water Project. Compensation related to such encroaching structures, if any, would be payable through funds made available through the Energy Access Project.

In order to address these encroachments, as well as future possible encroachments along the Blackhall Road-Wellington line, the GoSL has set up an inter-ministerial sub-committee comprising of representatives from the Ministry of Land, Country Planning and Environment; Works, Housing and Infrastructure; and Information and Communications. Additionally, the Office of National Security (ONS) and the Police under Freetown City Council have been asked to assist the committee especially throughout enforcement of the regulations governing land uses inside the RoW. An Environmental and Social Development Specialist will be hired under the Project to oversee environmental and social management. The Project also envisages technical assistance to ensure risk mitigation; and build capacity for monitoring of the RoW, with a view to reduce the impacts from encroachments and land uses that may negatively affect the operation of distribution facilities

The specific activities involved in the completion of the distribution network upgrade will also include replacement of two sets of poles along the line track between the Blackhall Road and Wellington substations and installation of other three sets of poles (one set at the Blackhall Road substation, one set at the Wellington substation and another set along the line track). This will require some excavation and cement works as described below:

- Excavation – excavations are carried out to lay foundations for pole pads. Some of the excavated soil is used to backfill as necessary.

- Concrete works – concrete works for the foundations and footings are carried out as required.

- In relation with the stringing of the 33kVlines, – in most cases, lines are strung by manual labour. The minimum clearance of the lines to ground is about 6 m at the lowest point of sag and this increases to about 7 – 9 m in way of road crossings. The RoW for 33 kV lines spans a width of 10 (5 m on either side of the contreline) In built up urban settlements this space may be reduced in certain situations due to space constraints.

- Prior to commencement of construction and stringing, there is the need to sensitize the public in the project areas to obtain their cooperation and to avoid disruption to its smooth implementation.

Component II: Rural Electrification (US$1.460 million). This component will launch a pilot program for the installation of PV systems in public buildings in 14 rural villages, to demonstrate applicability of the solar technology for larger deployment. Villages have been selected by the Ministry of Energy and Water Resources and the Ministry of Local Government and Rural Development from each administrative district, based on gender diversity, number of public buildings where the PV systems can be installed and road accessibility. The development of small-scale decentralized solar power supply in rural areas has been included by the GoSL's in the National Energy Policy and Strategic Plan. Also, a roadmap for scaling-up renewable energy technologies (RETs) and markedly solar power has been identified. The pilot installation of PV systems is expected to complement current efforts by other donors as well as to leverage wider donor support to the GoSL's long-term program of rural electrification using solar energy. In the short term, this component promises high returns in terms of improved living standards for the populations of the villages targeted under the Project.

Component III: Project Implementation Management (US$1.225 million). This component has been specifically designed to strengthen project implementation and management capacity. The component will finance external expertise that will support key project management functions.

This RAP has been prepared to address any potential resettlement issues in Component I. Components II and III will not involve any land acquisition leading to resettlement and/or restrictions of access to resources or livelihoods.

1.1 Sensitization

In the Power and Water project, the Government and PAPs decided that:

- ❖ the PAPs take ownership of the project by fully participating in the implementation process;
- ❖ three main committees be formed which would include representatives of Government Ministries and the City Council of Freetown. These were:
    - The Resettlement Advisory Group (RAG)
    - The Grievance Committee, and,
    - The Monitoring Committee
- ❖ Land should be provided by the Government to resettle Project Affected Persons.
- ❖ The Witness NGO and PAPs Representatives will monitor the work of the consultant(s).

2.0 STATE OF THE ROUTE LINE

In the Power and Water project, some of the transmission line towers were relocated to minimise the impact of the line on the settlements. The heights of the towers or span above the settlements were also increased, as an additional safety measure. The line between the Blackhall Road and Wellington sub-stations runs across Kissy and Wellington Townships which are densely populated and centers of commercial activity.

3.0 SOCIO – ECONOMIC SURVEY

As Component I of the Energy Access project overlaps with the project area of the Power and Water project between the Blackhall road and Wellington sub-stations, this RAP includes the socio-economic survey work that was prepared for the Power and Water project.

The socio-economic survey was conducted during which PAPs were interviewed, plus a sample of non-PAPs households. A census was done and a socio-economic profile of the PAPs was recorded. Three sets of questionnaires were administered;

- ❖ Asset Owner

- ❖ Tenants
- ❖ Community (General)

This was followed by community meetings and face to face discussions of their social and economic lives. In general the survey found that the average income levels of the communities were low and income generation activities were also limited. Living conditions of PAPs were equally low. A picturesque of the environment portrayed an area devoid of certain basic social amenities.

3.1 Objective of the Survey

i. To inform the PAPs about the changes in reviewed RAP Implementation Project

ii. To inform and educate them about the low mitigating impact of the Transmission Line on the communities.

iii. Establish that compensation was specifically for those directly affected by the Project i.e. those whose lands have been occupied and portions of their structures Affected.

iv. Estimate the level of income generation.

v. Determine the status of the Environment.

The Socio-economic survey covered the entire route line which reflected both affected and non-affected persons so as to present a broad picture of the situation on the ground.
At the end of the survey, it was noted that with the diversion of the Route of the Transmission Line, the number of affected Persons and structures drastically reduced.

3.2 Results of Statistical Analysis of Asset Owners

Frequencies of Analysis: Section 1 Bio-Data

Household Size

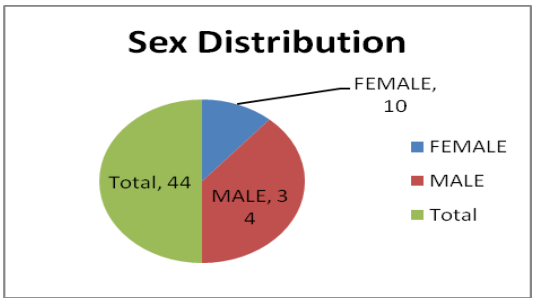
		Frequency	Percent
Valid	2	1	2.3
	3	3	6.8
	4	2	4.5
	5	7	15.9
	6	5	11.4
	7	6	13.6
	8	4	9.1
	9	1	2.3
	10	2	4.5
	12	1	2.3
	13	3	6.8
	19	1	2.3
	Total	36	81.8
	N/A	8	18.2
Total		44	100.0

According to results of the survey, a total number of 138 households were interviewed. Of these, 44 of them were recorded as Asset Owners, and 94 as Tenants. Of the total number of Asset Owners, 2 respondents of a household size which shows a frequency of 1, records 2.3%. 3 of the household sizes show a frequency of 3 with 6.8%, 5 responses record a frequency of 7 which accounts for 15.9%, and 4 with a frequency of 2, amounting to 4.5%.

A frequency of 5 reflects household sizes of 6 which record a percentage of 11.4%. Further still, survey records reveal that households sizes of 7 record a frequency of 6 which make up for 13.6%, while those of 8 with a percentage of 9.1% show a frequency of 4. However, 9 responses with a frequency of 1 equally record 2.3%.
Not surprisingly, household sizes of 10 show a frequency of 2 with 4.5%. The frequency of 1 is also recorded for a size of 12 which equally account for 2.3%. In spite of this range, household sizes of 13 show a frequency of 3 culminating to a percentage of 6.8%, closely following in line with households of 19 which also reflect a frequency of 1 and a percentage of 2.3% which is so far the lowest, while There were no responses (N/A) from a frequency of 8 which account for 18.2%.

Sex Distribution

	Frequency	Percent
FEMALE	10	22.7
MALE	34	77.3
Total	44	100.0



Statistical results of the survey show that in the sex distribution, the numbers of men are dominant among Asset Owners. This obviously records a high percentage of 77.3 with a frequency of 34, while the female distribution rests at 22.7% with a frequency of 10 far below that of the men.

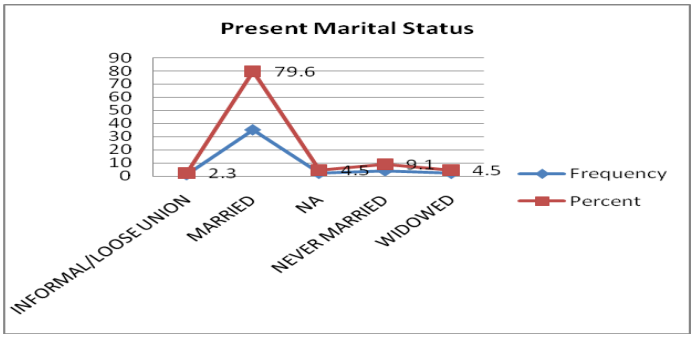
Age Frequency

		Frequency	Percent
Valid	28	1	2.3
	33	2	4.5
	35	2	4.5
	37	1	2.3
	40	3	6.8
	41	1	2.3
	42	1	2.3
	45	6	13.6
	46	1	2.3
	50	1	2.3
	52	2	4.5
	53	1	2.3
	54	1	2.3
	55	3	6.8
	56	2	4.5
	57	1	2.3
	58	1	2.3
	60	1	2.3
	73	1	2.3
	76	1	2.3
	Total	33	75.0
	N/A	11	25.0
Total		44	100.0

According to the survey, age differences among Asset Owners range from 28 Years to 76 Years which indicates that age disparity is from the youngest to the oldest. The age groups of 28, 37, 41, 42, 46, 50, 53, 54, 57, 58, 60, 73 and 76 reflect a low percentage of 2.3% with a frequency of 1 to each. A percentage of 6.8% in a frequency of 3 records the ages of 40 and 55 Years. A group of people also reflect 13.6% with a frequency of 6 at the age of 45 Years. Those in the middle ages of 33, 35, 52 and 56 Years with a frequency of 2, each reflects a percentage of 4.5% in every case. The age group of 55 records a percentage of 6.8 with a frequency of 3. A non applicable group of respondents account for 25.0% with a frequency of 11.

Present Marital Status

	Frequency	Percent
INFORMAL/LOOSE UNION	1	2.3
MARRIED	35	79.6
NA	2	4.5
NEVER MARRIED	4	9.1
WIDOWED	2	4.5
Total	44	100.0



In a bid to establish their marital statuses, those who are formally married record a percentage of 79.6 with a frequency of 35 which reflects the highest percentage of the kind of relationship. Others engaged in informal and loose/Union show a frequency of 1 only, with 2.3% which is the lowest so far. A frequency 4, shows a percentage of 9.1% of those who had not been married. Widows rate a frequency of 2 with 4.5%. No responses (N/A) were available from a frequency of 2 to 4.5%.

Regional Background

	Frequency	Percent
EASTERN	1	2.3
NA	1	2.3
NORTHERN	17	38.6
SOUTHERN	1	2.3
WESTERN AREA	24	54.5
Total	44	100.0

The survey equally reveals that 54.5% with a frequency of 24 of the Asset Owners hail from Freetown – Greater Freetown, (Western Area) which is the highest percentage recorded in terms of regional basis. These are closely followed by those from the Northern Region with a frequency of 17 and 38.6%. 0f these, the Eastern and

Southern Regions record the lowest frequencies of 1 each with the same percentages of 2.3 which are the lowest. However, no response was received from 1 frequency with a 2.3%.

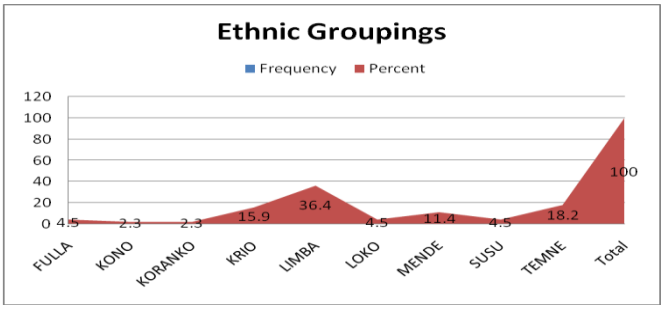
Nationality

		Frequency	Percent
Valid	NON SIERRA LEONEAN	6	13.6
	SIERRA LEONEAN	38	86.4
	Total	44	100.0

In terms of nationality, Sierra Leones are in the majority which records a frequency of 38 and a percentage of 86.4%. Non Sierra Leoneans reflect a percentage of 13.6 in a frequency of 6.

Ethnic Groupings

	Frequency	Percent
FULLA	2	4.5
KONO	1	2.3
KORANKO	1	2.3
KRIO	7	15.9
LIMBA	16	36.4
LOKO	2	4.5
MENDE	5	11.4
SUSU	2	4.5
TEMNE	8	18.2
Total	44	100.0



Among the Ethnic groups, the Limbas form the majority culminating in to the highest frequency of 16, which accounts for 36.4% of their number. Behind them are the Temnes who equally form 18.2% with a frequency of 8. Although these two Ethnic groups outnumber the Krios who hail from the Western Area, they make a mark by recording 15.9% with a frequency of 7, who are third in the row. The Mendes from the far South and East make up for 11.4% to a frequency of 5. The Konos and Korankos are in the minority in the frequencies of 1 each amounting to equal percentages of 2.3% of either group. The Fullas, the Lokos and the Susus form a fairly recognizable group each with a frequency of 2 accounting for 4.5% each.

Frequencies of Analysis: Section 2 Livelihood

Having provided a detailed account of the various situations of Asset Owners, it is worthy of note to also state that considerable attention was also focused on livelihood and income generation activities.

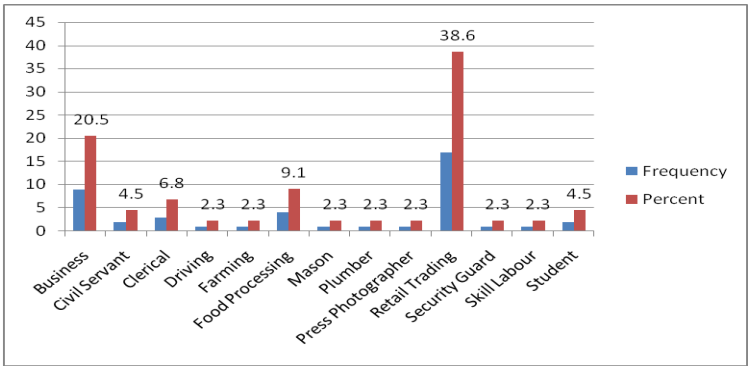
In general, the survey established that though Asset Owners are engaged in various economic activities, they are living in adject poverty and deprivation. The study also proves that income levels are low culminating from limited income generation activities of the property owners.

Limited resources has hampered developments in the Community. This is one of the factors that is responsible for the absence of social cohesion among the people as well as individual progress.

These financial constraints have affected the lives of the people to such an extent that some of them could hardly send their children to school, let alone afford to pay their children's medical bills. It is quite obvious that in such a situation, the people virtually continue to live in appalling conditions.

Livelihood

		Frequency	Percent
Valid	Business	9	20.5
	Civil Servant	2	4.5
	Clerical	3	6.8
	Driving	1	2.3
	Farming	1	2.3
	Food Processing	4	9.1
	Mason	1	2.3
	Plumber	1	2.3
	Press Photographer	1	2.3
	Retail Trading	17	38.6
	Security Guard	1	2.3
	Skill Labour	1	2.3
	Student	2	4.5
	Total	44	100.0



Similar to the Tenants, 38.6% with a frequency of 17 of the Asset Owners are engaged in Retail Trading. 20.5% from a frequency of 9 are also in businesses of various sets. 9.1% with a frequency of 4 are into food processing. Those who are equally serving in various capacities in clerical jobs, lie at a level of 6.8% with a frequency of 3.

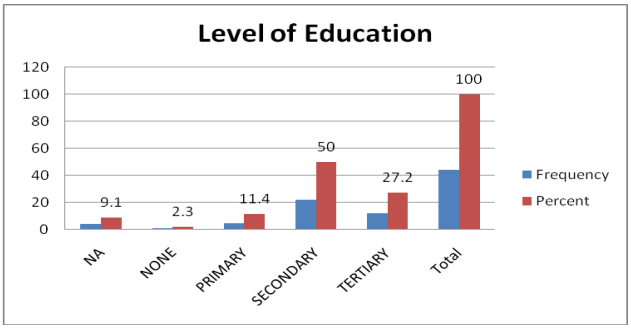
Civil Servants account for 4.5% with a frequency of 2, as well as Students who also account for the same percentage and frequency.

Those Asset Owners who are engaged in Driving, Farming, Masonry, Plumbing and Press Photography, as well as Security Guards and Skilled Labour are all rated at 2.3% with frequencies of 1 to each of them.

Frequencies of Analysis: Section 3 General Educational, Literacy and Apprenticeship

Level of Education Attained

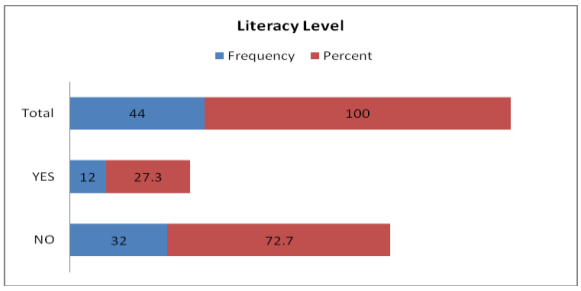
	Frequency	Percent
NA	4	9.1
NONE	1	2.3
PRIMARY	5	11.4
SECONDARY	22	50.0
TERTIARY	12	27.2
Total	44	100.0



Among other things, it was recorded that the population is fairly literate with different levels of education, ranging from Primary, secondary and Tertiary. It was therefore noted that 50% attained Secondary Education, with a frequency of 22. 27.2% in a frequency of 12, attained Tertiary level of education, whilst 11.4% with a frequency of 5, only stopped at Primary level, it could be seen that survey records reflect those of Secondary School education as the highest, the lowest show those with Primary Education. There were however some without any educational background who accounted for 2.3% with a frequency of 1. Of those without responses (N/A) a frequency of 4 is recorded with a percentage of 9.1.

Literacy Level

	Frequency	Percent
NO	32	72.7
YES	12	27.3
Total	44	100.0



As a means to enhance their levels of education, 27.3% with a frequency of 12 were able to attend literacy courses. Of a frequency of 32 with a percentage recording of 72.7% of the asset owners could not attend literacy courses.

Ability to Read and Write a Simple Letter in English

	Frequency	Percent
NO	6	13.7
YES	38	86.3
Total	44	100.0

Invariably, a reasonably high percentage of 86.3 with a frequency of 38 can read and write simple English, 13.7% of a frequency of 6 cannot read or write.

Aptitude to do Simple Calculations

	Frequency	Percent
NO	5	11.4
YES	39	88.6
Total	44	100.0

In near corresponding frequency of 39, 88.6% of them can also do simple calculations whilst 11.4% with a frequency of 5 cannot.

Apprenticeship

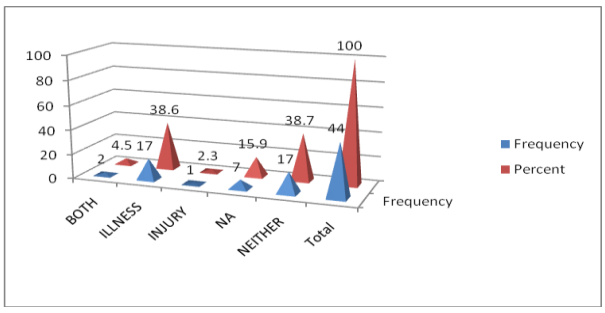
	Frequency	Percent
NO	29	65.9
YES	15	34.1
Total	44	100.0

In a bid to enhance their personal capacities, it is recorded that 34.1% in a frequency of 15 have been through some form of apprenticeship over the years. A frequency of 29, which accounts for 65.9% have never gone through any process of formal training or apprenticeship.

Frequencies of Analysis: Section 4 Health Conditions in Past 2 Weeks

Health Condition, Illnesses and Injuries

	Frequency	Percent
BOTH	2	4.5
ILLNESS	17	38.6
INJURY	1	2.3
NA	7	15.9
NEITHER	17	38.7
Total	44	100.0



During the course of the survey, access to health and other Social facilities was of significance. In this situation, it was noted that there had been health hazards in the communities, which shows that 38.6% with a frequency of 17 have suffered from various illness. A low level of 4.5% in a frequency of 2 has suffered from both illnesses and injuries. It is however encouraging to record that the lowest percentage of 2.3% with a frequency of 1 suffers from injury. However, a percentage recording of 38.7 from a frequency of 17 have neither suffered from any illness or injury. There were no responses (N/A) from a frequency of 7 with a percentage of 15.9.

Type of Injury

	Frequency	Percent
ACCIDENT	9	20.4
NA	35	79.6
Total	44	100.0

However, recordings show that a frequency of 9, which reflects 20.4% have suffered from accidents. No responses were received from a frequency of 35 with a percentage of 79.6.

Type of Illnesses

	Frequency	Percent
COMMON COLD/FLU	1	2.3
DIARRHOEA	1	2.3
HYPERTENSION	1	2.3
MALARIA	13	29.5
MALARIA/TYPHOID	7	15.9
NA	19	43.2
TYPHOID	2	4.5
Total	44	100.0

A track of the illnesses shows that malaria appears to be more harmful to the populace which records a percentage of 29.5% with a frequency of 13. The highest of the illnesses though, is recorded from a combination of malaria and typhoid which is most common in the communities, and stands at 15.9% and a frequency of 7. Typhoid all by itself affects only 4.5% of them with a frequency of 2. In the face of this development, it is recorded that Common Cold and Flu, Diarrhea and Hypertension fall to the lowest of the percentages recorded to as low as 2.3% with a frequency of 1 in each case. No responses (N/A) were recorded from a frequency of 19 with a percentage of 43.2.

Period of Consultation (Treatment)

	Frequency	Percent
1 WEEK	2	4.6
2 WEEKS	21	47.8
NA	21	47.7
Total	44	100.0

Survey records also reflect that in a frequency of 2, 4.6% of the populace are treated within a week while a frequency of 21 records 47.7% of those who are treated in two weeks or diagnosed as the case may be. Unavailable responses reflect a frequency of 21 with a percentage of 47.7.

Reasons for Medical Consultation

	Frequency	Percent
CHECK UP	6	13.6
ILLNESS	14	31.8
NA	23	52.3
POSTNATAL CARE	1	2.3
Total	44	100.0

A frequency of 6, with a percentage 13.6 can afford to do checkups, while a frequency of 14 with a percentage of 31.8 do visit when they suffer from an Illness. Others who visit Postnatal Care account for 2.3% from a frequency of 1. Unavailable responses record a frequency of 23 with 52.3%.

Consultations from Medical Specialist

	Frequency	Percent
DOCTOR	7	15.9
MEDICAL ASSISTANT	2	4.5
NA	7	15.9
NURSE	2	4.5
PHARMACIST	2	4.5
SELF	1	2.3
TRADITIONAL HEALER	23	52.4
Total	44	100.0

However, based on income levels and educational background, or enlightenment, some of the people are able to discern the right kind of treatment for the type of illness they suffer from. Others hardly seek medical help but rather depend on traditional medicines from local herbalist, private nurses in their homes, or simply seek help from local pharmacies.

Not surprisingly, the highest percentages of 52.4% in a frequency of 23 seek treatment from Traditional Healers. Notwithstanding that, 15.9% of a frequency of 7 seeks

medical advice from professional medical Doctors. Others in frequencies of 2 in every case, with a percentage recording of 4.5% rely on Nurses, Pharmacists and Medical Assistants. Some of them who rely on treating themselves make up for 2.3% in a frequency of 1. Apparently, this accounts for the reasons why there are poor health conditions among the populace. There were no responses from a frequency of 7 with a percentage of 15.9.

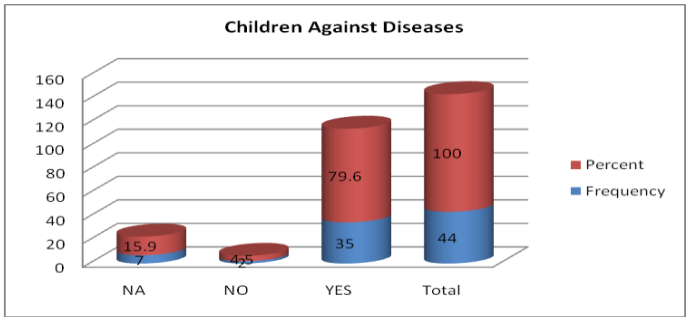
Length of Illnesses

	Frequency	Percent
NA	2	4.5
OFTEN	7	15.9
SELDOM	32	72.8
VERY OFTEN	3	6.8
Total	44	100.0

In spite of this prevailing situation, many of them appear to be resistant to health hazards since 72.8% in a frequency of 32, seldom fall sick or ill, which records the highest so far. However, 6.8% of a frequency of 3 very often fall Ill, while an upsurge of 15.9% in a frequency of 7 experiences those who often fall ill. Non available responses account for 4.5% from a frequency of 2.

Vaccination of Children Against Diseases

	Frequency	Percent
NA	7	15.9
NO	2	4.5
YES	35	79.6
Total	44	100.0

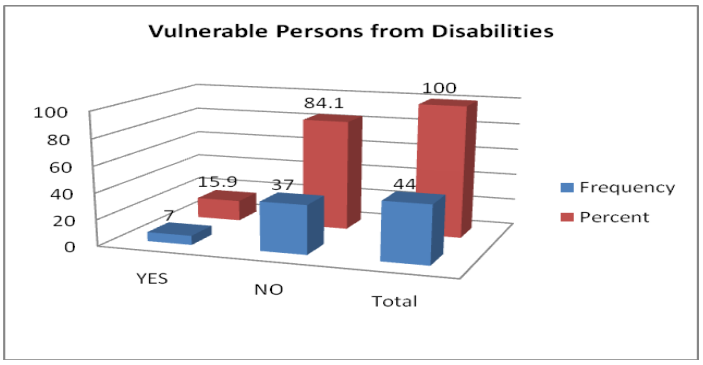


Although, there is a high degree of resistance, precautionary and preventive measures are taken to protect children from various diseases. Consequently, a remarkable

percentage of 79.6% of the children are vaccinated from a frequency of 35. Those who do not take responsibility to vaccinated their children account for 4.5% from a frequency of 2. Non available responses register a percentage of 15.9 with a frequency of 7.

Vulnerable Persons from Disabilities

		Frequency	Percent
Valid	YES	7	15.9
	NO	37	84.1
	Total	44	100.0

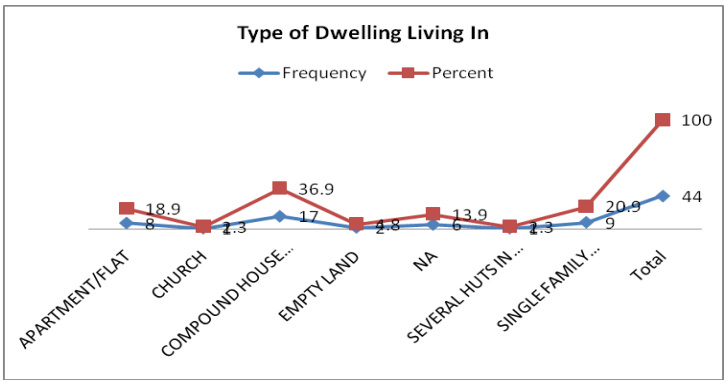


The survey also focused on vulnerable persons particularly those with long disabilities. This however records an encouraging percentage of 84.1% in a frequency of 37, without disabilities. A reasonable percentage of 15.9% in a frequency of 7 are disabled.

Frequencies of Analysis: Section 5 Housing

Type of Dwelling Living in?

	Frequency	Percent
APARTMENT/FLAT	8	18.9
CHURCH	1	2.3
COMPOUND HOUSE (ROOMS)	17	36.9
EMPTY LAND	2	4.8
NA	6	13.9
SEVERAL HUTS IN SAME COMPOUND	1	2.3
SINGLE FAMILY HOUSE/HUL	9	20.9
Total	44	100.0



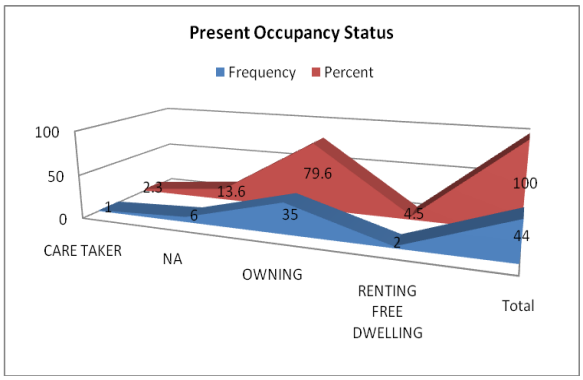
Accommodation in these settlements is of paramount importance. It is however worthy of note that the area covered in this survey, is not a well structured or developed environment with the required or necessary facilities in place.

The type of dwellings, range from compound structures with considerable numbers of single rooms to households, to hurts/shanty structures in a compound. Some households however reside in private apartments. Many of the structures are constructed with a combination of Cement, Zinc, Mud and Sand.

The study therefore establishes that a frequency of 9 of single family households record a high percentage of 20.9. However, a rising frequency of 17 signifies that 36.9% of them dwell in compound houses with single rooms to a household. An impressive percentage of 18.9% in a recurring frequency of 8 live in apartments. Yet still, those living in hurts/shanty structures in a compound, account for as low a percentage as 2.3 with a frequency of 1, along side a church with the same percentage and frequency. Vacant/empty lands account for 4.8% with a frequency of 2 in its case. Non applicable responses account for a frequency of 6 with 13.9%.

Present Occupancy Status

	Frequency	Percent
CARE TAKER	1	2.3
NA	6	13.6
OWNING	35	79.6
RENTING FREE DWELLING	2	4.5
Total	44	100.0



Among those interviewed, 79.6% of them in an occurring frequency of 35, personally own their properties. 2.3% with a recurring frequency of 1 are Caretakers, while 4.5% from a frequency of 2 are Renting/Free dwelling. Non applicable responses account for 13.6% from a frequency of 6.

Construction of Wall Materials

	Frequency	Percent
CEMENT/SAND SANDCRETE BLOCKS	19	45.4
CORRUGATED IRON SHEETS	5	11.4
EMPTY LAND	1	2.3
MUD/CEMENT	1	2.3
MUD/MUD BRICKS	5	11.3
NA	8	18.2
ZINC	3	6.8
ZINC/MUD	1	2.3
Total	44	100.0

A reading of a frequency of 20 projects the highest percentage recording of 45.4% of the number of structures constructed with Cement/Sand, and Sand Crete Blocks. Of these, 11.4% with a reading of a frequency of 5 are developed with corrugated iron sheets. Structures with Mud/Mud Bricks account for 11.3% in a simingly recurring frequency of 5. Although zinc structures are common or typical of shanty dwellings in the Western Area (Freetown) in this community, they appear only in a frequency of 3, which reflects a slightly low percentage of 6.8%. The rest which are developed or constructed with Zinc/Mud, and Cement/Mud also project a frequency of 1 with the lowest percentage of 2.3% together with vacant or empty lands, unutilized. However, there were in this instance no responses (N/A) from a category of a frequency of 8 with a percentage of 18.2.

Main Roofing Material

	Frequency	Percent
CONCRETE	1	2.3
CORRUGATED IRON SHEETS	24	54.4
EMPTY LAND	1	2.3
NA	9	20.5
ZINC	9	20.5
Total	44	100.0

Basically, the type of materials used for roofing of the structures was closely examined to determine the type of structures. Thus, it was noted that in totality, 54.4%

with a sharp frequency of 24 shows that structures are roofed with corrugated iron sheets. The structures which are covered with Zinc make up for 20.5% rating a frequency of 9. Structures with concrete roof floating account for the lowest percentage of 2.3 with a similarly recorded frequency of 1 in its case. Unutilized lands (Vacant) also account for 2.3% from a frequency of 1, while the non applicable ones register a frequency of 9 for a percentage of 20.5.

Main Flooring Material

	Frequency	Percent
CEMENT/CONCRETE	33	75.0
EMPTY LAND	1	2.3
NA	8	18.2
STONE/BRICK	2	4.5
Total	44	100.0

In this report, as the recordings show, a recurrence of a frequency of 33 provides that 75.0% of the floors of the structures are smothered with cement concrete. Other structures account for 4.5% of the floors that are made of stone/Brick, reflecting a frequency of only 2. Unutilized pieces of land which lie vacant, make up for 2.3% with a frequency of 1. Non applicable ones register a frequency of 8 to a percentage of 18.2.

Type of Toilet Facility

	Frequency	Percent
COMMON PIT	21	47.8
FLUSH	6	13.6
NA	11	25.0
PRIVATE PIT	6	13.6
Total	44	100.0

Along these lines, it was observed that toilet facilities are not only limited, but also appalling. It was not a surprise therefore to see that 47.8% of the people use common pit toilets, (outside toilet) which show a frequency reading of 21. An affordable cadre of persons in this group reflect that 13.6% of them in a frequency recording of 6 use flush toilets, while those who use private pit toilets also register a percentage of 13.6 with a frequency of 6. In this regard non applicable ones however recorded a frequency of 11 to a percentage of 25.0.

Period of Occupation of Residence

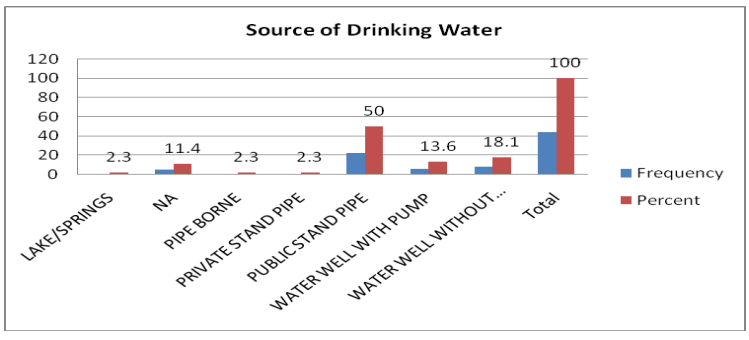
	Frequency	Percent
INHERITANCE	11	25.0
LEASED	2	4.5
NA	8	18.2
PURCHASE	23	52.3
Total	44	100.0

Acquisition of property in the Western Area over the years had been either through construction from personal savings, by inheritance or by purchase. The survey records that in consonance with the analysis, a given frequency of 23 signifies that 52.3% of the properties were purchased. Those properties that had been inherited stand at 25.0% with a frequency of 11. However, a frequency of 2 establishes that 4.5% of the properties were leased. In this case, there were no responses from 18.2% of the asset owners with a return of a frequency of 8.

Frequencies of Analysis: Section 6 Utilities and Amenities

Main Source of Drinking Water

	Frequency	Percent
LAKE/SPRINGS	1	2.3
NA	5	11.4
PIPE BORNE	1	2.3
PRIVATE STAND PIPE	1	2.3
PUBLIC STAND PIPE	22	50.0
WATER WELL WITH PUMP	6	13.6
WATER WELL WITHOUT PUMP	8	18.1
Total	44	100.0



As expressed earlier, facilities such as water and electricity are extremely limited, and quite in contrast with the sharp increase of the population in the settlements. It was however recorded that 50.0% of the population of a given frequency of 22 highly depend on public stand pipes which are the main sources of Water. A frequency of 8 reads that 18.1% of the people also rely on Water wells without pumps for Water. An impressive percentage of 13.6% in a given frequency of 6, are dependent on Water Wells with Pumps. A reliable number ranging down to 2.3% with similar occurrence of frequencies of 1 respectively, access water from Lakes, Springs, Pipe Borne Water and Private Stand Pipes. A non applicable frequency of 5 with 11.4% was also recorded.

Distance from Source of Water Supply

	Frequency	Percent
1 METRE	5	11.4
1 MILE	1	2.3
10 METRE	1	2.3
100 METRE	11	25.1
15 METRE	2	4.5
200 METRE	4	9.1
30 METRE	4	9.1
32 METRE	1	2.3
40 METRE	2	4.5
400 METRE	1	2.3
50 METRE	3	6.8
NA	9	20.3
Total	44	100.0

As it stands to reason, distance to sources of water also counts in this respect. In this regard, some of the people are quite a distance away from the source of water, others who are near or nearer as the case may be, while some are also half way in-between. In a given situation as this, a frequency of 11 of them signifies that 25.1% are 100 meters from the source of Water. 9.1% in a frequency of 4 are 200 meters away from the source, much the same as those 30 meters away respectively, with a percentage of 9.1 and a frequency of 4. Those who are 15 meters and 40 meters make up for 4.5% in frequencies of 2 of each. People who are away from the source of Water from 50 meters account for 6.8% with a frequency of 3. Some who also reside about a mile

away show a frequency of 1 with a percentage of 2.3. Equally so, those who reside 1 meter from the source of Water make up for 11.4% with a frequency of 5. Others who are 10 meters as well as those who are 32 and 400 meters account for 2.3% each with frequencies of 1 to each. However, non applicable responses show a frequency of 9 to a percentage of 20.3%

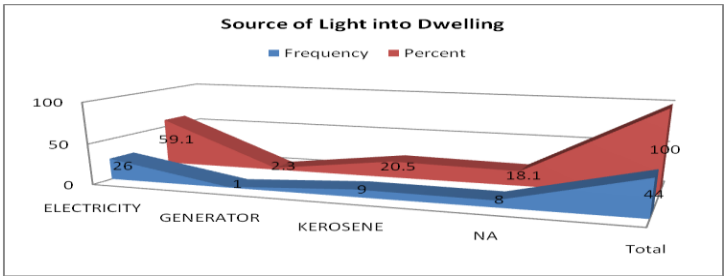
Purchase of Water

	Frequency	Percent
NO	6	11.4
YES	38	88.6
Total	44	100.0

Evidently, responses from the survey shows that there is an acute shortage of water supply in the area concerned. It is therefore not surprising that in a frequency of 38 an exceedingly high percentage of 88.6% actually purchase water. An 11.4% class in a frequency of 6 cannot afford to purchase water.

Sources of Light into Dwellings

	Frequency	Percent
ELECTRICITY	26	59.1
GENERATOR	1	2.3
KEROSENE	9	20.5
NA	8	18.1
Total	44	100.0



In terms of accessibility to light for dwelling, a considerable number of people now have access to electricity supply. At least a frequency of 26 express that 59.1% of the people enjoy electricity supply. Notwithstanding this development however, 20.5% of the people still depend on the use of Kerosene to provide light in a given frequency of 9. A surprisingly low drop of percentage of 2.3 with a recurring frequency of 1 still use generators for light. In this regard, a non applicable category shows a frequency of 8 and a percentage of 18.1.

Fuel Used by Household for Cooking

	Frequency	Percent
CHARCOAL	34	77.2
GAS	1	2.3
ELECTRICITY	1	2.3
FIREWOOD	1	2.3
NA	7	15.9
Total	44	100.0

Equally so, a far higher number of 77.2% of a frequency of 34 depend on the use of charcoal for cooking. Except for this level, the rest who rely on Gas, Electricity and Fire Wood account for a down ward trend of 2.3% with recurring frequencies of 1 each. A non applicable group records a percentage of 15.9 from a frequency of 7.

3.3 Results of Statistical Analysis of Tenants

Frequencies of Analysis: Section 1 Bio-Data

Household Size

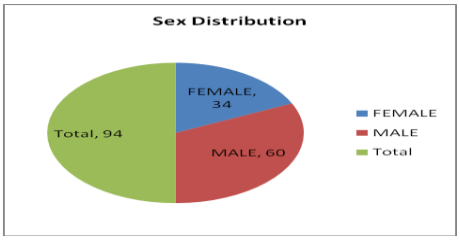
		Frequency	Percent
Valid	1	1	1.1
	2	10	10.6
	3	20	21.3
	4	18	19.1
	5	18	19.1
	6	10	10.6
	7	7	7.4
	8	1	1.1
	9	3	3.2
	10	1	1.1
	11	1	1.1
	12	1	1.1
	Total	91	96.8
	N/A	3	3.2
Total		94	100.0

In analyzing the results of the survey, it is established that tenants equally play a significant role in the life of the community. In some respects, tenants provide the basic and dependable source of income for Asset Owners who rely solely on rent paid by tenants for their livelihood. This has been noted since the beginning of the entire process of the Resettlement Action Plan. For the purpose of the survey, out of the recorded number of 94 Tenants from a random sample size method adopted, households of tenants basically range from very small family units to large ones. In this survey, it is recorded that 21.3% of a frequency of 20 register the highest percentage of Tenant households of 3. 19.1% with a frequency of 18, reflect households of 4 and 5.

Those who lie at 10.6% from a frequency of 10, register those of 2 and 6 in a household. Households of 7 register a percentage of 7.4% with a frequency of 7. Households of 9 present a frequency of 3 with a percentage of 3.2. The rest of which make up for 1.1% with a frequency of 1, account for households of 1, 8, 10, 11, and 12, which is the lowest percentage recording of the survey. Respondents of a non applicable category record a percentage of 3.2 with a frequency of 3.

Sex Distribution

		Frequency	Percent
Valid	FEMALE	34	36.2
	MALE	60	63.8
	Total	94	100.0



In these groupings, it is experienced that there is a male dominant factor, whereby men account for 63.8% from a frequency of 60. Even so, the female percentage reasonably stands at 36.2 from a frequency of 34.

Age Frequency

		Frequency	Percent
Valid	20	1	1.1
	21	1	1.1
	22	3	3.2
	23	2	2.1
	24	3	3.2
	25	2	2.1
	27	2	2.1
	28	3	3.2
	29	5	5.3
	30	1	1.1
	31	4	4.3
	32	6	6.4
	33	1	1.1
	34	3	3.2
	35	14	14.6
	36	1	1.1
	37	3	3.2
	38	3	3.2
	39	3	3.2
	40	3	3.2
	42	1	1.1
	43	1	1.1
	44	1	1.1
	45	4	4.3
	47	1	1.1
	49	2	2.1
	51	1	1.1
	52	1	1.1
	54	1	1.1
	60	1	1.1
	61	1	1.1

	66	1	1.1
	Total	80	85.1
	N/A	14	14.6
Total		94	100.0

According to survey records, age differences among tenants appear to emerge from 20 years which is the youngest to 66 years which is the oldest. In this regard, 14.6% of a frequency of 14, are at the age of 35. 6.4% of a frequency 6, are 52 years of age, while 5.3% of the number which show a frequency of 5, are 29 years old.

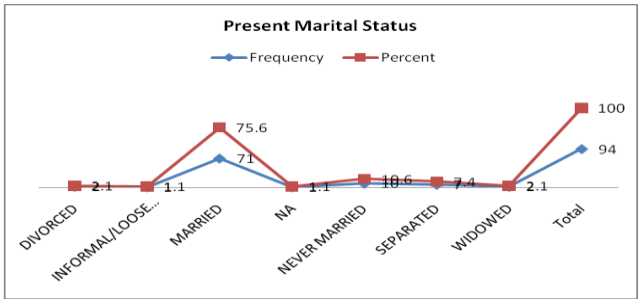
A percentage of 2.1 with a frequency of 2 account for those in the age groups of 23, 25, 27 and 49.

Of the total number, tenants aged 31 and 45 years account for 4.3% with a frequency of 4 each. Tenants at the ages of 22, 24, 28, 34,37,38,39 and 40 record a percentage of 3.2% with a recurrence of a frequency of 3 along the line.

Some in the youthful ages of 20, 21, 30, 33, 36, 42, 43, 44, 47 make up for 1.1% of a frequency of 1, just as those in the middle ages of 51,52, 54, 60 and 61 , as well as the oldest of 66 years. A non applicable percentage of 14.6 account a frequency of 6.

Present Marital Status

		Frequency	Percent
Valid	DIVORCED	2	2.1
	INFORMAL/LOOSE UNION	1	1.1
	MARRIED	71	75.6
	NA	1	1.1
	NEVER MARRIED	10	10.6
	SEPARATED	7	7.4
	WIDOWED	2	2.1
	Total	94	100.0



The survey records also show that 75.6% with a frequency of 71 of the tenants are married while 10.6% from a frequency of 10 are not married. The divorced account for 2.1% in a frequency of 2, with those separated at a percentage of 7.4 with a frequency of 7. The widowed also account for 2.1% of a frequency of 2. Tenants engaged in an informal and loose union are rated at the lowest percentage of 1.1% with a frequency of 1. Non applicable cases culminate to 1.1% with a frequency of 1.

Regional Background

		Frequency	Percent
Valid	EASTERN	3	3.2
	FOREIGN COUNTRY	4	4.3
	NORTHERN	47	50.0
	SOUTHERN	15	16.0
	WESTERN AREA	25	26.5
	Total	94	100.0

Regional backgrounds in these settlements show that 50% in a frequency of 47 are Northerners who are in the majority. These are closely followed by Tenants from the Western Area with a percentage of 26.5% with a frequency range of 25. Those who hail from the Southern Region make up for 16% of a frequency of 15. The Easterners account for the lowest in a frequency of 3 to a percentage of 3.2%.

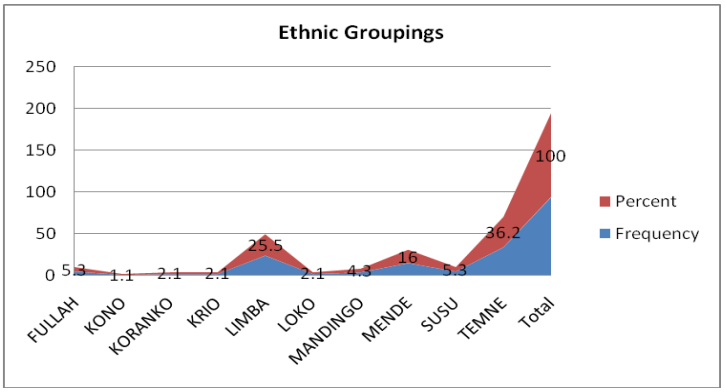
Nationality

		Frequency	Percent
Valid	NON SIERRA LEONEAN	4	4.3
	SIERRA LEONEAN	90	95.7
	Total	94	100.0

With reference to nationality, Sierra Leoneans obviously make up for the highest percentage which is 95.7 with a frequency of 90. Non Sierra Leoneans lie at a level of 4.3% in a frequency of 4.

Ethnic Groupings

		Frequency	Percent
Valid	FULLAH	5	5.3
	KONO	1	1.1
	KORANKO	2	2.1
	KRIO	2	2.1
	LIMBA	24	25.5
	LOKO	2	2.1
	MANDINGO	4	4.3
	MENDE	15	16.0
	SUSU	5	5.3
	TEMNE	34	36.2
	Total	94	100.0



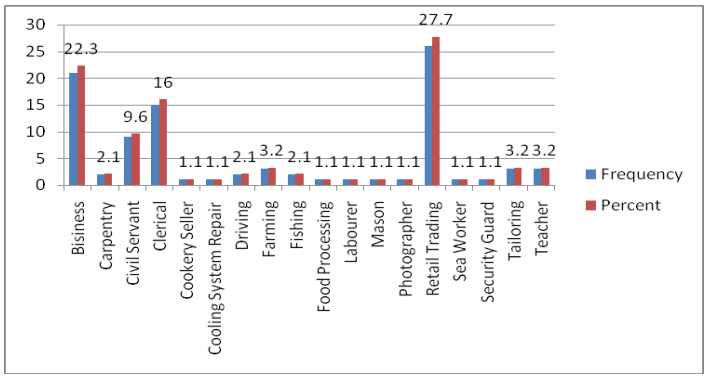
Consequent of the huge Northern Presence, it could be seen that the Temnes make up for 36.2% in a frequency of 34, which presents the highest recording of ethnic grouping. Closely followed by them are the Limbas with a percentage of 25.5% in a frequency of 24. Although the Mendes form the largest ethnic group in Sierra Leone, their presence in this community is minimal as they record only 16.0% within a frequency of 15, compared to those from the North. The Fullas and the Susus' who also hail from the North, account for 5.3% with a frequency of 5. The Mandingo ethnic community also marks a reading of 4.3% in a frequency of 4.

Unlike the others, the Korankos, Krios and Lokos', experience a downward trend of percentage recordings of 2.1 in similar occurrence of frequencies of 2 in each case. The Konos form the least of the grouping with no less a recorded percentage of 1.1 % from a frequency of 1.

Frequencies of Analysis: Section 2 Livelihood

Livelihood

		Frequency	Percent
Valid	Business	21	22.3
	Carpentry	2	2.1
	Civil Servant	9	9.6
	Clerical	15	16.0
	Cookery Seller	1	1.1
	Cooling System Repair	1	1.1
	Driving	2	2.1
	Farming	3	3.2
	Fishing	2	2.1
	Food Processing	1	1.1
	Labourer	1	1.1
	Mason	1	1.1
	Photographer	1	1.1
	Retail Trading	26	27.7
	Sea Worker	1	1.1
	Security Guard	1	1.1
	Tailoring	3	3.2
	Teacher	3	3.2
	Total	94	100.0



Like the Asset Owners, the livelihood and income generation activities of Tenants also formed a significant part of the survey.

However, further in-depth analysis clearly manifest that 27.7% of a frequency of 26 of them are engaged in Retail Trading. This is so far the highest percentage recording of income generation or livelihood activities which is visibly present in the Community.

A close look at the recordings also show that of a frequency of 21, 22.3% are doing business. Tenants who are serving in various capacities in clerical jobs, reflect a percentage 16.0 from a frequency of 15.

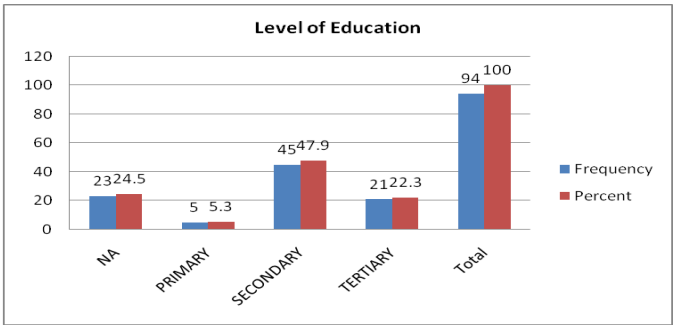
Among them, are others who are enrolled as Civil Servants. These account for 9.6% with a frequency of 9. Farming, Tailoring and Teaching appear to be regular professions which registers a percentage of 3.2 and a frequency of 3.

Similarly, Carpentry, Driving and Fishing also register percentages of 2.1 each with frequencies of 2 in every case. Among other things, economic activities such as Cookery Selling, Repairs of Cooling Systems, Food processing, Labourers and Masons, Photography, Sea farers and Security Guards all record a low level percentage of 1.1 with frequencies of 1 along the line.

Frequencies of Analysis: Section 3 General Education, Literacy and Apprenticeship

Level of Education Attained

		Frequency	Percent
Valid	NA	23	24.5
	PRIMARY	5	5.3
	SECONDARY	45	47.9
	TERTIARY	21	22.3
	Total	94	100.0

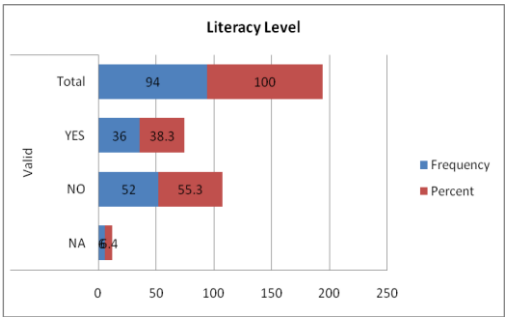


An in-depth analysis of the level of Education points to the fact that education is indeed a significant factor in the life of the community. Inspite of the emerging difficulties and appalling conditions, a good number of them had attained some level of education to enhance their capacities and capabilities.

Interestingly, a survey of the tenant level of education reflects that 47.9% in a frequency of 45 have been through secondary education. An impressive percentage of 22.3% from a frequency of 21, have attained Tertiary Education, while 5.3% with a frequency of 5, stopped at Primary level. There were no responses from a percentage of 24.5 with a frequency of 23.

Literacy Level

		Frequency	Percent
Valid	NA	6	6.4
	NO	52	55.3
	YES	36	38.3
	Total	94	100.0



Not withstanding this development, it appears that there had been some contentment with the levels they have attained and do not wish to go further. This accounts for the fact that 55.3% from a frequency of 52 have not attended literacy courses. Invariably, with a standing record of an improved secondary education, it is not surprising that 38.3% with a frequency of 36 have attended literacy courses. A non applicable response of a frequency of 6 registers a percentage of 6.4.

Ability to Read and Write a Simple Letter in English

		Frequency	Percent
Valid	NA	1	1.1
	NO	23	24.4
	YES	70	74.5
	Total	94	100.0

In regard to this aspect of the survey, it was established that an outstanding percentage of 74.5 with a frequency of 70 can read and write in simple English. However, 24.4% with a frequency of 23 cannot read or write simple English. In this category, the non applicable responses indicate that 1.1% to a frequency of 1 were unavailable.

Aptitude to do Simple Calculations

		Frequency	Percent
Valid	NA	2	2.1
	NO	19	20.2
	YES	73	77.7
	Total	94	100.0

Following these impressive lines, it is worthy of note that an outstanding percentage of 77.7 with a frequency of 73 can also do simple calculations. A lesser percentage of 20.2 with a frequency of 19, can hardly do simple calculations. There were however no responses from a percentage of 2.1 from a frequency of 2.

Apprenticeship

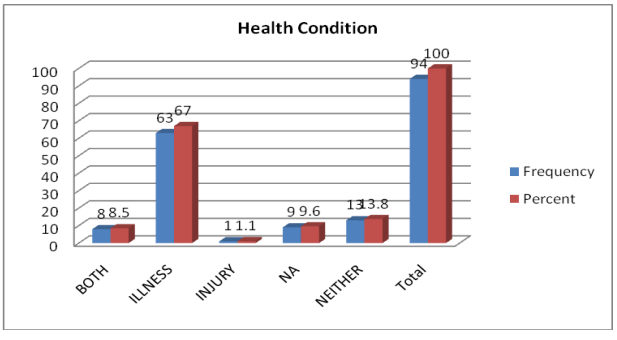
		Frequency	Percent
Valid	NA	6	6.4
	NO	58	61.7
	YES	30	31.9
	Total	94	100.0

In regard to personal enhancement, or improvement of personal lives to acquire some kind of dependable profession, only 31.9% have been through some from of apprenticeship with a frequency of 30, while the bulk of 61.7% of them from a frequency of 58 have not. Non applicable responses show a frequency of 2 with a percentage of 2.1

Frequencies of Analysis: Section 4 Health Conditions in Past 2 Weeks

Health Condition, Illness and Injuries

		Frequency	Percent
Valid	BOTH	8	8.5
	ILLNESS	63	67.0
	INJURY	1	1.1
	NA	9	9.6
	NEITHER	13	13.8
	Total	94	100.0



Although there are a number of health centres and health posts, it is recorded that health conditions among tenants are rather appalling as 67.0 % with a frequency of 63 have suffered from illness. Those who have suffered from both Illnesses and Injuries account for 8.5% from a frequency of 8 of their number. It could be seen that 13.8% with a frequency of 13 have neither suffered from illness nor injury.

In the category of tenants who have suffered from injury only, a low percentages of 1.1 with a frequency of 1 is recorded on their account. No applicable responses records a 9.6% of a frequency of 9.

Type of Injury

		Frequency	Percent
Valid	ACCIDENT	8	8.5
	NA	86	91.5
	Total	94	100.0

With respect to the occurrence of accidents, only 8.5% with a frequency of 8 of the tenants have had accidents. Here, there is a non available response of 91.5% with a frequency of 86.

Type of Illnesses

		Frequency	Percent
Valid	COMMON COLD/FLU	14	14.9
	CUT IN THE LEG	1	1.1
	DIARRHOEA	1	1.1
	FUNGI INFECTION	1	1.1
	HEAD ACE	2	2.1
	HYPERTENSION	5	5.3
	MALARIA	41	43.5
	NA	22	23.4
	STOMACK ACE	1	1.1
	TYPHOID	6	6.4
	Total	94	100.0

Notably also, a percentage of 14.9% from a frequency of 14, suffered from common cold and flu. As mentioned earlier in previous chapters, Malaria records the highest

percentage among other illnesses. This accounts for 43.5% with a frequency of 41, here, Typhoid appears in a frequency of 6 to a percentage of 6.4% of tenants who suffer from it.

Hypertension records 5.3% with a frequency of 5 among others. Though headache may be common, yet, it stands at a low ebb, in the recordings with 2.1% from a frequency of 2.

A close look at minor injuries like a Cut in the Leg, Fungi Infection, Diarrhoea and Stomach Ache, show a percentage flow of 1.1 with frequencies of 1 to each. A percentage of 23.4 with a frequency of 22 account for non applicable responses.

Period of Consultation (Treatment)

		Frequency	Percent
Valid	1	2	2.1
	2	3	3.2
	3	6	6.4
	4	6	6.4
	5	2	2.1
	6	1	1.1
	7	18	19.1
	8	1	1.1
	10	2	2.1
	14	20	21.3
	21	4	4.3
	30	3	3.2
	31	1	1.1
	Total	69	73.4
	N/A	25	26.5
Total		94	100.0

The period of time experienced in treating the types of Illnesses is also of concern. More often than not, the groups of tenants who are treated in 14 days record the highest percentage in this respect. It could therefore be seen that 21.3% with an occurring frequency of 20 stands in their favour. Those who are treated in a slightly lesser period of 7 days closely toe the line. These ones record a percentage of 19.1 % from a frequency of 18. Some of them who are treated in three and four days present a percentage of 6.4% with a recurring frequency of 6 in either case.

Coincidentally, tenants who are treated in 3 days and those who are treated in 30 days share the same level of percentage recordings of 3.2% with recording frequencies of 3 in both cases. Among those who are treated in 21 days, appear to stand alone at 4.3% from a frequency of 4. Three groups of tenants who are treated in 2 days, 5 days and 10 days also fall at the level of 2.1% with recorded frequencies of 2 in each case. Similarly, those who are treated in 6, 8, and 3, days also share a percentage of 1.1% with frequencies of 1 in every case. Non applicable responses indicate a recording of 26.5 with a frequency of 25.

Reasons for Medical Consultation

		Frequency	Percent
Valid	CHECK UP	16	17.0
	ILLNESS	43	45.7
	INJURY	1	1.1
	NA	32	34.0
	POSTNATAL CARE	1	1.1
	TRADITIONAL HEALER	1	1.1
	Total	94	100.0

The percentage recordings however, points to the fact that tenants take the initiative to do Medical checkups to establish their health status or when they fall Ill. Of these, 45.7% with a frequency of 43 visit Doctors whenever they fall ill/sick. 17.0% of a recorded frequency of 16 can afford to do Medical checkups, whilst others who make up for 1.1% of a frequency of 1, seek other means through Postnatal Care, Injury and Traditional Healers. No responses account for 34% with a frequency of 32.

Consultations from Medical Specialist

		Frequency	Percent
Valid	DENTIST	1	1.1
	DOCTOR	60	63.8
	MEDICAL ASSISTANT	5	5.3
	NA	5	5.3
	NURSE	13	13.9
	PHARMACIST	7	7.4
	TRADITIONAL HEALER	3	3.2
	Total	94	100.0

In this situation, 63.8% with a frequency of 60 can afford to seek medical attention from a Medical Doctor. Those who rely on treatment from private nurses account for 13.9% from a frequency of 13. Apparently, a recording of 3.2% with a frequency of 3 of tenants seek help from Traditional Healers. Nonetheless, a class of them also rely on Pharmacists for treatment, who make up for 7.4% in a frequency of 7. A slightly low percentage of 5.3 with a frequency of 5 accounts for these who seek Medical attention from a Medical Assistant. Among the ones who refer to Dentists, an exceedingly low percentage is recorded, basically of 1.1% from a frequency of 1. Non applicable responses registered a percentage of 5.3 with a frequency of 5.

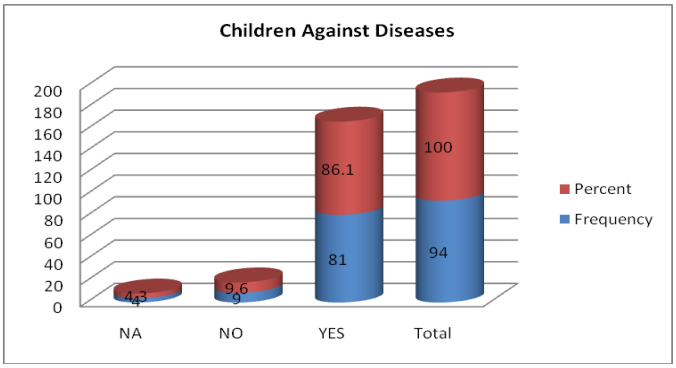
Length of Illness

		Frequency	Percent
Valid	NA	3	3.2
	OFTEN	19	20.2
	SELDOM	60	63.8
	VERY OFTEN	12	12.8
	Total	94	100.0

However, a fairly high but resistible percentage of 63.8% of a frequency of 60, seldom fall sick, while 20.2% with a frequency of 19, often fall ill. Although it could be seen that 12.8% of them from a frequency 12 very after fall ill. Non applicable responses account for 3.2% with a frequency of 3.

Vaccination of Children Against Diseases

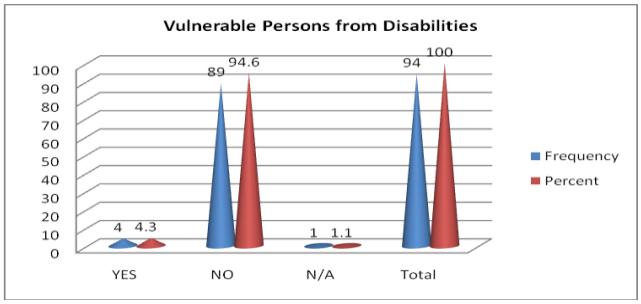
		Frequency	Percent
Valid	NA	4	4.3
	NO	9	9.6
	YES	81	86.1
	Total	94	100.0



Going by the present records, it is observed that due attention has been paid to their childrens' welfare and Health conditions. The tenants have therefore ensured that 86.1% of their children in a frequency of 81, have been vaccinated against occurring diseases. These responses demonstrate a reasonably high degree of responsibility among the tenants. This therefore leaves very little room for those who lack attention for their children. It thus account for 9.6% with a recorded frequency of 9 of the children who are not vaccinated. However, non applicable responses register a percentage of 4.3 from a frequency of 4.

Vulnerable Persons from Disabilities

		Frequency	Percent
Valid	YES	4	4.3
	NO	89	94.6
	N/A	1	1.1
	Total	94	100.0

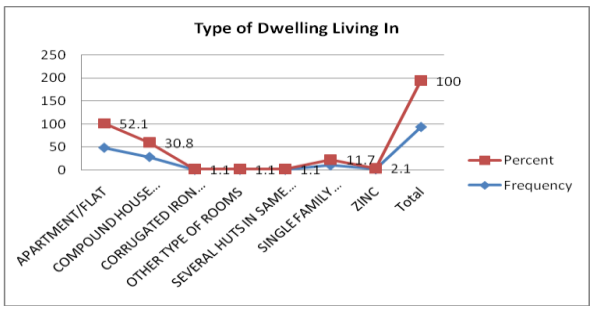


The survey also took into consideration the cases of vulnerable persons in the community. Here, it is interesting to find that 94.6% from a frequency of 89 have not suffered from any disability. It is therefore not suprising that an extremely low percentage of 4.3 from a frequency of 4 are vulnerable with disabilities. A non applicable group of responses indicate a percentage of 1.1 from a frequency of 1.

Frequencies of Analysis: Section 5 Housing

Type of Dwelling Living In?

		Frequency	Percent
Valid	APARTMENT/FLAT	49	52.1
	COMPOUND HOUSE (ROOMS)	29	30.8
	CORRUGATED IRON APARTMENT	1	1.1
	OTHER TYPE OF ROOMS	1	1.1
	SEVERAL HUTS IN SAME COMPOUND	1	1.1
	SINGLE FAMILY HOUSE/HUL	11	11.7
	ZINC	2	2.1
	Total	94	100.0

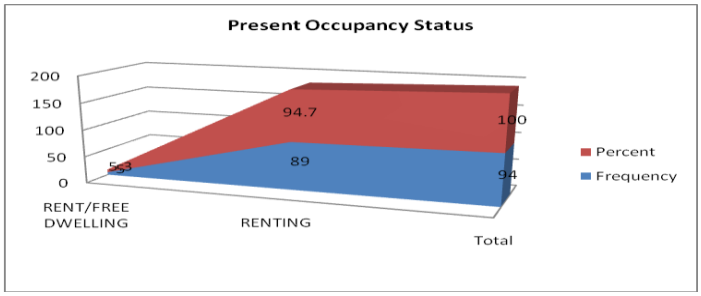


Although dwelling conditions may not be favourable for some people in the community, yet a sizeable number of tenants can afford to live in better conditions. In this regard, 52.1% with a frequency of 49 of tenants are living in apartments or flats. Others who live in compound homes with single rooms account for 30.8% from a frequency of 29. Another category of tenants who are living in single family homes register a frequency of 11 to a percentage of 11.7%. Those who are living in Zinc structures reflect a small but accountable percentage of 2.1% with a frequency of 2.

Along these lines, tenants who are living in corrugated Iron apartments, other type of rooms and several huts in the same compound all register a percentage of 1.1 with continued recurrence of frequencies of 1 to each of them.

Present Occupancy Status

	Frequency	Percent
RENT/FREE DWELLING	5	5.3
RENTING	89	94.7
Total	94	100.0



Among their lot, an excessively high percentage of 94.7 with a frequency of 89, are renting, compared to a small percentage of 5.3% of a frequency of 5, who are rent/free dwelling

Construction of Wall Materials

	Frequency	Percent
CEMENT/MUD	1	1.1
CEMENT/SAND SANDCRETE BLOCKS	52	55.3
CORRUGATED IRON SHEETS	14	14.9
MUD/MUD BRICKS	18	19.1
NA	1	1.1
WOOD	1	1.1
ZINC	7	7.4
Total	94	100.0

A close study of the environment showed that structures in the community are constructed mainly of Cements, Sand and Sand Crete Blocks, some of zinc only, and a number of others of Wood and Sticks, Cement and Mud. The structures constructed of Cement/Sand and Sand Crete Blocks out number the others by 55.3% with a frequency of 52, which reflect the highest percentage. Mud Brick structures make up for 19.1% of a frequency of 18.

Impressively however, structures constructed with corrugated Iron Sheets rest at 14.9% arising from a frequency of 14. Zinc structures are rated at 7.4% with a frequency of 7, and Wood and Cement/Mud cover 1.1% right through with a steady frequency of 1. Non applicable responses registered a percentage of 1.1 with a frequency of 1.

Main Roofing Material

		Frequency	Percent
Valid	CEMENT	5	5.3
	CONCRETE	2	2.1
	CORRUGATED IRON SHEETS	38	40.4
	ROOFING TILES	1	1.1
	WOOD	5	5.3
	ZINC	43	45.8
	Total	94	100.0

A view of the roofing of the structures depict that the roofs are covered with Zinc of which 40.4% from a frequency of 38 are covered with corrugated Iron Sheets. Structures which are roofed with zinc stand at 45.8% in a frequency of 43. 5.3% of frequency of 5 are wood and cement roofings.
A further view showed that 2.1% of the roofs with an occurrence of a frequency of 2 are concrete floating, while 1.1% of frequency of 1 shows roofings of Tiles.

Main Flooring Material

		Frequency	Percent
Valid	CEMENT/CONCRETE	94	100.0

Flooring materials are all concrete and they account for 100% with a frequency of 94.

Type of Toilet Facility

		Frequency	Percent
Valid	COMMON BUCKET	1	1.1
	COMMON PIT	75	79.7
	FLUSH	1	1.1
	NA	1	1.1
	PRIVATE PIT	16	17.0
	Total	94	100.0

Although some tenants might be living in apartment and flats, and some others in common houses, yet a very high percentage of 79.7% of a frequency of 75, use common Pit Toilets, 17.0% with a frequency of 16 use private Pit Toilets. 1.1% are using flush and common bucket with an emerging frequency of 1. Non applicable responses indicate a frequency 1 with 1.1%.

Period of Occupation of Residence

		Frequency	Percent
Valid	1980	1	1.1
	1991	1	1.1
	1996	5	5.3
	1998	7	7.4
	1999	5	5.3
	2000	9	9.6
	2001	10	10.5
	2002	9	9.6
	2003	8	8.5
	2004	11	11.7
	2005	15	16.0
	2006	7	7.4
	2007	4	4.3
	2009	1	1.1
	Total	93	98.9
	N/A	1	1.1
Total		94	100.0

Occupancy records show that of the total number, the highest percentage recording of 16.0% in a frequency of 15 occupied their residences in 2005. 11.7% with a frequency of 11 entered in 2004. 10.6% with a frequency of 10 resided in 2001, and 9.6% in the year 2000 and 2002 which records a frequency of 9. A percentage of 7.4% turned up in 2006 with a frequency of 7, while 8.5% with a frequency of 8, appeared in 2003. A similar occurrence of 7.4% with a frequency of 7, also settled in 1998.

Apparently, the upsurge in the percentages show that an increasing number of people settled down in the community in the year immediately following the end of the Civil conflict in Sierra Leone. This accounts for the fact that in 2007, only 4.3% from a frequency of 4 resided in the community, Which equally shows a sharp drop in the number in 2009, which records only 1.1% of a frequency of 1 as much the same as

1980, 1991 and non applicable responses all of which reflect the same percentages and frequencies.

The year 1996 experienced a slight increase in the percentage of occupancy as we see a 5.3% from a frequency of 5 registered, as well as in 1999 when the same percentage of tenants of 5.3% with a frequency of 5 also occupied their residences.

Rent Paid Per Month

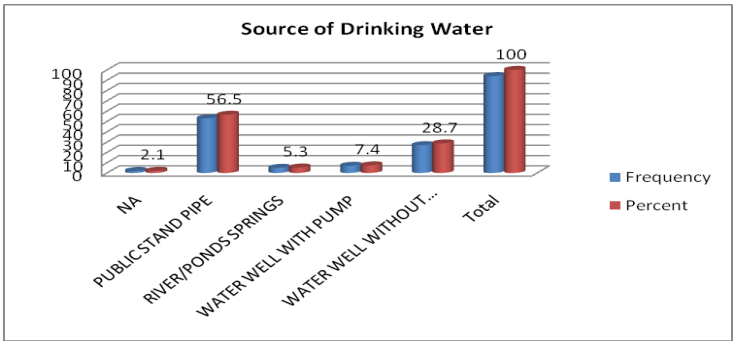
		Frequency	Percent
Valid	10000	1	1.1
	15000	1	1.1
	20000	6	6.4
	25000	6	6.4
	30000	17	18.1
	35000	5	5.3
	40000	46	48.8
	50000	8	8.5
	60000	2	2.1
	2800000	1	1.1
	Total	93	98.9
	N/A	1	1.1
Total		94	100.0

Rent is paid per month. Rents range from Le10, 000 to Le2, 800, 000 per month. Of these, 48.8% with a frequency of 46, pay Le40,000 a month, closely followed by those who pay Le30,000 per month, who make up for 18.1% from a frequency of 17. 8.5% with a frequency of 8 pay a rent of Le50, 000. Others at the range of Le20, 000 account for 6.4% with a frequency of 6. As well as those who pay up to Le25, 000 with a recurrence frequency of 6 in both cases. 5.3% with a frequency of 5 pays Le35, 000 and 2.1% of a frequency of 2 pay up to Le60, 000. Between Le10, 000 and Le15, 000, as well as Le2, 800, 000 record low percentages of 1.1% with a frequency of 1 in each case. A non applicable response reflects the percentage of 1.1 with a frequency of 1.

Frequencies of Analysis: Section 6 Utilities and Amenities

Main Source of Drinking Water

		Frequency	Percent
Valid	NA	2	2.1
	PUBLIC STAND PIPE	53	56.5
	RIVER/PONDS SPRINGS	5	5.3
	WATER WELL WITH PUMP	7	7.4
	WATER WELL WITHOUT PUMP	27	28.7
	Total	94	100.0



Within the Communities in Freetown, many areas have not had the opportunity of enjoying pipe born water supply. Tenants in this Community are equally at pains to access water, especially water for drinking purposes. Many of them therefore depend on various sources of water supply.

Result of the study manifests that 56.5% with a frequency of 53 receive water from public stand Water Pipes in the Community, which reflects the highest percentage recording. 28.7% with a frequency of 27 depend on Water from Wells without Pumps. Yet, 7.4% in a frequency 7 have the opportunity to receive Water from wells with pumps, a percentage of 5.3 of frequency of 5, get water from flowing Rivers, Ponds and little Springs beneath the hills and rocks. Non available responses indicate a percentage of 2.1 with a frequency of 2.

Distance from Source of Water Supply

		Frequency	Percent
Valid	19 METRE	1	1.1
	1 METRE	2	2.1
	1 MILE	1	1.1
	10 METRE	3	3.2
	100 METRE	13	13.8
	15 METRE	6	6.4
	150 METRE	7	7.4
	20 METRE	7	7.4
	200 METRE	7	7.4
	210 METRE	1	1.1
	25 METRE	4	4.3
	250 METRE	2	2.1
	30 METRE	5	5.3
	300 METRE	3	3.2
	35 METRE	1	1.1
	40 METRE	3	3.2
	5 METRE	4	4.3
	50 METRE	12	12.7
	70 METRE	3	3.2
	75 METRE	1	1.1
	NA	8	8.5
	Total	94	100.0

Although water is purchased, it is however noted that distances from sources of Water are not too far to cover. 13.8% of frequency of 13 are within a distance of 100 meters and 12.7% of a frequency of 12 are within 50 meters.

Whereas, 7.4% cover distances from 150 meters to 200 and 210 meters with the same frequencies of 7 in each case. 6.4% of frequencies of 6 cover a distance of 15 meters. Also, 5.3% in a frequency of 5 covers distances of 30 meters

Those who cover distances of 5 and 25 meters stand at 4.3% of a frequency of 4. In a similar situation, those who cover distances from 10 meters, 40 meters, 70 meters and 300 meters also account for 3.2% in a frequency of 3.

Other who also cover distances of 1 meter only and 250 meters record 2.1% from a frequency of 2. The rest who lie within 19 meters, 75 meters, 1 Mile, 210 meters and 35 meters show only 1.1% from frequency of 1, which is the lowest. Non applicable responses show a percentage of 8.5 from a frequency 8.

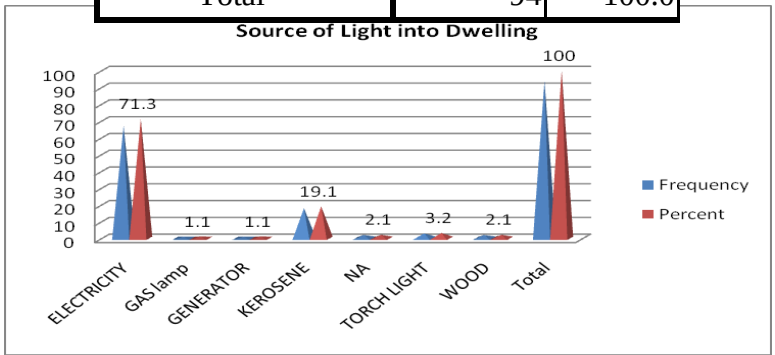
Purchase of Water

		Frequency	Percent
Valid	NA	22	23.4
	NO	12	12.8
	YES	60	63.8
	Total	94	100.0

However, whether it is pipe borne water or otherwise, a huge percentage of 63.8% with a frequency of 60 of the tenants purchase Water from people in the Community, considering that a small number of 12.8% with a frequency of 12 do not purchase water. Non applicable responses are registered with a percentage of 23.4 from a frequency of 22.

Sources of Light into Dwellings

		Frequency	Percent
Valid	ELECTRICITY	67	71.3
	GAS lamp	1	1.1
	GENERATOR	1	1.1
	KEROSENE	18	19.1
	NA	2	2.1
	TORCH LIGHT	3	3.2
	WOOD	2	2.1
	Total	94	100.0



Today, with the coming of the Hydro Electrification, Electricity is a major source of light for the majority of the people in Freetown. It is therefore not suprising that 71.3% with a frequency of 67, of the tenants depend on electricity for light. A percentage of 19.1% from a frequency of 18 still use Kerosene.

The percentage of those using Generators and Gas has fallen to a low ebb of 1.1% in a frequency of 1. However, 3.2% which reflect a frequency of 3 use torches 2.1% of a frequency of 2 still rely on Wood for Light. No responses were available for a percentage of 2.1 and a frequency of 2.

Fuel Used by Household for Cooking

		Frequency	Percent
Valid	CHARCOAL	83	88.2
	ELECTRICITY	1	1.1
	FIREWOOD	3	3.2
	KEROSENE	3	3.2
	NA	4	4.3
	Total	94	100.0

Inspite of the constant electricity supply now available, only 1.1% of a frequency of 1, utilize electricity for cooling. The highest of their member of 88.2% of a frequency of 83 use charcoal for cooking. 3.2% depend on fire Wood and Kerosene which shows a frequency of 2. Non applicable responses show a frequency of 4 with 4.3%.

3.4 Average Income Levels of Asset Owners

Estimate of Average Income Generation per month (Asset Owner)			
Area	**No.**	**Ave. Income (Le)**	Eq. ($) US Dollar
Congo Town	6	561,666.67	152
Tengbeh Town	8	561,250.00	152
Wilberforce	2	550,000.00	149
Red Pump	3	426,666.67	115
Hill Cut	2	725,000.00	196
Mount Carmel	5	490,000.00	132.4
Sumaila Town	2	850,000.00	230
Leicester Road	4	555,000.00	150
Mount Aureol	6	616,666.67	167
Blackhall Road	6	613,333.33	166
Total	**44**	**5,949,583.33**	**1, 609.4**

Average income levels of Asset Owners per month range from $52 Dollars which is the lowest to $230 which is so far the highest.

Such an income leaves little or no room to manouvere in meeting the needs of their households. The single bread winner syndrome among grass root Sierra Leoneans imposes heavy burden on the shoulders of the head of the households or squarely on the women in circumstances where the head is unemployed or without any professional skills to earn a living.

Some sections of the communities are slumps situated along the edge of the Congo river and mountain tops from the main improved settlements of the city. Where business is generally dormant. Much of the population in such areas are self reliant.

Congo Town is one such area which occupies either side of the Congo River. There are hardly any Motor Roads or other social amenities to complement for the size of the population of the settlement. Present Asset Owners had obviously taken advantage of the relaxed and inattentive situation of the Government to construct structures and settle down, over a long period to the present. Apparently, these areas are now recognised settlements with political representation at the local Government and parliamentary levels. Today, one could also find community leaders (Traditional Chiefs), Tribal Head Men and Women leaders.

Although they might be engaged in diverse income generation activities, statistics point to the fact that average income levels per month are considerably low. The amount of an average income of the entire Community of Congo Town among affected Asset Owners records a figure of Le561,666,67 (Leones) which is equivalent to $152 U.S. Dollars a month.

The Community of Tengbeh Town is just adjacent to that of Congo Town, as well as Red Pump and Wilberforce all of which share the same situation. It could be seen from the table that their average income levels per month flow along similar lines. Here, Tengbeh Town records an average income of $170 Dollars per month whilst Wilberforce records $105 and Red Pump $110. These are communities which have sprung up on and along the rugged low line debris of the Congo River and the sloping Hill sides from Wilberforce. Invariably, these are areas that lack every aspect of development, and quite unattractive to any form of investment as already portrayed by their average income levels

The rest from Hill Cut, Mount Camel, Mount Aureol, Sumaila Town, Leicester Road, Black Hall Road are communities that as situated at the mountain tops over looking the city.

Although there are equally limited facilities, yet they are slightly better off with Motor Roads and closer to improved areas of the city where there is more of petty trading or retail trading. There is every likelihood also that more of the Asset Owner are enrolled in clerical jobs and other professions where they generate higher incomes than tenants.

It could therefore be seen that Sumaila Town which merges into the city by Pademba Road records an average income of $230 per month which is the highest. Mount Aureol which is only few Kilometres ahead records an average income of $167 per month, except Leicester Road which presents an average income of $150 per month.

The total numbers of communities where the 44 Asset Owners are living captured in this study reflect a total average income of $1,609.4 Dollars per month. Inspite of such a low average income level, there is an interconnection gradually taking place with the more advanced settlements at Hill Station, (Imatt). Whose influence is rapidly transforming these Mountain settlements.

3.5 Average Income Levels of Tenants

Estimate of Average Income Generation per month (Tenant)			
Area	**No.**	**Ave. Income (Le)**	**Eq. ($) US Dollar**
Congo Town	21	204,523.81	55.3
Tengbeh Town	16	256,250.00	69.3
Wilberforce	3	186,666.67	50.4
Red Pump	1	140,000.00	38.0
Hill Cut	2	195,000.00	53.0
Mount Carmel	6	215,000.00	58.1
Sumaila Town	8	227,500.00	61.5
Leicester Road	7	248,571.43	67.2
Mount Aureol	20	272,500.00	74.0
Blackhall Road	10	262,000.00	71.0
Total	**94**	**2,208,011.90**	**598**

As expressed inter-alia, average income levels of tenants are equally as low as those of the Asset Owners. All of them also share the same living condition in the Communities.

In Congo Town for instance, the income flow presents an average amount of $55 Dollars whilst Tengbeh Town which is next to it records an average income of $69. Wilberforce records $50 and Red Pump $38 of an average income level per month. The reasons for such low earnings have already been noted in the opening paragraphs.

Equally not suprising is the fact that the mountain top Communities show higher income levels consequent of their closeness to improved areas where there is more of business or retail trading and where tenants who are serving in different capacities in other professions are settled.

It could therefore be seen that whilst Mount Camel has an average income level of $58, Sumaila Town shows an income level of $61.5 Leicester Road, which is only few kilometres ahead, records an average income of $67.5. The table also shows that Mount Aureol records $74 with Black Hall Road of an average income of $71.

However, unlike the Asset Owners, the total numbers of Communities where the 94 tenants dwell records a far lower figure of $598 Dollars of an average income per month.

The disparity of average income levels undoubtedly manifest that Asset Owners maintain a strong financial stance than tenants. In addition to other financial engagements, Asset Owners derive a steady income from rent, which apparently subsidies for other expenses, and perhaps serve as savings.

However, the financial constraints on both parties are obvious. Until something tangible is injected into the Communities to improve average income levels, the standard of living will continue to be poor, and it will be extremely difficult to lift the Social status of the majority of the people in the settlements.

3.6 Results of Statistical Analysis of Community Responses

Basic Infrastructure

Name of Community	No. of Household in the Community	No. of Churches	No. of Mosques	Number of Hand Dug Cement Water Wells (with Pump)	Number of Hand Dug Cement Water Wells (without Hand Pump)	No. of Basic Water Wells
Congo Town	110	6	5	0	5	3
Congo Bridge	40	5	3	0	0	2
Cantonment Road	500	3	4	0	0	2
Hill Top	200	2	4	0	0	2
Hill Cut	2000	5	3	0	0	1
Sumaila Town	500	1	3	0	0	0
Leicester Road	3000	8	7	0	4	1
Mount Aureol	300	3	9	3	1	5
Blackhall Road	25	2	3	0	0	1
Total	**6675**	**35**	**41**	**3**	**10**	**17**

The socio-economic survey also covered various aspects of the Community. The census conducted shows a record of 6,675 households in the present Right Of Way of the Transmission Line. Within these Communities there are 35 churches, and 41 Mosques.

As noted in proceeding chapters, this is a Community that is devoid of motor roads and limited access to social facilities. Much of the people walk along foot paths which serve as outlets into the main areas of the city. Consequently, 8.1% of the Community feel that foot paths are adequate for their movements, while a percentage of 9.7% think that foot paths are inadequate,

Though they may have been accustomed to using foot paths, 4.8% of the Community feels that roads are of service to them and therefore adequate. This is quite in contrast to a percentage of 12.9% who think that roads are in adequate for their use.

Inspite of the difficulties of accessibility to social amenities, 11.3% of the community have access to portable water network while a low percentage of 6.5% do not have access at all.

Along the entire stretch of the Community, there are only three hand dug water wells with pumps. Equally so, there are 10 hand dug cemented water wells but without pumps. 17 others serve as basic water wells to the community.

Taking into consideration the type of housing, toilet facilities are to some extent limited for the use of the people, many of whom depend on outside pit toilets (latrines) in the community. In this regard, 14.5% accept the fact that there are outside toilet facilities. With the commissioning of the Hydro Electric Project, electricity is being supplied to a greater part of the city including some areas or parts of the community in question. Even so, only 17.7% of the entire stretch has access to electricity.

The means of transport is another significant factor that is worthy of consideration. Although a good number of them depend on vehicles for means of transportation, 4.8% rely on boats. In the census of community 17.7% of the community now has access to cell phone networks.

Health Infrastructure

Name of Community	No. of Community Health Centres (CHC)	No. of Community Health Posts	No. of Maternal & Child Health Posts (MCHP)	No. of Traditional Health Units	No. of Dental Surgery	No. of Other Medical Infrastructure	No. of Medicine Men/Herbalists	No. of NGO Health Service	No. of Pharmacies	No. of Traditional Birth Attendants
Congo Town	3	1	1	0	1	3	2	0	11	8
Congo Bridge	2	0	0	0	0	0	6	0	3	10
Cantonment Road	0	0	0	0	0	1	0	0	1	5
Hill Top	0	0	0	0	0	0	0	0	0	1
Hill Cut	0	1	0	2	0	0	0	0	0	0
Sumaila Town	1	1	0	1	0	1	0	0	1	0
Leicester Road	0	1	0	0	0	1	15	0	3	3
Mount Aureol	1	1	1	1	0	1	3	0	1	0
Blackhall Road	2	1	1	1	0	1	3	0	1	3
Total	**9**	**6**	**3**	**5**	**1**	**8**	**29**	**0**	**21**	**30**

According to analysis of the survey, health facilities are slightly encouraging. At this time, there are nine health centres, five community health centres, six community health posts, and three maternal health posts. There is also a dental surgery at the disposal of the community. With the encouragement of traditional medicine / healing in recent times in Western medical circles, five traditional health units have also been established in addition to the present number of health posts. A total number of 29 herbalists also provide traditional medical services to the community. However, there is no presence of a non-governmental organization health facility along the entire route. All the same, Three Postnatal and Child Health Posts could also be noticed.

Additionally, there are twenty one pharmacies, with a traditional maternal birth attendance of 30.

Educational Infrastructure

Name of Community	No. of Kindergarten/ Pre-Schools	No. of Primary Schools	No. of Junior Secondary Schools	No. of Senior Secondary Schools	No. of Libaries	No. of Koranic Schools	No. of Vocational/ Training Centres
Congo Town	2	7	4	3	0	1	1
Congo Bridge	2	5	0	0	0	5	0
Cantonment Road	1	2	1	1	0	1	0
Hill Top	1	2	1	0	0	2	0
Hill Cut	0	1	0	0	0	2	0
Sumaila Town	3	2	1	1	0	1	0
Leicester Road	1	3	0	0	0	3	0
Mount Aureol	4	7	0	0	0	9	0
Blackhall Road	1	1	0	0	0	2	0
Total	**15**	**30**	**7**	**5**	**0**	**26**	**1**

Although incomes are low, the significance of education has been realized by the community. Private educationists have therefore established kindergarten and preparatory schools. In this regard, there are already 15 Kindergarten Schools.

Primary schools now number up to thirty. Today, there are Seven Junior Secondary schools and five senior Secondary Schools, though there are no library facilities for students.

Quite in contrast to the number of western education schools, there is a total number of twenty six quranic schools. Yet still, there is only one vocational centre along in the entire community, and three youth centres.

Other Infrastructure

Name of Community	No. of Artisan Buildings	No. of Youth Centres	No. of Sport Facilities	No. of Football Playing Fields	No. of Fire Security Services	No. of Taverns/ Bars	No. of Court Barrie	No. of Town Halls	No. of Cemeteries
Congo Town	0	0	2	5	0	13	3	1	4
Congo Bridge	0	2	2	2	0	4	1	0	0
Cantonment Road	0	0	0	0	0	3	0	0	0
Hill Top	0	1	1	1	0	4	0	0	0
Hill Cut	0	0	0	0	0	0	0	0	0
Sumaila Town	0	0	4	0	0	2	2	0	0
Leicester Road	0	0	5	0	0	1	4	0	0
Mount Aureol	0	0	4	0	0	1	1	0	0
Blackhall Road	0	0	4	1	0	0	0	0	1
Total	**0**	**3**	**22**	**9**	**0**	**28**	**11**	**1**	**5**

Recreation has been regarded as a vehicle for social cohesion in the society. It is therefore noted that although the community is rough, hilly and sloppy, it has not gone without recreational facilities. In these present times, football (soccer) is not only a form of entertainment, and income, but also a source of relief and friendship. Not surprisingly, the community has nine football pitches or grounds, and 22 sizeable areas for athletics and other sports. A total of twenty eight bars and taverns provide additional entertainment to the community and recreational areas, and a town hall to the disposal of all in the community.

In the maintenance of law and order, though there are no police posts, yet the people rely on their traditional rulers to settle their disputes. In this regard, there are 11 traditional court Barriers. The communities however maintain five cemeteries to bury their dead.

4.0 LEGAL FRAME WORK AND WORLD BANK OP 4.12 (INVOLUNTARY RESETTLEMENT)

Constitution of Sierra Leone, 1991

The Constitution includes provisions to protect the rights of individuals to private property, and also sets principles under which citizens may be deprived of their property in the public interest as described in *Section 21*. It also makes provision for the prompt payment of adequate compensation and access to the court or other impartial and independent authority for the determination of the land owner's interest or right, and the amount of any compensation to which he/she is entitled and for the purpose of obtaining prompt payment of that compensation.

Local Government Act, 2004

The Act establishes the Local Council (LC) as the highest political authority in the locality and confers legislative and executive powers to be exercised in accordance with this Act. This Act in its *First Schedule under Section 2* establishes the localities, namely: districts, towns and cities. *Part II* of this schedule also establishes the number of Paramount Chiefs in each LC. The *Third Schedule* establishes the functions devolved to the LCs. The *Fourth and Fifth Schedules* establish departments under each LC, and a Valuation List and Rate Books respectively.

National Lands Policy, 2005

As provided in the Constitution, the 2005 National Land Policy also provides for the compulsory acquisition of land in the public interest. The principles of the land policy include among others: The principle of land as a common national or communal property resource held in trust for the people and which must be used in the long term interest of the people of Sierra Leone. Such a principle only holds where it does not violate existing rights of private ownership. Compensation to be paid for lands acquired through compulsory government acquisition will be fair and adequate and will be determined, among other things, through negotiations that take into consideration government investment in the area. Local Authorities (City and District Councils) may negotiate for land for project development purposes, but all such grants should be properly documented and processed. No interest in or right over any land belonging to an individual or family can be disposed of without consultation with the owner or occupier of the land. No interest in or right over any land belonging to an individual or family can be compulsorily acquired without payment, in reasonable time, of fair and adequate compensation.

OP 4.12: Involuntary Resettlement

The World Bank's safeguards policy on involuntary resettlement, OP 4.12, is to be complied with where involuntary resettlement, impacts on livelihoods and assets, acquisition of land or restrictions to natural resources may take place as a result of the project. It includes requirements that:

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.

- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development projects, providing sufficient investment resources to enable persons displaced by the project to share in project benefits.
- Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement projects.
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

According to OP 4.12, the resettlement plan should include measures to ensure that the displaced persons are:

- Informed about their options and rights pertaining to resettlement.
- Consulted on, offered choices among and provided with technically and economically feasible resettlement alternatives.
- Provided prompt and effective compensation at full replacement cost for losses of assets attributed directly to the project.

If the impacts include physical relocation, the resettlement plan should include measures to ensure that the displaced persons are:

- Provided assistance (such as moving allowances) during relocation.
- Provided with residential housing, or housing sites, or as required, agricultural sites for which a combination of productive potential, location advantages, and other factors is at least equivalent to the advantages of the old site.

The legal framework for the final implementation of the RAP is provided in the land commission's Act, 2005 which provides the principal means by which the property can be legally acquired or conveyed to the NPA, which is the Client/Buyer.

The process would require a change of name from the Seller to the Buyer, of the property. The property is conveyed to the Buyer and registered at the Registrar General's Office in the Ministry of Judicial Affairs. The conveyance between the parties is prepared and signed by a legal counsel, by which means, ownership of the property is established according to law.

Where there is a difference between OP 4.12 and national law, OP 4.12 will prevail.

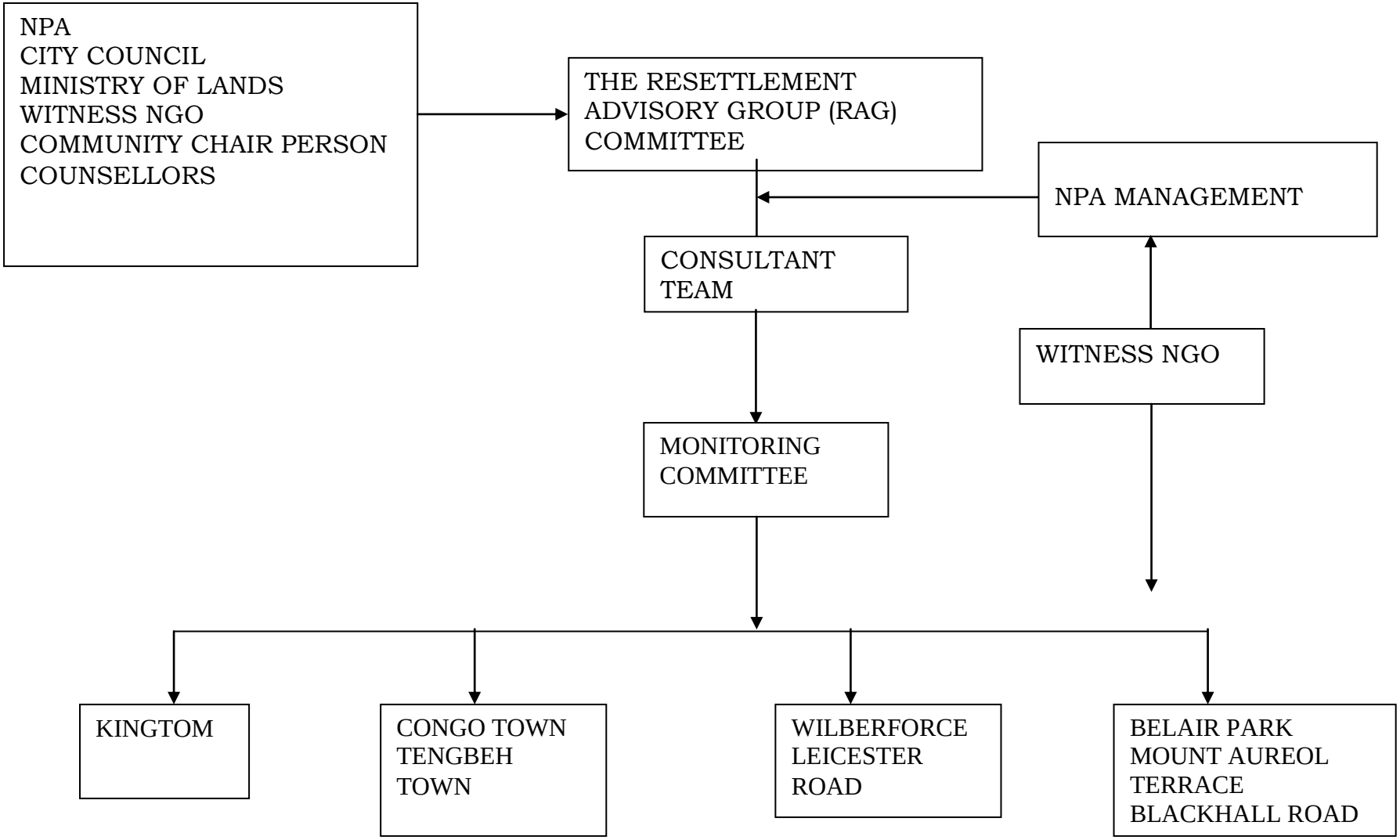
5.0 INSTITUTIONAL FRAME WORK

The National Power Authority is responsible for supervising and monitoring the implementation of the RAP.

The Consultants' team has worked in collaboration with quantity and land surveyors from the Ministry of Lands, Housing and Country Planning. The Ministry is responsible for conserving and managing Sierra Leone's natural environment. It is also responsible for addressing land acquisition and transfer, land ownership and use, and national development in a planning capacity. It provides advisory services to the public on land matters as well as physical planning and management of the forestry resources.

Others involved in implementing the RAP are: PAP representatives, independent persons from the affected communities and the Monitoring Committee.

Survey activities are being closely monitored by the Witness NGO, whilst the RAG Committee discusses issues from time to time which have helped to pave the way forward. (See Organizational Chart).


NPA
CITY COUNCIL
MINISTRY OF LANDS
WITNESS NGO
COMMUNITY CHAIR PERSON
COUNSELLORS
THE RESETTLEMENT ADVISORY GROUP (RAG) COMMITTEE
NPA MANAGEMENT
CONSULTANT TEAM
WITNESS NGO
MONITORING COMMITTEE
KINGTOM
CONGO TOWN
TENGBEH TOWN
WILBERFORCE
LEICESTER ROAD
BELAIR PARK
MOUNT AUREOL
TERRACE
BLACKHALL ROAD

6.0 ELIGIBILITY

Eligibility for compensation is determined by the criterion that only Project Affected Persons whose properties have been lost to the Project, in the Right of Way (ROW) both along the previous and recently mapped route of the Sub Transmission Line will be compensated. The loss could be loss of land, or its use, structures or crops, livelihoods, or a combination of all as the case may be.

Affected households had been identified in the Census Stage of the survey whose land/properties had been selected as suitable sites to erect towers or provide access to them. It is expected that compensation for affected properties will be proportionate to the level of impact (mainly temporary disturbances lasting some days).

Per the requirements of World Bank OP 4.12, displaced persons include:

(a) Those who have formal legal rights to land (including customary and traditional rights recognized under the laws of the country;
(b) Those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets – provided that such claims are recognized under the laws of the country or become recognized through a process identified in the RAP; and,
(c) Those who have no recognizable legal right or claim to the land they are occupying.

Persons under (a) and (b) are provided compensation for the land they lose, and other assistance. Persons under (c) are provided resettlement assistance in lieu of compensation for the land they occupy, and other assistance, as necessary, if they occupy the project area prior to the cut-off date of March 31, 2012. Persons who encroach on the area on the area after the cut-off date are not entitled to compensation or any other form of resettlement assistance. All displaced persons are provided for compensation for loss of assets other than land.

6.1 Encroachment: In March 2012, some new encroachment was identified within the Transmission Line ROW (See Annex 1). A list of the affected households was given to relevant agencies, including the structures where urgent actions are needed to ensure safety along the line and prevent harmful effects on human health. The Government of Sierra Leone compensated some of the encroachers (by assisting them in removing structures that affect the Transmission Line and will consider compensation for any remaining encroachers that were in the ROW up to March 31, 2012, as identified in the March 2012 report in Annex 1, with funds from the Energy Access Project. () Any PAPs already compensated under the Power and Water project will not receive any additional compensation. Any encroachers in the Transmission Line ROW after March 31, 2012 will not be considered for compensation.

The Government sent a letter to the World Bank on July 18, 2012, confirming the establishment of an Inter-Ministerial Sub-Committee comprising of representatives from the Ministry of Land, Country Planning and Environment; Works, Housing and Infrastructure; and Information and Communications. In addition, the letter indicated that the Office of National Security (ONS) and the Police under Freetown City Council have been asked to assist the committee especially throughout enforcement of

the regulations governing land uses inside the ROW. The GoSL also required support towards building the capacities of the Committee, in particular of the ONS and NPA, for monitoring the line (See Annex 2). In response, technical assistance under Component I of the Project has been especially targeted to strengthening NPA's distribution network monitoring program, to reduce impacts from population encroachments and land uses that may negatively affect the operation of distribution facilities. The Government has also prepared a draft plan of action for building capacities for enforcing regulation and monitoring of the ROW (See Annex 3).

6.2 Compensation sharing among household members (tenant vs. owner)

Compensation of the household is calculated by adding values of lost land, values of lost structures, value of loss of business revenues, amount of disturbance, values of compensation for vulnerable individuals or groups, value of lost crops or trees. The total loss is thus established for the household.

The sharing of compensation among members of the household is established during a meeting of the household members. All members are informed that the sharing has to take into account the principal that every member has to be in a similar or better situation than the one they were in prior to the relocation. They are also informed that the compensation will be in priority and essentially in-kind compensation (land, land title, construction material, daily construction allowance for workers, trees, seeds, tools, etc.) All members must agree and sign the household sharing agreement.

7.0 COMPENSATION

A 13 km-long 11kV section line, which included the 7.6 km Blackhall Rd-Wellington line was added during project restructuring of the old Power and Water project in December 2007. A portion of the upgrade of 11kV transmission lines was not finalized, and this unfinished portion of the 11kV line is the 7.5km of 11kV Blackhall Rd-Wellington which is now included in the new project for an upgrade to 33kV. Assessment and compensation for 95% of the original 13 km of the 11kv line was completed in the Power and Water project.

As indicated in Annex 1, a small number of structures (up to 4 households and up to 2 gas stations) may need to be relocated, and may be eligible for compensation from resources under the Energy Access Project, unless NPA already has resources previously committed and available. It is anticipated that most compensation payable from the Project would be for temporary disturbances, where applicable and as determined by the Resettlement Advisory Group (RAG) Committee, to households and businesses during the period of rehabilitation and construction. It should be noted that the Contractor's Terms of Reference include safety measures which are designed to minimize disturbances to households and businesses.

Compensation forms the high point of the process of implementation of the Resettlement Action Plan (RAP). Those eligible for compensation are persons whose lands, structures, and livelihoods would be affected – permanently or temporarily – by the project.

Payment of compensation will be made directly by the Bank. All PAPs must have signed the acceptance declaration in acceptance of the figures quoted for their compensations prior to the date of payment. Each PAP will also be required to sign a conveyance and a receipt of payment form at the compensation centre.

Additionally, each PAP should be accompanied by a witness who would also sign the conveyance as witness on their behalf.

All claimants will be furnished with identification cards with code numbers. A spread sheet will be prepared stipulating their names and specific amounts to be received.

Every stage of the process will be photographed, and all PAPs will be thumb printed (See payment procedure)

7.1 Land System

The land system in Sierra Leone is categorised into the following:

- State land
- Private land
- Communal land
- Family land

The state land and private land categories predominate in the Western Area. In the Provinces, the communal and family land categories are predominant. Here the Paramount Chief is the custodian of all lands. Although he/she may not own land, yet he/she has considerable influence over the process of land transaction, particularly that relating to communal land.

The land system in the provinces is quite different from the land acquisition system in the Western Area. Here, the Government has control only over State or Public Land.

In this update of the assignment, land sites which had been valued for compensation are mainly private properties with the exception of a few state ones in certain areas of the route line.

It should however be expressed that prices quoted for the private lands for the project were dissatisfactory to their owners.

However, these prices were accepted on the grounds that the project is a national development to which they also need to make their own contributions as citizens of the Country.

In disputed areas where negotiations could not be reached between the parties for the acquisition of a piece of land to be utilized by the Government for a project, the Government can take an EMINENT DOMAIN to acquire or own such property.

“In any given situation where the Government has to take EMINENT DOMAIN in disputed areas, this will require a fairly long process. The Minister of Lands will be

obliged to take the issue to Cabinet, and after Cabinet's decision, it will be published in the gazette for three consecutive times before possession of the property can be effected. Failure to follow the prescribed procedure will nullify the entire process".

7.2 Valuation

The value of land per square metre is still valued at $20 in the Western Area by the Ministry of Lands and Country Planning. This value has however increased in Leone equivalent as a result of the exchange rate to the Dollar, but applicable only in dealing with the Ministry in the sale of land to private and public entities.

The cost of private land is far higher than the value stipulated above. The transaction is normally between the Buyer and the Seller.

Although some of the land may have been reclaimed from the Congo Bay in areas like Congo Town, compensation will be paid for private lands valued at the present day market value negotiated for.

However, since the Project Affected Persons would not be relocated in this instance, the value for compensation has now changed and values of the affected lands are provided accordingly. The value of land is the total cost of the actual value of the piece of land, the survey and baking cost, as well as the fees for the development of the site plan. This is arrived at by using the valuation formula in stipulating the price of the land.

Valuation Formula:

- Survey and Baking Cost (SBC)
- Fees for Development of Site Plan (FDSP)
- Land Value (LV)

= (SBC+FDSP+LV)

7.3 Compensation under Sierra Leone Law and the NPA supplement

Compensation must comply with two sets of rules; the Sierra Leone law and World Bank safeguard policies. The latter is potentially more advantageous to PAPs, especially with regard to the "full replacement cost".

In line with the compensation system which was proposed for the Power and Water project, it is proposed to distinguish clearly two terms within the compensation amount:

§ C1 will be the amount calculated under Sierra Leone law, according to official methods of calculation, excluding the disturbance allowance.
§ C2 will be an the NPA supplement intended at fulfilling WBG requirements,
§ C is the total compensation = C1+C2
§ In the case of in-kind compensation, part of the above-mentioned terms will be the monetary counter-value of in-kind compensation.

Disturbance allowance shall be paid on top of C1.
These terms have been explained in consultations during the implementation of the Power and Water project and will be undertaken during implementation of this project so that PAPs and authorities will clearly distinguish between the amount payable under Sierra Leone law, and the additional supplement from the NPA.

The following table is the Entitlement Matrix from the Power And Water project and will also be used for this project, though most of the compensation in this project will be for temporary disturbance while the works are being done in Component I:

Lost Asset	**Compensation under Sierra Leone Law (C1)**	**NPA Supplement to meet world Bank Requirements (C2)**
Land with title	Cash valuation based upon reasonable market value of land	For all compensation, land for land will be the first option so that people will end up leaving their home for another home at the new site with a: 15% disturbance allowance.
Land with no title	No compensation	Replacement by equivalent land & titles, so that people will end up leaving their home for another home at the new site with a: + 10% disturbance allowance
Limitation of use of land with title	Reasonable cash valuation of the loss resulting from the limitation of use	+ 15% disturbance allowance
Limitation of use of land with no title	No compensation	Valuation of limitation of use will be compensated in cash for all cases. + 10% disturbance allowance
Permanent houses with land title	Valuation on a case-by-case basis, based upon the reasonable replacement market value	+ 15% disturbance allowance
Permanent houses with no land title	No compensation	Replacement house for those who opt for land-for-land compensation and for those who wish to be relocated on the remaining part of their plot. + 10% disturbance allowance
Semi-permanent or non-permanent houses or other structures with	Valuation based upon reasonable replacement cost of type of material and time	+ 15% disturbance allowance

titles		
Semi-permanent or non-permanent houses or other structures without titles	No compensation	Valuation based upon replacement cost of type of material + time + 10% disturbance allowance
Perennial or annual crops on lost land or encumbered land or land submitted to limitation of use with titles	Valuation based on reasonable loss	+ 15% disturbance allowance
Perennial or annual crops on lost land or encumbered land or land submitted to limitation of use without titles	No compensation	Valuation based on reasonable loss + 10% disturbance allowance
Business income with title	Valuation based on reasonable loss	+ 15% disturbance allowance
Business income without title	No compensation	Establish access to similar opportunities
Tenants	No compensation	Must be compensated whatever the legal recognition of their occupancy. In-kind compensation + disturbance allowance 10%
Cost of moving	No compensation	Leones 200,000 per resettled household paid in cash + transportation cost

7.4 Summary of RAP Implementation Budget

- Compensation set aside for the four new structures identified for demolition/adjustments in the RoW, per the March 2012 report, as well as the removal of the two gas stations in the vicinity of the Wellington sub-station, confirmed as a hazard by NPA..One of the four new structures in the March 2012 report is a cement structure located at NPA tower 45. The current cement structure has replaced a zinc structure identified for demolition under the original RAP, Therefore ,compensation for the current cement structure remains to be sought first under the original RAP.
  - Sub-total: $37,000

- Compensation set aside for applicable temporary disturbances
  - Sub-total: $39,000

- Contingency
  - Sub-total: $1,000

- **Implementation Budget** **$77,000**

8.0 GRIEVANCE MECHANISM

Consequent of the fact that dissatisfactions do occur in resettlement compensation processes, a grievance mechanism was developed at the initial stage of the update and a committee was set up to resolve all complaints as and how they arose, in the implementation of the RAP.

The grievance committee comprised of the following representatives;

- Legal Adviser
- NPA Representative
- Community Councillor (from City Council)
- Witness NGO – Representative
- PAP Representatives
- Community Elder

A Chairman and a secretary have been appointed from amongst the committee membership. All complaints are to be received by the secretary who would inform the chairman. Meetings of the committee are held once a month, at which all complaints or grievances are addressed.

Functions of the Grievance and Complaints Committee:

- To receive all complaints from aggrieved persons;
- Look into all complaints and internally resolve them amicably;
- Where the aggrieved person or persons remain dissatisfied, or the matter goes beyond the mandate of the committee, the Legal Adviser will counsel as to which action should be taken;
- Make recommendations to the implementation team and the NPA, about issues from the RAP implementation;
- Stand as a mediating force to manage all RAP conflicts;
- In circumstance where the aggrieved person is still dissatisfied and wishes to seek redress in the Court of Law, he/she could do so with the assistance of a private Lawyer at his/her own expense. Where the NPA is implicated, the Legal Adviser will represent NPA in the court of law;

- Where an in-house settlement is required, Legal representatives of the aggrieved parties, the NPA and two independent persons suggested by either party will be present to reach an amicable settlement;

- In situations where the beneficiary dies and the heir apparent is to inherit any benefit, the Task Force with the help or presence of family members would manage the issue.

9.0 MONITORING AND EVALUATION

Monitoring and evaluation is designed to be part of the implementation process of the assignment. Basically, it is meant to enhance the process of the assignment so as to overcome any emerging issue during the course of the survey.

Accordingly, as it was also designed to be participatory, committees were formed by the PAPs to take ownership of the project. The Witness NGO and a representative of the National Power Authority were able to follow up and assess the process as it progressed from stage to stage.

In this regard two levels of monitoring and evaluation were introduced.

1. External Monitoring

External monitoring was deemed necessary to follow up and assess field activity during the course of the survey. Monitoring indicators were noted by the various committees, the Witness NGO and other parties. Follow up meetings were held at various stages which climaxed into general meetings with the Project Affected Persons' at which finishing touches were put to the entire process.

These also included site visits by the World Bank Mission and their comments incorporated into the main report culminating from previous ones in subsequent progress report.

2. Internal Monitoring

This level of monitoring closely examined data collected and collated from field activity. Draft Reports have equally been submitted and comments from the various parties have now been incorporated into the Final Report.

This is to reflect the pattern or system of reporting to meet the standard requirement or procedure of the World Bank.

10.0 EMERGING ISSUES

Key concerns raised by the PAPs include:

- Their safety while living in the ROW of the Transmission Line
- Encroachment issues
- Delays in compensation for their properties and tenants
- Amounts of compensation
- Loss of income or access to households/businesses due to temporary disturbances
- Education about safety and high tension electrification

Drawing on the experience of the Power and Water project, the Government has committed to resolving compensation issues quickly and effectively, based on ongoing consultations with the PAPs.

11.0 CONCLUSIONS

1. Stakeholders meetings should be continued to be convened to make all necessary clarifications that will assure the PAPs of their continuous safety while living under the Transmission Line.

2. Sensitization should be on-going up to the time of stringing or testing the Transmission Line.

3. Perimeter fences should be built around the towers in the built up areas to avoid any further encroachment. An inter-ministerial committee has been established to examine ways in which the Government, local authorities, and communities may work together to ensure the integrity and safety of the Transmission Line. Funding has been set aside in the project so that this committee can undertake its Terms of Reference.

4. It will be important to resolve any of the outstanding issues regarding encroachment and to communicate how the Government will proceed with finalizing any compensation, as well as compensating any PAPs who are affected by the Energy Access project. As the PAPs have already been compensated through the Power and Water project, only some funds have been set aside for this project (mostly for temporary disturbances).

ANNEX 1: FIELD VISIT REPORT ON ENCROACHMENT

FIELD VISIT TO UPDATE THE COMPLETED RAP FOR THE 7.5KM 11KV OVERHEAD DISTRIBUTION LINE BETWEEN THE SUB-STATIONS BLACKHALL RD AND WELLINGTON AND SITE INSPECTION OF THE AREA WHERE REPLACEMENT OF AN UNDERGROUND 11 KV LINE (CABLE) FOLLOWING EXISTING ROADS (AND RIGHT OF WAY) BETWEEN THE SUB-STATIONS BLACKHALL RD AND WELLINGTON TAKE PLACE.

On Thursday March 23, 2012, the team consisting of Elika Dadsetan (Social Development Consultant), Nikolay Nikolov (Senior Energy Specialist) Bernarda Perez (Social Development Specialist), Edward Cavaly (Senior Electricity Superintendant, NPA), Crispin Pearce (Laynaa Consultants) and Bai Bai (Laynaa Consultants) inspected the majority of the 7.5km 11kV overhead distribution line and found that construction (under the T-line including the towers) is still ongoing.

The purpose of the field verification was to (i) check on new encroachments in and around towers; (ii) check if there are new structures violating the vertical clearance of 5 meters; (iii) and check if structures made of steel or other metals may be in place close to the towers threatening peoples live and the line's security.

3 new structures (2 under construction and one totally constructed) were identified by Laynaa Consultants. There is one structure that can be considered new, although it replaced an already identified structure that is included in the compensation matrix.

The name of the owner and location of the structure has been captured in the table below.

New Structures identified

Owners/occupants of structures	Type of Structure	Type of Demolition Recommended	Violates Vertical or Horizontal Clearance?	Comments
1 A. Y. B. a HH of 10 Additionally there are two tenants with a total of 8 people. It was not possible to get the names and contact information of the tenants	This is a "new" structure which replaces a sinz structure identified for compensation. The PAP upgraded his shop (from zinc to cement) rather than demolishing the zinc shop.	It was identified to be demolished completely by NPA engineers, and the team agrees	Both. Tower 45	The cable which holds the tower passes through a fire place for cooking and through the stairs to the second floor. He did not receive the compensation (5m LE because instead of demolishing the zinc structure he build a concrete

Owners/occupants of structures	Type of Structure	Type of Demolition Recommended	Violates Vertical or Horizontal Clearance?	Comments
				one.

Picture of Mr. B's shop (tower number 45 NPA numbering , and tower 4 Laynaas numbering)

Owners/occupants of structures	**Type of Structure**	**Type of Demolition Recommended**	**Violates Vertical or Horizontal Clearance?**	**Comments**
Lowcost Junction Owner of Property: **2 Mr. K. B. K.** Kenema		Mr. Koroma started the construction of a second floor and the wood/cement structure (on the back side) is less than a meter apart from the conductor of tower Number XX Discussion started whether it would be possible to reduce the size of the second floor construction and find other ways to solve the leakage issue.	Vertical and Horizontal	Mr. Waffa (Lebanese tenant pre-financed the construction of the second floor by paying a rent advance of 2 years). Laynna consultants stopped the construction at the end of February, although a written notification has not been sent. NPA will have a meeting to discuss this case
Picture				

Owners/occupants of structures	Type of Structure	Type of Demolition Recommended	Violates Vertical or Horizontal Clearance?	Comments
				
Wellington Old Railway **3 Mr. A.**	Cement (4 walls 5 m by 4) Zinc roof	Total Demolition	Both	New construction less than 3 meters from the tower 46. The tower stabilizer cable was cut in order to build the shop. Laynaa consultants marked the structure with XX

Owners/occupants of structures	Type of Structure	Type of Demolition Recommended	Violates Vertical or Horizontal Clearance?	Comments
				to be demolished.

Owners/occupants of structures	Type of Structure	Type of Demolition Recommended	Violates Vertical or Horizontal Clearance?	Comments
Wellington **4 Not possible to talk to the owner**	Mud (4 by 4 meters) Tower 47	To be determined by engineers		New construction. Laynaa consultants marked the walls with XX although the owners covered the XX and posted posters on top.
Picture Not available				

Findings:

- 4 new structures that violate the vertical clearance limit were found.
- The Blackhall substation and the Wellington Substation are surrounded by a fence therefore there is no encroachment in the compound.
- There is an old (2 pumps for diesel) gas station approximately 50 m away from the Wellington Substation. The diesel is stored underground. NPA to decide if this is a hazard.
- The demolition/partial demolition of structures which received compensation seems to be delayed in some cases because demolition cost was not calculated in the compensation payment, therefore some PAPS used that money to build somewhere else and do not have any incentive to pay/work to demolish the structure. In some cases they demolish up to the point where they take the wood, zinc and other material to reutilize and they leave it there. In other cases, when women are the PAP it is difficult for them to demolish/clear the rubbish after demolition (case of A. D.).
- Out of the 7 critical structures only 3 have been demolished, 2 started demolition and on the other 2 structures (compensated for total demolition around tower 2 and 25) demolition has not been started yet.
- Out of the 16 additional structures to be demolished or partially demolished only 5 have been demolished, 2 have started demolishing and the remaining 8 structures are still there (4 to be totally demolished and 4 to be partially demolished).

Recommendations:

- Denis Garvie, manager of NPA, has sent a letter to the Office of National Security about the violations to the right of way for some of the new structures identified. Follow up on this matter is urgently needed, even more now that Laynaa consultant reported that Mr. Bai reported that we was confronted by a PAP (with a knife) while reminding them that the deadline for demolition was past due.
- A random check of the second tranche of payments made to PAPs for the 11 KV is recommended
- Written notifications to be sent to owners of new structures that violate vertical and horizontal clearance.
- NPA should rely less on Laynaa consultants and may want to set up a team of people to monitor the line on a monthly basis. The line could be divided in two segments, one to be patrolled by the workers of Wellington Station, and the other by the workers of Blackhall substation.

The deadline for demolition/Partial demolition was September 2011 and for critical structures was March 20 2012

FULL entitlement Matrix for 11 KV PAP

#	Name of Claimant	Tower No.	Type of Structure	Type of Demolition	Highlights of Tower Issues	Laynaa's Recommendation's	STATUS as March 22 2012 (as reported by Laynaa)	Status of Demolition as of March 22 2012
1	A. D. Kissy Brook Critical Structure	1	Concrete	Partial	It is proposed to be erected in the Black Hall Road sub-station. Overhead conductors will then be run from the present tower 2 to the proposed tower 1 in the Black Hall Road plant yard.	It is therefore proposed that the likely affected angle should be demolished to make way for the overhead cables. Equally, it is recommended that the lower one flat structure situated on the course of the underground cables from the tower to the plants should be demolished to avoid any casualty or danger from the underground cables. To minimize impact on PAPs and save cost and where possible, the position of the proposed tower/ could be adjusted or relocated to a suitable angle so as to avoid the demolition of the structures top left angle.	Demolition completed although the access to the tower is not cleared. The demolition material is on the floor and needs to be removed	Partially
2	A. T. Kissy Brook Critical Structure	1	Concrete	Total	It is proposed to be erected in the Black Hall Road sub-station. Overhead conductors will then be run from the present tower 2 to the proposed tower 1 in the Black Hall Road plant yard.	It is therefore proposed that the likely affected angle should be demolished to make way for the overhead cables. Equally, it is recommended that the lower one flat structure situated on the course of the underground cables from the tower to the plants should be demolished to avoid any casualty or danger from the underground cables.	The consultant mentioned that the original structure was made of mud although the report shows concrete.	Demolished
3	S.M. Gravel Lane	2	Concrete	Total	Tower is situated outside the fence of Fawaz Building Materials Ware House. A one flat structure is extremely close to the tower without any provision for	One Flat Structure should be Demolished or a Wall to be constructed between the present structure and the tower	PAP constructed a new house at Waterloo	Not yet

#	Name of Claimant	Tower No.	Type of Structure	Type of Demolition	Highlights of Tower Issues	Laynaa's Recommendation's	STATUS as March 22 2012 (as reported by Laynaa)	Status of Demolition as of March 22 2012
					clearance limits at the back of the fence.			
4	A. K. N. and M. F. Peace Market	3	Concrete	Total	Tower close to a small concrete store at peace market	Recommended by engineers to be demolished to give clearance for maintenance.		Not yet
5	M. F. Peace Market	3	Concrete	Total				Not yet
6	A. Y. B. Horse Shoe Road	4	Zinc	Total	It is located at the Junction to Kissy Ferry Terminal. It is close to two long stores and a zinc structure	The zinc structure and the stores close to the tower are recommended to be demolished.	PAP did not receive the compensation on time. Instead of demolishing he build a cement structure to replace the zinc structure	Not yet
7	H. Y. K. Bai Bureh Road	9	Concrete	Partial	Inside Alatipas compound close to the structure	Engineers need to take a second look and advice accordingly.		In process

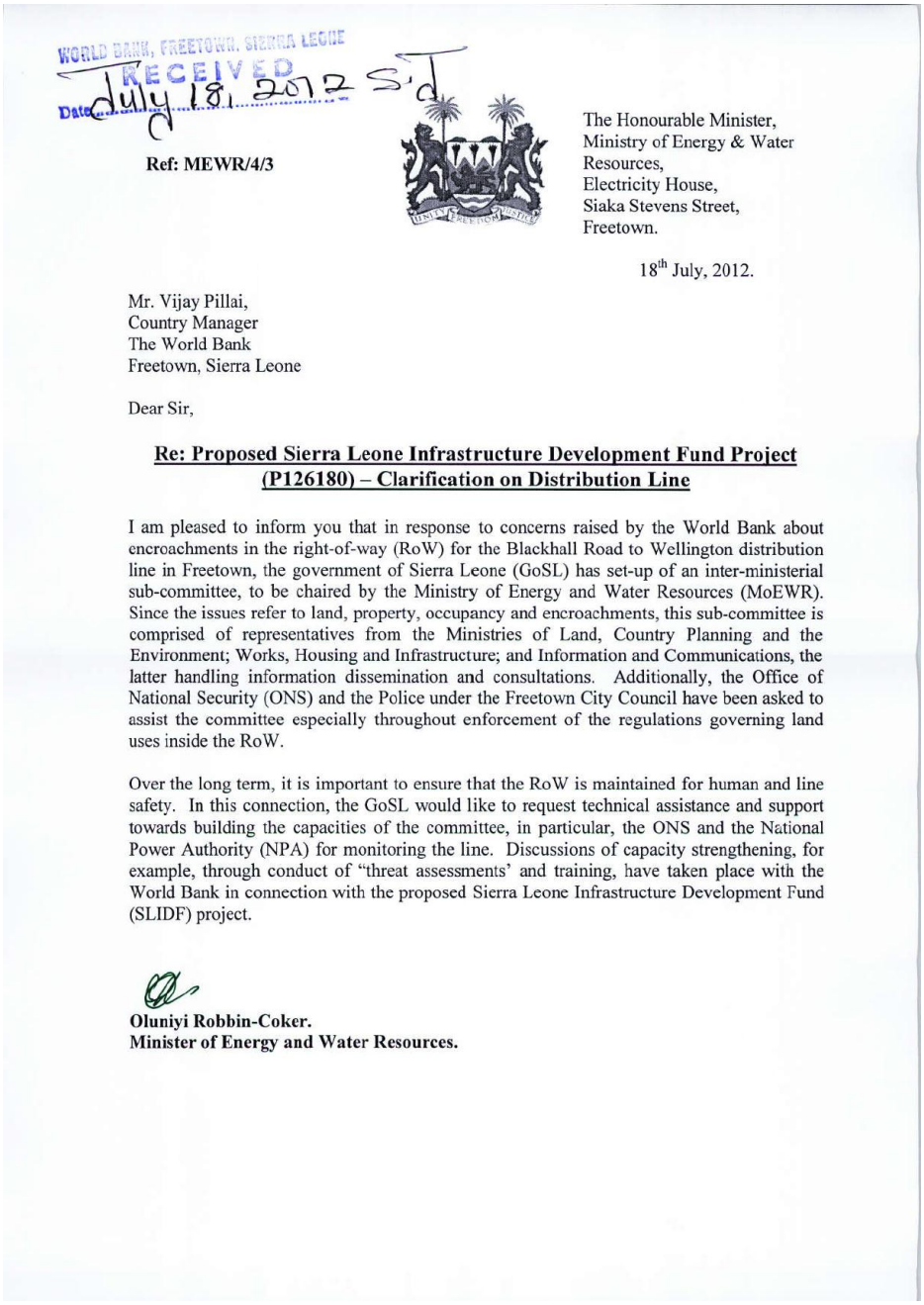
#	Name of Claimant	Tower No.	Type of Structure	Type of Demolition	Highlights of Tower Issues	Laynaa's Recommendation's	STATUS as March 22 2012 (as reported by Laynaa)	Status of Demolition as of March 22 2012
8	P. A. M. Old Railway Line	12	Mud	Total/Partial	This tower is between three structures. The structures are directly underneath the tower and the drainage of the toilet passes under the base of the tower making it difficult for engineers to access the tower.	It is advised that all three structures are demolished to provide the required standard clearance limits both vertically and horizontally.		Demolished
9	L. C. Africanus Road	13	Concrete	Partial	Encircled by the building	Affected part already Demolished to give aannexccess for maintenance.		Demolished
10	A. A. T. Bai Bureh Road	20	Mud	Total	Tower is close to a mud structure and a zinc store, and falls under the clearance limits.	The structures are recommended to be demolished since they equally breach the standard clearance limits.		Demolished
11	A. K. Bai Bureh Road	21	Mud	Partial	Close to a tailor shop and there is hardly access to the tower.	It is therefore recommended to be demolished to provide unimpeded access to the tower.		Not yet

#	Name of Claimant	Tower No.	Type of Structure	Type of Demolition	Highlights of Tower Issues	Laynaa's Recommendation's	STATUS as March 22 2012 (as reported by Laynaa)	Status of Demolition as of March 22 2012
12	A. K. Bai Bureh Road Critical Structure	25	Concrete	Total	This tower is described as an angular tower whose position has to be strengthened with stay wires from every angle to give it support to transmit to the various angles of the line	It is therefore advised that the structure should be demolished since its present position is dangerous because it is too close to the angular tower.		Not yet
13	M. C. Power Magazine Street	26	Concrete	Steps				Demolished
14	F. J. Power Magazine Street	27	Zinc	Partial	This tower is located in a compound of three concrete structures, the steps at the back of the main house are advised to be demolished to provide access to the tower.	It is therefore strongly advised that the extension must be demolished to maintain the clearance required.		Not yet
15	M. B. Old Railway Line	29	Concrete	Partial	This tower is encroached by a concrete structure.	A partial demolition of that structure is recommended.		Demolished
16	S. K. Old Railway Line Critical Structure	30	Mud	Partial	This tower is between two houses.	The house in front is recommended to be demolished to give clearance and access to the tower for maintenance. Tower to be fenced to 5 feet height for safety.		In process

#	Name of Claimant	Tower No.	Type of Structure	Type of Demolition	Highlights of Tower Issues	Laynaa's Recommendation's	STATUS as March 22 2012 (as reported by Laynaa)	Status of Demolition as of March 22 2012
17	A. B. M. Antana Street	32	Mud/Zinc	Total	It is encroached by a mud and zinc structure.	Recommended by engineers to be demolished to give clearance for maintenance.		Not yet
18	P. A. S. Old Railway Line Critical Structure	34	Concrete/Zinc	Partial	Affected by a zinc structure which is very close (less than 2 meters) to the foot of the tower	Recommended by engineers to be demolished to give clearance for maintenance.		Demolished
19	A. W. J. Old Railway Line	35	Mud	Total	mud structure and a zinc toilet excessively encroached the 7.5m horizontal clearance from the tower.	Both structures are advised to be demolished to provide access to the tower since the structures are situated on the only access route to the tower.		In process
20	B. S. Lower Congo Water	39	Concrete Wall/Step/ Kitchen	Partial	The fence, steps and kitchen need to be cleared to create space for the maintenance of the tower	The fence, steps and kitchen are recommended to be demolished		Not yet
21	G. K. Lower Congo Water	40	Concrete	Partial	In the heart of a newly constructed structure. No clearance issues with this.	The top extension over the corridor of the newly constructed structure should be slashed off to make way for the stay wires from the tower to the ground.		Not yet

#	Name of Claimant	Tower No.	Type of Structure	Type of Demolition	Highlights of Tower Issues	Laynaa's Recommendation's	STATUS as March 22 2012 (as reported by Laynaa)	Status of Demolition as of March 22 2012
22	A. C. Peter Lane Critical Structure	41	Concrete/Zinc	Total/Partial	A concrete one flat structure is constructed extremely close to the tower. The structure encroaches on both vertical and horizontal clearance. In fact the roof of the structure is so close to the conductor that the least mistake of touching the life conductors with any instrument let alone by hand will result into immediate electrocution.	The structure must therefore be demolished completely. The Back of the house next to the tower is used as a fire place for cooking. This equally poses considerable danger to the line, a zinc structure nearby is also recommended to be partially demolished.	PAP constructed a new structure in a safe place	Demolished
23	M. M. Bai Bureh Road		Concrete	Total	Very close to the sub station.	The extension of the house toward the sub station which evidently occupies the position for the installation of the next tower should be demolished to make provision for that purpose, including the Zinc Fence in between the house and the sub station		Not yet

ANNEX 2: CLARIFICATION ON DISTRIBUTION LINE



WORLD BANK, FREETOWN, SIERRA LEONE
RECEIVED
Date July 18, 2012 S'd

Ref: MEWR/4/3

The Honourable Minister,
Ministry of Energy & Water Resources,
Electricity House,
Siaka Stevens Street,
Freetown.

18th July, 2012.

Mr. Vijay Pillai,
Country Manager
The World Bank
Freetown, Sierra Leone

Dear Sir,

Re: Proposed Sierra Leone Infrastructure Development Fund Project (P126180) – Clarification on Distribution Line

I am pleased to inform you that in response to concerns raised by the World Bank about encroachments in the right-of-way (RoW) for the Blackhall Road to Wellington distribution line in Freetown, the government of Sierra Leone (GoSL) has set-up of an inter-ministerial sub-committee, to be chaired by the Ministry of Energy and Water Resources (MoEWR). Since the issues refer to land, property, occupancy and encroachments, this sub-committee is comprised of representatives from the Ministries of Land, Country Planning and the Environment; Works, Housing and Infrastructure; and Information and Communications, the latter handling information dissemination and consultations. Additionally, the Office of National Security (ONS) and the Police under the Freetown City Council have been asked to assist the committee especially throughout enforcement of the regulations governing land uses inside the RoW.

Over the long term, it is important to ensure that the RoW is maintained for human and line safety. In this connection, the GoSL would like to request technical assistance and support towards building the capacities of the committee, in particular, the ONS and the National Power Authority (NPA) for monitoring the line. Discussions of capacity strengthening, for example, through conduct of "threat assessments' and training, have taken place with the World Bank in connection with the proposed Sierra Leone Infrastructure Development Fund (SLIDF) project.

Oluniyi Robbin-Coker.
Minister of Energy and Water Resources.

ANNEX 3: MONITORING ACTION PLAN FOR DISTRIBUTION LINES IN THE FREETOWN AREA

Government of Sierra Leone
National Power Authority

MONITORING ACTION PLAN FOR DISTRIBUTION LINES IN THE FREETOWN AREA

The National Power Authority
Electricity House, 4th Floor
Siaka Stevens Street
Freetown, Sierra Leone

Table of Contents

LIST OF ABBREVIATIONS

AGO	Diesel oil
EHV	Extra high voltage
EU	European Union
FCC	Freetown City Council
GoSL	Government of Sierra Leone
HV	High voltage
ICNRIP	International Commission on Non-Ionizing Radiation Protection
IEC	International Electricity Commission
kms	kilometers
kV	kilovolts
M&E	Monitoring and evaluation
MFO	Marine fuel oil
MLCP	Ministry of Lands and Country Planning
MoEWR	Ministry of Energy and Water Resources
MW	Megawatts
NPA	National Power Authority
ONS	Office of National Security
PAPs	Project affected persons
RAC	Resettlement Advisory Committee
RAP	Resettlement Action Plan
RoW	Right of Way
TL	Transmission line

I. INTRODUCTION

This report contains the key elements and procedures of the Government of Sierra Leone's (GoSL) Monitoring Action Plan for Distribution Lines in the Freetown Area (hereinafter referred as the Plan). The Plan covers the electricity distribution system's right of way (RoW) in and around the Freetown urban and peri-urban areas. It covers the definition of the RoW based on horizontal and vertical clearance limits that would be acceptable in order to maintain the efficient and safe functioning of the distribution system. The report also describes the institutional arrangements that the GoSL has set up to protect the line and reduce damages to the line, as well as the policies and procedures for occupancy and use of the RoW land and other assets.

The Ministry of Energy and Water Resources (MoEWR) is the main institutional arm of the government for planning and implementing energy sector development programs. It covers the activities of the National Power Authority (NPA) and regulates its performance on a sector wide level. Since the civil war (1991 – 2002), its consequences (e.g. massive destruction of infrastructure and facilities) on the network distribution system have reduced most of the electricity operations of NPA to the Western Area, the peninsula on which the capital Freetown is situated. Since then, the Ministry of Energy and Water Resources (MoEWR) has supported the NPA in the task of rehabilitating and expanding the national electricity grid.

The efficient functioning of the grid is vital since the commissioning of the 50 MW Bumbuna hydroelectric power plant (Bumbuna) in late 2009. The dam has almost doubled Sierra Leone's installed capacity and changed its power generation mix. Today, overall installed generation capacity is approximately 82.5 MW, including two thermal power plants at Kingtom (10 MW) and Blackhall Road (16.5 MW) that together with Bumbuna serve the Freetown Capital Western area. In addition, there is a 6 MW feeding system in the Bo-Kenema areas. Nevertheless, current power generation capacity remains highly inadequate to accommodate the country's overall power demand. Hydropower from Bumbuna is seasonal, producing less than 20 MW during the dry season. High costs of imported fuel for the thermal power plants, coupled with transmission and distribution bottlenecks, further reduce available capacity. As a result, existing supply can meet approximately half the demand in Freetown, let alone in the rest of the country.

Sierra Leone's transmission and distribution systems are in the incipient stage and not able to keep up with generation capacity expansion. The national transmission system consists of only one radial 161 kilovolts (kV) transmission line extending 200 km from the substation at Bumbuna to the Freetown substation and connected to NPA's distribution network. Distribution capacity is severely constrained. NPA's distribution network suffers from high technical and non-technical losses caused by lack of maintenance, overloading and inadequate metering, billing and revenue collection. Overall, it is estimated that the network can evacuate no more than 35 MW of power. As of 2011, transmission and distribution losses stand at 38 percent, largely in excess of 9 to 12 percent. The low voltage levels in certain areas and the high level of fault occurrence contribute to poor quality of supply. At present, black outs and load shedding are commonplace. If not addressed, transmission and distribution bottlenecks will constrain the expansion of generation capacity. Further, suppressed electricity demand will increase considerably in line with continued economic growth.

Over the past year, NPA has taken some preliminary steps to improve its performance. Network upgrading and a re-metering program for replacing post-paid (credit) meters with efficient pre-paid meters are being implemented primarily with donor support. In addition, cash collection has been outsourced to local commercial banks. Roughly 37 percent of NPA's customers now have pre-paid meters. In 2011, the average collection rate has improved significantly from 67 to 76 percent. The systematic implementation of a loss reduction program has been established as one of the prior-actions for the next Governance Reform and Growth Credit (Budget Support) by the World Bank. In order to access the credit, the GoSL will need to demonstrate tangible progress in implementing the program by December 2012. Non-technical losses can be brought to an acceptable level in the next 18-24 months. This would relieve NPA's fragile financial situation and contribute to reduce tariffs in the short- to medium-term. Reducing technical losses entails extensive rehabilitation of the distribution network and will require much more time. In the short term, the best prospects for reducing technical losses are on the 161kV line from Bumbuna and the primary distribution network in Freetown.

There is an urgent need to rehabilitate and upgrade distribution infrastructure in Freetown area, which have become dilapidated during the civil war and subsequent 10 years of neglect. The scope of works will include line and substation upgrades and the installation of a161/33kV transformer at Freetown substation. Further investments will focus on the upgrading of other critical components of the network, including the 11kV line from Blackhall Road to Wellington substations; a 33/11kV transformer at Wellington substation and related substation equipment at Blackhall Road, Wellington and Wilberforce substations. The focus of these upgrades is to improve evacuation capacity from the 16.5 MW Blackhall Road diesel power station during times when insufficient hydropower is available from Bumbuna. Equipment specification for installation and maintenance will be based on international quality standards.

Presently, the only operational power plants in the Western Area are the NPA's power stations Kingtom (10MW) and Blackhall Road (16.5MW). The fuel oils used for power generation at NPA are Marine Fuel Oil (MFO) and Diesel Oil (AGO). These are imported and account for over 60 percent of NPA's operating expenses.

However, an inspection of NPA substations and review of utility operating processes and procedures, including assessment of application of safety standards, revealed significant gaps and lack of human capacity. This is due partly to critical gaps in skills especially in maintaining the line network. A lingering problem is monitoring the RoW to ensure safety and reliability of energy distribution. More importantly, the RoW needs to be secured in order to protect human health and safety of populations who occupy lands in or within the vicinity of the power lines.

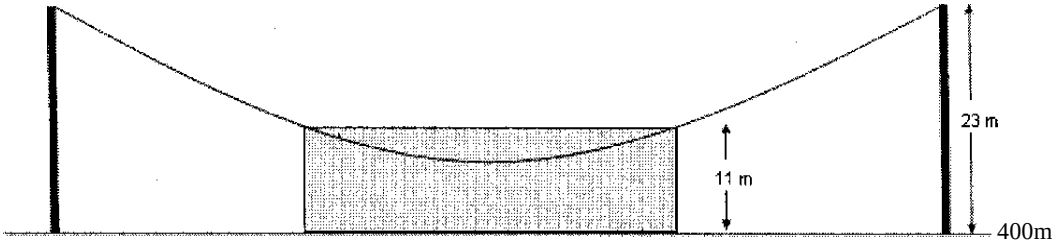
Institutional deficiencies represent a major obstacle to the efficient and reliable supply and distribution of energy. While the 1982 NPA Act is intended to provide NPA with a high degree of autonomy through an independent Board—which still lacks greater private sector representation—the continuing lack of autonomy and sustainable finances undermine the effectiveness of NPA's operations. For long-term sustainability, NPA has expressed its desire to run on a commercial basis, including

achieving a target rate of return. While the provisions for creating the needed reforms towards NPA's financial and institutional viability are being introduced, an urgent concern continues to be the monitoring of the electricity line network RoW.

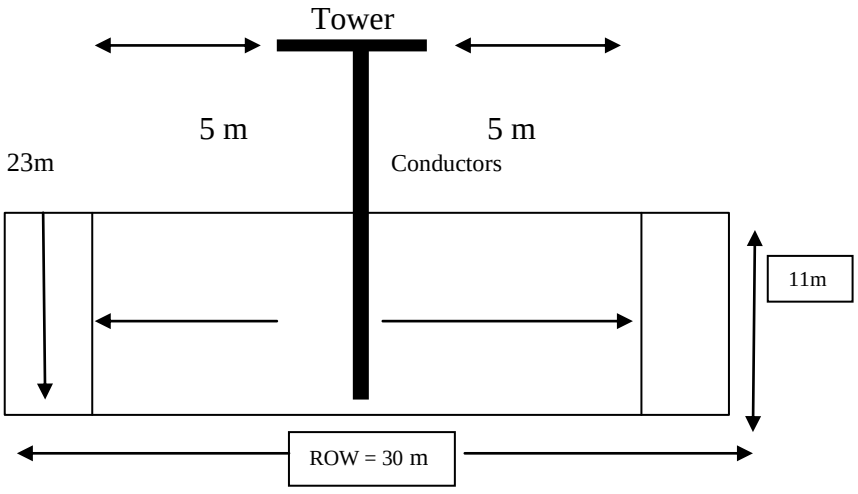
II. DEFINITION OF THE RIGHT OF WAY (RoW)

For purposes of monitoring the RoW, which is the land that covers the area underneath the distribution line cables, conductors and towers, the legal definition in Sierra Leone will be adopted. Generally, the land and resources in the RoW are classified as State-owned land extending horizontally 15 m on both sides of the center of the line and vertically as the air space 5 m from the nearest physical structure to the conductor.

The RoW "exclusion zone" is determined on the basis of the 5 m vertical safety clearance as defined by two geometric profiles – the longitudinal and transverse. The longitudinal profile is defined by the sag of the conductors between adjacent towers. The transverse profile is defined by the horizontal distance between conductors (5 m) plus a lateral distance of 5 m to 7 m from the center line of each of the conductors. The width of the exclusion zone is determined by the lateral distance between the two conductors (5 m) and the minimum clearance requirement on either side. *[drawing below is not to scale]*



The longitudinal profile along the center line of the RoW, showing horizontal separation of towers (about 400 m), sag of conductors (hyberbolic cosine), and vertical exclusion zone height of 5 m – 7 m clearance plus 4 m (average height of all structures in the RoW). The horizontal length of the exclusion zone is calculated as 220 m (55 percent of the distance between towers) based on the equation describing the shape of the sag of the conductors. This length is a good approximation for both horizontal and inclined surfaces.



The transverse profile perpendicular to the center line of the RoW includes the separation between conductors (5 m) and setback distance (7 m) on either side of the outer conductors. Ideally, the RoW should be demarcated as 30 m wide.

However, in reality, the RoW horizontal demarcation of lands inside the RoW specifications is not observed. The main reason is the historical occupation of the RoW by predominantly slum settlements. In the past, the GoSL allowed the use of such land inside the RoW. In order to continue such occupation to occur, international standards will be applied under the following conditions:

The presence of residential and other buildings inside the RoW is acceptable, as in use in other countries and allowed by the International Electricity Commission (IEC) Standards. Of course, the specified clearances (vertical and horizontal) to conductors must be complied with, at maximum specified conductor operation temperature of 65 degrees C, with the catenary vertical as well as displaced by the action of strong wind pressure up to 30 degrees. Design and operation precautions minimize the risk of conductor breakage or fall-down over buildings during the whole industrial life of the T-Line including the commissioning period. Metallic roofs shall be adequately connected to ground electrodes.

Annex 1 summarizes the salient features of the IEC standards as these apply to the RoW, and in particular, in the context of Freetown and vicinity.

The RoW guidelines note: *"If it is reported that many houses and huts have been built under or in close proximity to the T-Line with length of approximately 1.5 kms, compliance with the specified clearances and the other measures and precautions need to be adopted, and will ensure safety and health preservation of people."*

On the health implications of the RoW, the guidelines note: *"The exposure of people to 50 Hz magnetic and electric fields is by far lower than the limits stipulated by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines, by the European Union (EU) directives and lower than the more precautionary limits stipulated by the National Standards of some industrialized countries, as Italy."*

Allowing human settlements to continue to occupy lands inside the RoW, as applied by GoSL, is consistent with Sierra Leone's Constitution, as follows: "The Constitution includes provisions to protect the rights of individuals to private property, and also sets principles under which citizens may be deprived of their property in the public interest as described in *Section 21*. It also makes provision for the prompt payment of adequate compensation and access to the court or other impartial and independent authority for the determination of the land owner's interest or right, and the amount of any compensation to which he/she is entitled and for the purpose of obtaining prompt payment of that compensation."

III. RELOCATION IN THE RIGHT OF WAY

Consistent with the "rights" established by the NPA for long-term occupants of the RoW, the NPA approved and disclosed in 2010 a Resettlement Action Plan (RAP) to allow occupants inside the RoW to move their structures. The RAP identified the project affected persons (PAPs) under the World Bank financed Power and Water Project, which closed in 2011. The RAP covered key segments of the distribution network in the Freetown area and contained the provisions for compensation and removal of structures that were within the vertical clearance and safety limit.

The RAP covered the distribution network from Kingtom substation, which passes through the Kingtom Cemetery and the refuse dump or land fill into Congo Town. The line then stretches across the street from the Congo Town Bridge, through the rugged paths of the Congo Town settlement to the Congo Cross Bridge, from where it continues along the edges of the slopes at Tengbeh Town. A separating point, which is the T-off-point, starts from Tengbeh Town to Riverside Drive and to Wilberforce, across the Military Barracks up to the NPA substation situated at the junction of Spur Loop.

The other angle of the line route runs through Cantonment Road up to the Hill Top, off- King Harman Road down to New England and Belair Park. The line is then diverted straight to the top of the Hill in Sumaila Town, over looking the West End and centre of Freetown, up to Leicester Road. At this point the line then carefully avoids the crowded settlements of Mountain Cut. It shifts to Fourah Bay College on Mount Aureol where it takes a steep turn to the right at the back of the Lower Faculty of Fourah Bay College. Finally, the line runs down Mount Aureol Terrace to the top of Blackhall Road and down to the Sanitary Department of the Ministry of Health and Sanitation, by the Kissy Road Cemetery, and finally eases into the sub station at Blackhall Road.

The RAP describes the RoW for the 33 kV distribution line as generally rough, rocky and hilly. Much of the RoW runs along mountain slopes and hill tops. Most of the RoW area is navigable by motorbike, but only to certain points. The rest of the line is accessible on foot especially at the Eastern front from Leicester Road through Fourah Bay College, Mount Aureol Terrace down to Black Hall Road where the NPA sub station is located.

The 11 kV T-Line RoW is densely populated, mostly with semi-permanent and permanent structures. There are no open lands, except for a small segment along a 500 m stretch of land. Seven structures were identified in the survey as posing threats to line safety and human health – all of which were included in the RAP to be compensated as they needed to be relocated.

Affected households were identified in the Census Stage of the survey. NPA sent a notification letter to each PAP household head. This letter was followed by the physical marking of the structure, which was observed by a local Sierra Leonian Witness NGO and the community leader. All delineated structures that had to be

removed, to make way for the tower or to remove obstructions within the clearance limit, were photographed together with the PAP household head.

During the valuation process, it was disclosed that the market value of land per square meter was 86,360 Leones (approximately US$20) in the Western Area by the Ministry of Lands and Country Planning (MLCP). The Resettlement Advisory Committee (RAC) increased this value by 25 percent to reflect inflationary adjustments since 2004. This applied to almost 90 percent of PAPs who were classified by MLCP as "urban squatters."

Lands with documented titles or ownership were valued higher by the MLCP since the cost of private property increased due to taxes and other payments made on the property. The valuation also took into account the prevailing "buyer and seller" rates within the last 6 months to one year of similar properties within the vicinity. Since most of the land in the ROW belong to GoSL/NPA, less than 10 percent of affected properties were privately owned.

The compensation payments were based on the value of land and structures, the survey and baking costs, and the fees for the development of the site plan. This was done by the MLCP survey team, and later, verified with the PAPs who had to sign a document stating that they agreed with the valuation. If there are disputes over the valuation process, the PAPs had the option of filing a complaint through the grievance mechanism set up at the community level.

To date, 95 percent of PAPs in the 33 kV and 11 kV T-Line have been paid, as shown in Table 1. The remainder of payments will be given to PAPs once complete structures within the vertical clearance limits are removed from the RoW. A set-aside bank account was arranged by NPA so that once the PAPs comply with the agreed relocation schedule, the full payment will be completed.

Table 1 summarizes the RAP costs, including the compensation payments:

Table 1: Summary of RAP Affected Households and Compensation Payments

	Number of Affected Towers	**Number of Project Affected Households**	**Amount of Compensation Payments (US$000) Completed**
Compensation Payments (33 kV T-Line)	26	164	74.469
Compensation Payments (11 kV T-Line)*	7 critical structures	29	74.833
Transition and Moving Allowances**		43***	17.200
Sub-Total			
Livelihood restoration		54 beneficiaries	31.890
Land Survey, Conveyances, Construction of Protective Walls, etc			4.755
TOTAL	33		

* Pending payment upon demolition to Haya Adama Dumbaya. She received 32,742.000 Le remaining amount 10,000.400 Le
**Although their structures were not removed, the National Resettlement Advisory Group allowed the payment of transition and moving allowances to 43 vulnerable households who were asked to temporarily relocate during the T-Line rehabilitation period.
*** These 43 households are included in the counting of PAPs in the 33 kV T-Line.

Throughout RAP implementation, NPA emphasized the sensitization of communities and project affected persons (PAPs) about the safety and health impacts of the T-Line.

Sensitization was accordingly conducted from house to house, and in group meetings. The first consultative meeting was held in November 2009 at the Presidential Lounge at the National Stadium with all stakeholders. After extensive discussions and consultations, some major decisions were taken to address the safety issues. These decisions included the following:

(i) PAPs should take ownership of the project by fully participating in the relocation implementation process, especially informing neighborhoods about safety measures;

(ii) Three implementation committees (Resettlement Advisory Committee, the Grievance Committee, and the Monitoring Committee) were formed which would include representatives of Government Ministries and the City Council of Freetown;

(iii) Land should be provided by the Government to resettle some of the PAPs within the Freetown area; and

(iv) The Witness NGO and PAPs Representatives will monitor RAP

IV. MONITORING ACTION PLAN

The NPA organized in 2010 a Monitoring Committee, which also comprised a Witness NGO and staff from NPA, in order to monitor the RoW, in particular, management of land uses inside and adjacent to the RoW. This included provisions for ensuring that the RoW vertical clearance limit (of 5 m) was respected at the community level. Throughout the implementation period for the RAP, the committee met only twice. Although the Monitoring Committee held some briefing meetings, they did not specifically discuss measures for controlling illegal encroachments into the RoW. Thus, NPA developed this Plan to ensure that there is continuity in RoW monitoring.

Monitoring was to be accomplished by NPA through monthly site monitoring and formulation of monthly and quarterly reports. The monitoring indicators were broadly grouped into the following categories:

- Creation of Task Force (composed of other ministries and Office of National Security or ONS) – including the selection criteria adopted by NPA with an outline of Task Force responsibilities under the long-term time frame;
- Development of evaluation criteria for performance of NPA personnel who will monitor the line;
- Accessibility of office and information to communities overseeing the RoW;
- Enforcement of a monitoring process, including the inspection of records and impact assessment; and
- Auditing of records indicating quality of monitoring.

The NPA engaged the Freetown City Council (FCC) and the ministries in charge of the urban land reform process to better define the Plan for the RoW. The reasons for expanding the Task Force mandate are two-fold:

- The distribution line had to be secured from damage and theft to avoid expensive network repairs; and
- It was necessary to ensure human health and safety and prevent serious accidents from occurring due to misuse of the RoW specifications resulting in electrocution and death.

Line Monitoring and Site Inspections

The NPA would assign full time staff who would monitor the line and conduct regular field trips and site inspections. The purposes are to identify any new encroachments, and whenever necessary, to seek assistance from the police and ONS to stop any further encroachments. The site visits would be conducted jointly with local officials and community leaders, to the extent possible, in order to augment the responsibility for securing the line RoW on a regular basis.

The results of the monthly site visits will be summarized in Quarterly Progress Reports to the NPA officials. For example, some reports may refer to progress in clearing the RoW from any encumbrances or obstructions. It will also contain the status of the grievance resolution system, in case there are any complaints or problems registered along the RoW.

Monitoring Indicators

NPA will adopt a set of monitoring indicators for the RoW. These indicators are divided into responsibilities of the NPA monitoring team for: (i) quality of observance of the clearances in the RoW by residential and business occupants; (ii) accuracy and timeliness of the monitoring of RoW boundaries; (iii) quality of the grievance mechanisms; (iv) quality of community participation in assisting NPA with the RoW monitoring; and (v) extent and quality of stakeholder consultations.

Table 2: Monitoring Indicators for RoW

Indicators	**Rating***
1. ***Quality of RoW monitoring of occupancy observance of clearances***	
1.1 Clarity of RoW boundaries	
1.2 Clarity of understanding of the RoW boundaries	
2. ***Accuracy and timeliness of monitoring of RoW site visits***	
2.1 Accuracy of RoW demarcations	
2.2 Clarity of disclosure and explanation of the RoW rules	
2.3 Timeliness of monitoring site visits	
3. ***Quality of access to grievance mechanism and quality of resolution of grievances***	
3.1 Accessibility of the grievance filing system	
3.2 Clarity of explaining grievance mechanism	
3.3 Effectiveness of grievance resolution	
4. ***Quality of community participation in monitoring the RoW***	
4.1 Relevance of community leaders in assisting NPA with line monitoring	
4.2 Extensiveness of participation (role of civic leaders in monitoring the RoW)	
5. Extent and quality of stakeholder consultations	
5.1 Comprehensiveness of stakeholder identification and analysis	
5.2 Quality of stakeholder consultations (frequency, content, feedback)	
5.3 Quality of communications, information sharing, and disclosure programs	

*1=highly unsatisfactory; 2=moderately satisfactory; 3=satisfactory; and 4=highly satisfactory

Capacity Building

NPA will conduct extensive capacity building for its line monitoring team. There will be 3 staff assigned to the monitoring team. The team will be composed of three members: (i) Team Leader, who will be in charge of assigning and scheduling the site visits and submitting the Quarterly Monitoring Reports; (ii) Site Inspector, who will assist the Team Leader in conducting the field and site visits on a monthly basis and report any problems with encroachments and other forms of violations of the clearance limits of the RoW; and (iii) Communications/Liaison Officer, who will be assigned by NPA

to the Monitoring Team to strengthen the sensitization campaigns and conduct regular consultations with community leaders and members along the RoW.

The skills to be developed would be in the following areas: (i) line security monitoring and evaluation; (ii) community sensitization about the effects of energized lines on human health and safety; (iii) effective policing and enforcing of RoW rules and procedures; and (iv) communications and consultations with communities.

Proposed Implementation Schedule

The Monitoring Team will require financial assistance in order to carry out its work while the NPA establishes a more sustainable system for longer-term line monitoring. In the future, the NPA will be able to assign a full-time staff/unit dedicated for ensuring that the RoW rules and procedures are enforced.

In the meantime, a short-term program for creating the foundations for such NPA line monitoring would be implemented. The NPA will hire consultants and deploy NPA staff to conduct site visits; ensure institutional coordination (among various ministries and the ONS), develop effective communications programs; and promote capacity building. The following timetable will be enforced:

	Year 1	Year 2	Year 3
Establishment (including recruitment of consultants) for Monitoring Team	X		
Meetings of inter-agency monitoring committee (with ONS and FCC)	X	X	X
Set up of monitoring office (including field sub-offices)	X		
Site visits and quarterly monitoring reports	X	X	X
Evaluation reports	X	X	X

ANNEX 1

Right of Way Monitoring Criteria for Sierra Leone*

The specified RoW width of 15 + 15 = 30 m should be retained, thus ensuring also adequate clearance to trees and vegetation in conformity with the new IEC standards.

The presence of residential and other buildings inside the RoW is acceptable, as in use in other countries and allowed by the IEC Standards. Of course, the specified clearances (vertical and horizontal) to conductors must be complied with, at maximum specified conductor operation temperatuire of 65 degrees C, with the catenary vertical as well as displaced by the action of strong wind pressure up to 30 degrees. Design and operation precautions minimize the risk of conductor breakage or fall-down over buildings during the whole industrial life of the T-Line including the commissioning period. Metallic roofs shall be adequately connected to ground electrodes.

Houses with non fire-resistant roofs, such as huts, should be relocated outside the RoW, unless these comply with the clearance of 11.3 m specified by the new IEC Standards. Replacement of roofs with fire resistant type is also acceptable.

In the few cases, if any, where the specified clearances to buildings are not complied with, corrective measures should be applied such as: modification of building structure; increase of height of towers and conductors; and demolition of buildings in extreme cases.

The specified clearance above unobstructed ground, recreational areas, and main roads should be complied with by the T-Line contractor, without exceptions.

The exposure of people to 50 Hz magnetic and electric fields is by far lower than the limits stipulated by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines, by the European Union directives and lower than the more precautionary limits stipulated by the National Standards of some industrialized countries, as Italy.

Administrative and legislative measures should be enforced to forbid new residential and public building construction anywhere within the 30 m RoW.

If it is reported that many houses and huts have been built under or in close proximity to the T-Line with length of approximately 1.5 kms, compliance with the specified clearances and the other measures and precautions need to be adopted, and will ensure safety and health preservation of people.

On the other hand, high voltage (HV) and extra high voltage (EHV) T-Lines crossing densely populated areas have a psychological impact on people, may disturb AM radio reception, and in the long term, if people attention to safety rules were released, there could be some risk of incident for people living under the conductors.

A drastic remedy that has been applied in many densely populated cities of developed countries has been the replacement of the critical stretches of HV overhead TLs with

HV underground cables. In the last three decades the proven technology of HV cross linked polypropylhene (XLPE) insulated cables has provided a reliable, although expensive, solution simple for operation. With the rule of thumb, without having inspected the site, the cost can be estimated at about 1 million Euro for the 1.5 km long 161 kV cable line with transmission capacity equivalent to the overhead transmission line.

A site inspection is necessary for assessing if the cable project is worth of consideration. If justified and retained, obtainment of financing, procurement process and project implementation would require not less than two years. During this time, the power supply to Freetown is to be in any case performed by the overhead transmission line, by making the checks and applying all the precautions recommended in this report.

* The writer of this report, in his capacity of consultant to the Turkish Electricity Authority, has engineered during the last 25 years several transformations of overhead HV and EHV TLs onto underground cables in the major cities of Turkey, in particular in Istanbul. Projects have been generally financed by the World Bank. However, in Turkey there are still many TLs overcrossing densely built residential areas (e.g. a 380 kV line in Istanbul overcrossing a seven stories building!).

ANNEX 2

EXAMPLE OF A DESIGN CLEARANCE STANDARD

TABLE 4-2
RUS RECOMMENDED DESIGN VERTICAL CLEARANCES FROM OTHER SUPPORTING STRUCTURES (See Note B), BUILDINGS AND OTHER INSTALLATIONS (in feet)
(Applicable NESC Rules: 234A, 234B, 234C, 234D, 234E, 234F, 234I, Tables 234-1, 234-2, 234-3)

Line conditions under which the NESC vertical clearances shall be met (Calculations are based on Maximum Operating Voltage.):

- 32°F, no wind, with radial thickness of ice, if any, specified in Rule 250B of the NESC for the loading district concerned.
- Maximum conductor temperature for which the line is designed to operate, with no horizontal displacement

Nominal Voltage, Phase to Phase (kV_{LL})			**34.5 & 46**	**69**	**115**	**138**	**161**	**230 (E)**
Max. Operating Voltage, Phase to Phase	(kV_{LL})	----	72.5	120.8	144.9	169.1	241.5	
Max. Operating Voltage, Phase to Ground	(kV_{LG})	----	41.8	69.7	83.7	97.6	139.4	
	NESC Basic Clear.(Note D)	Clearances in feet						
1.0 From a lighting support, traffic signal support, or supporting structure of a second line	5.5	7.7	8.2	9.1	9.6	10.0	11.4	
2.0 From buildings not accessible to pedestrians	12.5	14.7	15.2	16.1	16.6	17.0	18.4	
3.0 From buildings – accessible to pedestrians and vehicles but not truck traffic	13.5	15.7	16.2	17.1	17.6	18.0	19.4	
4.0 From buildings – over roofs accessible to truck traffic	18.5	20.7	21.2	22.1	22.6	23.0	24.4	
5.0 From signs, chimneys, billboards, radio & TV antennas, tanks & other installations **not accessible to personnel.**	8.0	10.2	10.7	11.6	12.1	12.5	13.9	
6.0 From bridges – not attached (Note C)	12.5	14.7	15.2	16.1	16.6	17.0	18.4	
7.0 From grain bins probe ports	18.0	20.2	20.7	21.6	22.1	22.5	23.9	
8.0 Clearance in any direction from swimming pool edge and diving platform base **(Clearance A, Figure 4-4)**	25.0	27.2	27.7	28.6	29.1	29.5	30.9	
Clearance in any direction from diving structures **(Clearance B, Figure 4-4)**	17.0	19.2	19.7	20.6	21.1	21.5	22.9	
ALTITUDE CORRECTION TO BE ADDED TO VALUES ABOVE								
Additional feet of clearance per 1000 feet of altitude above 3300 feet		.00	.02	.05	.07	.08	.12	

Notes:

(A) An additional 2.0 feet of clearance is added to NESC clearance to obtain the recommended design clearances. Greater values should be used where the survey method used to develop the ground profile is subject to greater unknowns.
(B) Other supporting structures include lighting supports, traffic signal supports, or a supporting structure of another line.
(C) If the line crosses a roadway, then Table 4-1, line 2.0 clearances are required.
(D) The NESC basic clearance is defined as the reference height plus the electrical component for open supply conductors up to 22 kV_{LG}.
(E) For 230 kV, clearances may be required to be higher if switching surges are greater than 2.0 per unit. See NESC Tables 234-4 and 234-5.