ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT STUDY

on the MAN (Côte d’Ivoire) – SANNEQUILLE (LIBERIA) - NZÉRÉKORE (GUINEA) - BUCHANAN (LIBERIA) - MONROVIA (LIBERIA) - BUMBUNA (SIERRA LEONE) - LINSAN (GUINEA) INTERCONNECTION PROJECT

RESETTLEMENT ACTION PLAN (LIBERIA)

December 2011
Environmental and Social Impact Assessment (ESIA) Study

Environmental and Social Impact Assessment (ESIA) Report: This report contains the results of the Environmental and Social Impact Assessment (ESIA). The ESIA is a formal process to predict the environmental consequences of human development activities and to plan appropriated measures to eliminate or reduce adverse effects and enhances positive effects.

Environmental & Social Management Plan (ESMP) Report: This report contains the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental impacts or to reduce them to acceptable levels, and the actions needed to implement these measures.

Resettlement Action Plan (RAP) Report: This report contains the resettlement action plan which is based on up-to-date and reliable information about the proposed resettlement and its impacts on the displaced persons and other adversely affected groups, and the legal issues involved in resettlement.
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LIST OF ACRONYMS

CBC  Convention on Biological Diversity
CLA  Community Liaison Assistant
CLC  Community Liaison Committee
CLO  Community Liaison Officer
CLOA Community Liaison Officer Assistant
CLO/As Community Liaison Officer/Assistants
GRC  Grievance Redress Committee
CRT  Community Relation Team
ECRU Environment & Community Relations Unit
HQ  Headquarter
KEPCO  Korea Electric Power Corporation
LCF  Local Consultative Forum
LEC  Liberia Electricity Corporation
LED  Local Economic Development
NECOLIB  National Environment Commission of Liberia
NRAB  National Resettlement Adivisory Body
MOA  Ministry of Agriculture
NGO Non-Governmental Organization
PAP  Project Affected Person
PIU  Project Implementation Unit
RF  Resettlement Framework
RAP  Resettlement Action Plan
RPF resettlement Plan Framework
RoW  Right of way
SDT  Sexually Transmitted Disease
SMP  Social Monitoring Plan
SPC  Special Purpose Company
STM  Social Team Manager
UNDP United Nations Development Programme
UNEP United Nations Environment Programme
VIP Ventilated Improved Pit
WB  World Bank
EXECUTIVE SUMMARY

Members of the Economic Community of West African States (ECOWAS) established articles of agreement establishing a new West African Power Pool (WAPP) organization in January 2006. The objective of the WAPP is to establish a regional electricity market in West Africa through development and realization of key priority infrastructures that will permit accessibility to economic energy resources, to all member states of the ECOWAS.

In order to further advance the implementation of the priority projects of the West African Power Pool (WAPP), the WAPP Secretariat and the WAPP Members have commenced preparatory works towards the implementation of the following priority interconnection projects:

- 330 kV Volta (Ghana)-Mome Hagou (Togo)-Sakete (Benin) interconnection Project;
- 330 kV Aboadze (Ghana)-volta (Ghana) Transmission Project;
- 225 kV OMVG Interconnection Project (Guinea, the Gambia and Guinea Bissau, Senegal) including development of hydropower sites at Kaleta (Guinea) and Sambangalou (Senegal);
- Man (Ivory Cost-Yekepa (Liberia-Nzerekore (Guinea)-Buchanan (Liberia)-Monrovia (Liberia)-Bumbuna (Sierra Leone)-Linsan (Guniea) interconnection project (CLSG Interconnection project); and
- Rehabilitation of two 66 kV transmission lines from Mount Coffee substation to Bushrod (in Monrovia) and Mount Coffee substation to Paynesville (in Monrovia)

With the implementation of the West African Power Pool (WAPP) CLSG Interconnection Project (the proposed Project), which is expected to foster power exchanges among the countries in the West African sub-region, a high capacity transmission interconnection line from Côte d’Ivoire to Guinea through Sierra Leone and Liberia will be required. This interconnection line will also be in line with the adopted WAPP Master Plan. The implementation of the Man-Yekepa-Nzérékore -Buchanan-Monrovia-Bumbuna-Linsan interconnection project (the proposed Project) will also further reinforce the interconnection of “Zone A” and “Zone B” of the WAPP through Côte d’Ivoire, thereby increasing opportunities for trade and the establishment of a regional power market.

The proposed Project comprises the construction of (4) four substations and 532km of 225kV transmission lines in Liberia. Four substations will be constructed -- in Sannequille,
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

Buchanan, Mount Coffee in Monrovia and Mano the near Mambo Town in Grand Cape Mount County. The proposed transmission line and associated substations are shown in the map below.

Figure ES- 1 Project area geographic features

The construction of the substations and the high tension electric transmission lines from Yekepa to Mano River will run across the entire length and breadth of Liberia. The line passes through Seven (7) important political subdivisions, or county, in Liberia (Nimba, Bong, Bassa, Margibi, Montserrado, Bomi and Grand Cape Mount).

The proposed 225kV Project will be carried out within a narrow linear corridor of 40 m that will span the 7 counties named above (and some of their communities) for a distance of about 532 km.

The project includes two 66 kV distribution lines from Mount Coffee to Bushrod and Paynesville in Monrovia, with lengths of 24 km and 26 km, respectively.

The proposed Project complies with the environmental requirements of the rules and regulations governing safety, health and the protection of the environment in Liberia.

The intention of the Resettlement Action Plan (RAP) is to clear the entire corridor in a careful and peaceful and compromising manner. Some small farms, gardens, and few private
properties are inside the right-of-way (RoW) and there is a need to address their relocation or removal (e.g. trees and tall crops).

A successful and sensitive redress will reduce delays, disputes and will create positive community relationship in the project areas for a very low overall project cost. Ignoring community needs and non-response to community and household negative impacts might further destabilize a fragile relationship and can lead to security problems.

Additionally, seeking out ways of promoting stability in the line corridor communities and host communities, and contributing to community needs and aspirations will yield project benefits, reduce delays and disruption.

1. IMPACTS THAT GIVE RISE TO RESETTLEMENT

Right of Way (RoW) Selection
The specific route of the line has been selected from a detailed line survey that was carried out from December, 2008 to Jannuary 2011. The route has been designed to be as direct as possible although sufficiently near to existing settlements to make future electrification feasible. The line also follows existing transport infrastructure so as to assist construction and maintenance activities. In order to select the optimal preliminary line route, the existing environmental data and obstacles were evaluated using information from field trips, topographical maps, and data collection activities. The proposed route in Liberia will cover a distance of approximately 532 km running from the border of Guinea and Côte d’Ivoire near Yekepa in Nimba County, through Bong, Bassa, Margibi, Montserrado, Bomi, Grand Cape Mount Counties on to border of Sierra Leone.

The specification of the RoW for the 66 kV distribution lines from Mount Coffee to two points in Monrovia (Bushrod and Paynesville) covers a smaller width (15-20 m) and vertical clearance (5 m).

Compensation & Resettlement
The Consultant with the support of the LEC has undertaken a survey for all areas in the RoW, including the substations, which includes a valuation of any buildings and crops in the RoW that will have to be compensated. All Project Affected Persons (PAPs) have been identified and issues of compensation and involuntary resettlement have been appropriately addressed.
Clearing of right-of-way
The construction and operation of the proposed line will require a right-of-way of 20 m on each side of the centre line of the transmission line. This total of 40 m wide corridor shall be cleared of vegetation and limited to a height of about 1.25 m above ground level.

Clearing and excavations for substations
A total land area of about 200 x 200 m shall be required for the construction and operation of each of the four proposed substations (Yekepa, Buchanan, Monrovia, Mano).

The planned Yekepa substation will be located closer to the mines and the iron-ore concentrator, and between the mines and Sannequille town, which are both load centers. Given the future development of the town of Buchanan, the planned Buchanan substation will be located 9km from the north-west side of Buchanan city in Bassa County. Peterhill Village and Yagweh village are situated near the planned Buchanan substation.

The Monrovia Substation will be built at the Mount Coffee Hydroelectric substation harnessing the resources of Saint Paul River, which was destroyed during the civil war. The planned Monrovia substation will be located around 35km from the north-east side of Monrovia city. There is no village nearby.

The planned Mano substation will be located to the south-east side of the border of Sierra Leone. Mambo Town and St. Stephen Episcopal Mission are situated nearby.

Even though these sites have been given priority in the selection of the possible substation sites in Liberia, studies have been concluded for the identification of other feasible sites for the substations shall be permanently acquired. The substation sites will be located far from residential areas, and thus the impact on the community and people will be minimal.

Erection of towers and stringing of transmission line
After transporting the steelwork and its components from the yards to the site, erection of the transmission towers will proceed. Typically for the LEC, the average span between towers will be about 400 m giving the number of towers for this project of about 1,330 units. Once the towers are erected, the conductors and shield wires will be strung and appropriately ‘tensioned’ to provide the minimum clearance between ground
2. **OBJECTIVES OF THE RESETTLEMENT ACTION PLAN**

- To provide the framework and mechanisms for compensation as an integral part of project design, and deal with resettlement issues from the earliest stages of project preparation;
- To consult with project-affected persons (PAPs) in a meaningful manner, and to provide opportunity for their participation in the planning and execution of resettlement related programs;
- To assist PAPs in restoring their livelihoods, recognizing the special needs of vulnerable populations;
- To compensate PAPs fully and fairly for all assets lost permanently or temporarily, this means timely payment of full replacement value prior to construction;
- To ensure that all PAPs who lose residences or businesses are provided with acceptable compensation to allow them to find alternative accommodations before construction;
- To ensure that PAPs who lose income-generating resources are assisted in their efforts to improve their livelihoods and standards of living or at least restore them, in real terms, to pre-project levels;
- To assist the affected persons in their efforts to improve former production levels, income earning capacity and living standards or at least restore them to pre-project levels.
- To provide farm extension services, health, and education services to the affected villages.
- The three main performance indicators of power supply systems would all be positively enhanced by the construction of the project. In addition the completion of the project will complement the nation’s policy priorities of poverty alleviation, energy efficiency, promotion of economic growth and enhanced rural electrification.

3. **SOCIO-ECONOMIC INFORMATION OF AFFECTED POPULATION**

The proposed construction activities of the Man (Côte d’Ivoire) – Yekepa – (Liberia) – Nzérékore (Guinea) – Buchanan (Liberia) – Monrovia (Liberia) – Bumbuna (Sierra Leone) – Linsan (Guinea) Interconnection Project (Liberia side) are expected to be carried out within seven administrative counties running from the north of the county to the south, and to the west of the country passing through Nimba, Bong, Bassa, Margibi, Montserrado, Bomi and Grand Cape Mount County of Liberia.

**Human Settlement Pattern**
There are small villages and hamlets dotted all throughout Liberia, many of the smaller settlements consist of only a few dwellings and may only be inhabited for a few years at a time. Communities are located in close proximities to each other, the average distance between them is about 10km. Although the line route avoids towns and villages, it passes in some cases quite close to towns and villages, some within very close distances of 0.4km. The route certainly passed through nearby gardens and farms and in some cases, mining land.

**Household Size/Dependants of Affected Persons**

The Resettlement and compensation impacts are expected to affect about 113 households and a total of 710 persons along the line route corridor where parts of farms and other private properties are to be covered including substation areas. Project Affected Persons provided information on their household size and dependents. The household sizes range from one (1) to seventeen (17). Average household size is six.

**Table ES-1 Summary of Project Affected People (225kV line)**

<table>
<thead>
<tr>
<th>County</th>
<th>Householders</th>
<th>Dependents</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Nimba</td>
<td>61</td>
<td>318</td>
<td>379</td>
</tr>
<tr>
<td>Margibi</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Bomi</td>
<td>3</td>
<td>101</td>
<td>104</td>
</tr>
<tr>
<td>Bong</td>
<td>7</td>
<td>55</td>
<td>62</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>22</td>
<td>77</td>
<td>99</td>
</tr>
<tr>
<td>Montserrado</td>
<td>12</td>
<td>18</td>
<td>30</td>
</tr>
<tr>
<td>Grand Cape</td>
<td>7</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>113</strong></td>
<td><strong>597</strong></td>
<td><strong>710</strong></td>
</tr>
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In the Mount Coffee distribution lines’ RoW from the sub-station in Mount Coffee to Bushrod Island (White Plains-Duala Road), which is 26 km long, the areas covered are Greater Monrovia District (Caldwell) and Careysburg (Fofetown). There are 51 existing lattice towers in the Mount Coffee-Paynesville line, some of which will need some rehabilitation. The areas in the Mount Coffee to Paynesville (Pipeline road) line, with a RoW 24 kms long, include the Greater Monrovia peri-urban sections. The table below summarizes the findings by number of households, businesses, cultural sites (e.g. churches) and schools, and small infrastructure (e.g. hand pumps and wells).

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*WAPP/LEC/KEPCO-CEDA Consult* 16
Table ES-2 Summary of affected households (66kV line)

<table>
<thead>
<tr>
<th></th>
<th>Households*</th>
<th>Business Centers</th>
<th>Cultural Sites and Schools</th>
<th>Small Infrastructure</th>
</tr>
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<tbody>
<tr>
<td>Mount Coffee-</td>
<td>225</td>
<td>19</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Bushrod (26 km)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mount Coffee –</td>
<td>78</td>
<td>43</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Paynesville (24 km)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>303</td>
<td>62</td>
<td>25</td>
<td>17</td>
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</tbody>
</table>

- The number of affected households will need to be further verified due to the presence of absentee owners and renters.
- The RAP details of the 66kV line are included in Appendix 8 and 9

Occupation of Affected Persons
The main occupation of 75% of Affected Persons is subsistence agriculture, characterized predominantly by mixed cropping and animal rearing. A small percentage is engaged in a rubber plantation and mining such Firestone rubber plantation and ArcelorMittal concession.

General Land Use
The main land-use category along the Right of Way (RoW) and within the 20 km buffer zone is agriculture except the ArcelorMittal concession at the Yahmin Village of Nimba County. The land is covered by predominantly small farms and in some parts with savannah grasslands. People used the land to farm where their farms fall within the line corridor and where opportunistic free seeding of rubber trees. In the project areas only few privately owned land with genuine deeds exist. Most of the lands are communally owned which require no compensation for developmental purposes.

4. LEGAL, REGULATORY AND POLICY FRAMEWORK
The main Liberia statutes and laws, international standards and guidelines applicable to the project area are as stated in the provisions of the following laws and legislation:
- Conservation of the forest of Liberia Act of 1953
- Supplementary Act for the Conservation of Forests of 1957
- Forestry Development Authority Act of 1976
- National Resources Laws of 1979
- Wildlife and Natural Parks Act of 1988
- New Mineral and Mining Laws of April 2000
- Enactment of the Forestry Law
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

- Public Health Act
- Environmental Protection Agency Act of 2002 and Environment Protection and Management Law
- Land Act 1856
- County Act 1969
- Land Acquisition Act 1929
- Protected Forest Area Network Law, the Sapo National Park Act of 2003
- National Environmental Policy of Liberia of 2002
- National Environmental Policy Act of 2003
- European Investment Bank Social guidelines on involuntary resettlement
- World Bank Operational Policy 4.01, Environmental Assessment
- World Bank Operational Policy 4.11, Physical Cultural Resources
- World Bank Operational Policy 4.12, Involuntary Resettlement"
- World Bank Operational Policy 4.36, Forests
- African Development Bank (AfDB) Involuntary Resettlement Policy, November 2003
- African Development Bank (AfDB) Environmental and Social Assessment Procedures, June 2001
- KfW Sustainability Guidelines
- International Finance Corporation, Environmental, Health and Safety Guidelines for Electric Power Transmission and Distribution

5. INSTITUTIONAL FRAMEWORK

Various institutions have been established in Liberia to have either direct or indirect responsibilities for compulsory acquisition of properties. This is to ensure that property affected persons are provided with prompt, fair and adequate compensation and that they are not worse off following the implementation of any project.

6. ELIGIBILITY

Eligible persons for compensation shall be displaced persons, who, as a direct consequence of the project would either:(a) physically relocate or lose their crops, lands, shelter, (b) lose
their assets or access to assets, or (c) lose access to a sources of income or means of livelihood, whether or not they physically relocate to another place.

7. VALUATION & COMPENSATION
The use of Replacement Cost method of valuation of assets has been applied. The Property Valuation Section (PVS) at the Ministry of Finance makes use of unit prices of materials and goods as a guide to determine the compensation for agricultural crops and residential properties. To ensure that the affected people are paid fair values, at prevailing market rates, these PVS rates are adjusted to meet the actual replacement and market values of the crops or other assets to be lost. Such an approach also meets the World Bank Standards.

Cut-Off Date
The public consultation has been held since November 2009 and the PAP inventory list was verified by the Consultant, LEC, MLME (Ministry of Lands, Mines and Energy), MIA (Ministry of Internal Affairs) in December 2011. So the beginning of census (Cut-off date) is November 2009 by the definition of the World Bank OP 4.12. During the public consultation with the PAPs, the consultant clearly informed and explained the concept of the “cut-off date” to the PAPs in the presence of the village’s population. The consultant also informed that no one shall be registered on the PAPs after the cut-off date. Modification of the PAPs will be made if there are any changes on current RoW.

8. RESETTLEMENT MEASURES
The Consultant with the support of the LEC has completed an inventory of all affected properties and a census of properties that are to be affected. The inventory includes baseline information as well as the detailed market-based valuation as a basis for compensation for each PAP. Because the dimensions and locations of each tower base have not been fixed, it is difficult to identify the specific sites where the towers will be constructed. An Entitlement Matrix was prepared for houses and structures within RoW.

The Consultant has adopted a community based strategy for dealing with the vulnerable households. For each case, the Consultants and the LEC consulted those households who were classified as vulnerable, in coordination with the local clan chiefs. As appropriate, the vulnerable households were identified in coordination with the local chiefs, RoW Selection Committee, traditional authorities, neighbours, and extended family elders in order to craft a resolution.
Grievance Redress Mechanism and Committee

There are three ways in which grievances shall be resolved. These are:

- Grievance Redress Committee
- Arbitration.
- Courts of Law.

During the PAPs investigations, the Consultant held several interviews with local authorities and it was founded that the superintendents took the complaints of mediation during the PAPs investigations. Therefore the Consultant indicated that a committee which is responsible for settling complaints between local communities should be organized and functioned for the smooth implementation of project.

In order to set up the Grievance Redress Committee (GRC) responsible for handling grievance arising from resettlement of the Project, KEPCO team accompanied with the representatives of MIA (Ministry of Internal Affairs), MLME (Ministry of Lands, Mines and Energy) and LEC were organized and carried out meaningful consultation meetings with the superintendents of seven affected counties. During the meetings, details of the Project, environmental and social impacts, compensation process were briefed. KEPCO requested the superintendents to give a written acceptance of the position for the GRC member as required by the Funding Agencies. In response to the request from 1st to 5th of December 2011, all superintendents of seven affected counties gave their consent to KEPCO’s request. The list of the chairs of the GRC established in the seven affected counties is in Table ES-3 below.

<table>
<thead>
<tr>
<th>County</th>
<th>Chair of GRC</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nimba</td>
<td>Christina Dagadu</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Bong</td>
<td>Lucia F. Herbert</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Bomi</td>
<td>Samuel F. Brown</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Margibi</td>
<td>Levi Z. Piah</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Montserrado</td>
<td>Grace Tee-Kpaan</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>Julia Duncan-Cassell</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Grand Cape Mount</td>
<td>Catherine N. Watson-Khasu</td>
<td>Superintendent</td>
</tr>
</tbody>
</table>

Livelihood Restoration Programme

In addition to compensation for losses of land and other productive assets, The World Banks OP 4.12 “Involuntary Resettlement” requires that displaced persons be assisted with their
move and supported for a transition period at the settlement site and assisted in the effort to improve their livelihoods, or at least to restore them.

- Provision of agricultural extension services: Severely affected farmers and will be assisted to improve productivity on remaining agricultural land, by linking them with government driving programmes such as West Africa Agricultural Productivity Program funded by World Bank. The Consultant recommends that links will be facilitated by the SPC and Ministry of Agriculture to the local agricultural and rural development when a detailed PAPs investigation has been carried out.

- West Africa Agricultural Productivity Program (WAAPP-1C): Approved 24-Mar-2011, $83.8million of total project cost, To generate and accelerate the adoption of improved technologies in the participating countries' top agricultural commodity priority areas that are aligned with the sub-region's top agricultural commodity priorities.

- Skills training: Displaced PAPs will be provided the skills training programme such as soap or baskets production in the job training centres and social organisations in and out of county, which would help them to maintain and/or improve their income generation potential. The skills training programme will be designed during project implementation.

- Project related job opportunities: PAPs will be prioritized in gaining employment in the works linked to the project including the short pre-recruitment training. Information about the employment opportunities will be comprehensively available at to local community by the environmental coordinator of the SPC.

9. SITE SELECTION, SITE PREPARATION AND LOCATION

The line route avoids towns and villages and the substations will be in remote locations. Only parts of some of the structures which fall within the RoW will be affected and would require demolition and re-construction. There will therefore be no need for new site selection and preparation for the project with respect to resettlement purposes. Further, there will be no integration with host communities with respect to this project.

10. HOUSING, INFRASTRUCTURE AND SOCIAL SERVICES

Buildings

Housing structures inside the RoW of the substation or inside a demarcated tower will be relocated. A typical family house has 2 - 4 rooms with a total surface of 50 - 60 m². Depending on the household's income, the floor may be plastered or plain mud. Generally, houses do not have running water, toilets, or electricity. The construction technique of a
typical mud house includes building the frame of the building with strong wooden poles, putting the roof in place, erecting the walls with smaller vertical and horizontal wooden poles arranged into a grid, and filling this grid with a wet mixture of mud and straw. The walls may eventually be plastered with a different mixture. Most of the materials are locally available at no monetary cost, except for the corrugated iron sheets. Smaller structures within the family yards or nearby include stores, bathrooms and pit latrines. The above described types of houses dominate in the project areas; therefore, an average cost of US$800.00 is proposed and recommended per unit.

Public and Community Services
There are various churches and mosques within the communities. These faith based organizations are however located outside the land acquisition boundary. Some land used for recreation falls within the area of influence of the proposed Project. There is no public transportation available in rural areas.

Water and Power
Use of the boreholes or hand dug wells is extensive and the principal source of water in the area. Most of the towns and villages are not connected to the national grid with the exception of county head quarter towns.

11. ENVIRONMENTAL PROTECTION AND MANAGEMENT
A detailed Environmental and Social Impact Assessment (ESIA) has been prepared for the project and this report provides information on the potential environmental impacts and resettlement issues. The project is expected to have diverse socio-economic impacts as it traverses many farm lands and very few settlements. It needs to be stressed that, being a project that cuts right across the north through the west up to the north again through the Firestone rubber plantation (with careful selection of the route) entire communities will not be affected thus occasioning group resettlement. To ensure that, the impacts on individuals are minimized, the Consultants and LEC considered several measures to address the extent of the effect of the project on the communities.

As part of the contractual arrangements, contractors are required to submit Construction Environmental Management Plans (EMPs). The Contractor’s EMP includes, to the extent practicable, all steps to be taken by the Contractor to protect the environment in accordance with the current provisions of national environmental regulations, forestry regulations and/or
the ESIA/EMP, international guidelines as well as the Funding Agencies’ policy for the proposed Project.

12. COMMUNITY PARTICIPATION & SCOPE OF CONSULTATION
To ensure an adequate flow of information on projects with Involuntary Resettlement as one of its unavoidable impacts, public consultations have been made an integral part of the RAP. Stakeholders consulted included Chiefs and elders of the seven affected counties, County Councils and key public agencies such as Ministry of Agriculture(MOA), Ministry of Lands, Mines and Energy(MLM&E), The Forestry Development Authority(FDA), and the Environmental Protection Agency(EPA).

13. ORGANISATIONAL RESPONSIBILITIES
The general organization of the resettlement action plan will be based on inputs from the following institutions:
- The Special Purpose Company (SPC) , as an implementing agency, will be entirely responsible for the RAP and will implement the activities, including the livelihood restoration programs;
- The Property Valuation Section (PVS) of the Ministry of Finance at county level will participate in the final valuation of the properties on behalf of the Government of Liberia;
- The seven County Councils will be responsible for the formation of the RoW Selection Committee for the acquisition of the RoW, and this will constitute the RAP Resettlement Committee;
- External valuers will assess the process on technical, socio-economical and financial aspects, on request of any PAP, or on SPC’s request.

14. IMPLEMENTATION SCHEDULE
Implementation of the RAP shall commence following the financial close for the project with funding agencies. It is programmed that compensation payments would be completed prior to commencement of physical construction. The implementation of the construction phase is planned over a period of three years, at which time the exact locations of the towers would have been determined. The programme makes allowance for building owners to have sufficient time to construct their houses before they are demolished. Monitoring and assistance will continue and this would allow the SPC to monitor the impacts during construction and address them.
The Resettlement and compensation impacts are expected to affect about 113 households and a total of 710 persons along the line route corridor where parts of farms and other private properties are to be covered including substation areas. For the distribution lines from Mount Coffee, a larger number of 303 households will be affected, mostly in the densely populated peri-urban and urban sections of Monrovia.

The estimated budget for the Resettlement Action Plan is US$1,298,867
1. DESCRIPTION OF THE PROJECT

1.1. The Liberia Electricity Corporation (LEC)

With much of the infrastructure destroyed during the turmoil, Liberia currently does not have a transmission system, just a distribution system. The Liberia Electricity Corporation (LEC) now operates a 9 MW plant under the Emergency Power Program in the capital city of Monrovia. The first phase was the installation of a 2 MW plan to provide street lighting and to supply major health facilities. The second phase now currently underway is the installation of a 7 MW engine and the expansion of the current distribution system to include commercial establishments and some residential areas. A project to commence the reconstruction of the transmission network in and around Monrovia is in progress. Approximately, 28 km of 66 kV lines will be built and 17 km of 22 kV distribution lines will also be built. Four (4) substations (66 kV/22 kV) with total transformer capacity of 50 MVA (5 x 10 MVA) will be built. Plans are underway to expand power generation to 50 MVA with the installation of Heavy Fuel Oil (HFO) diesel generators. With a population of over 3 million and only 1.4 living in and around the capital of Monrovia, the potential demand growth is very high.

Further plans are underway to rehabilitate the Mt. Coffee Hydro Electric Plant on the St. Paul River. The first phase of the rehabilitation of Mt. Coffee Hydro Plant foresees power output of 100 MW. Liberia has substantial hydro power potential. Major river systems that include the: St. Paul River, St. John River, Cavalla River, Lofa River, and Mano River have substantial capacity that can be developed. The St. Paul River has known capacity of over 1,000 MW.

Substantial investment is being made in the Mining Sector of Liberia. Mital Steel, a world leader in the steel industry is investing about a billion US dollars in mining iron ore in Liberia. The previously mine had a total power demand of 60 MW. Other iron ore mines that will be commissioned within the next five (5) years are: Bong mines, the Western Cluster that includes, Bomi Hills, Mano River, Bear Mountain mines. The power demand for these mines will form the base load demand for sales.

The Agriculture Sector with high demand for electric power is natural rubber processing. The Firestone Plantation Company (FPCO), the Liberia Agriculture Company (LAC), Guthrie Rubber Plantation have all resumed operations in Liberia culminating in a demand by this sector in excess of 10 MW.

1.2. Project Description
Members of the Economic Community of West African States (ECOWAS) established articles of agreement establishing a new West African Power Pool (WAPP) organization in January 2006. The objective of the WAPP is to establish a regional electricity market in West Africa through the judicious development and realization of key priority infrastructure that would permit accessibility to economic energy resources, to all member states of the ECOWAS.

In order to further advance the implementation of the priority projects of the West African Power Pool (WAPP), the WAPP Secretariat and the WAPP Members have commenced preparatory works towards the implementation of the following priority interconnection projects:

- 330 kV Volta (Ghana)-Mome Hagou (Togo)-Sakete (Benin) interconnection Project;
- 330 kV Aboadze (Ghana)-Volta (Ghana) Transmission Project;
- 225 KVOMVG Interconnection Project (Guinea, the Gambia and Guinea Bissau, Senegal) including development of hydropower sites at Kaleta (Guinea) and Sambangalou (Senegal);
- Man (Ivory Cost-Yekepa (Liberia-Nzerekore (Guinea)-Buchanan (Liberia)-Monrovia (Liberia)-Bumbuna (Sierra Leone)-Linsan (Guinea) interconnection project.

Multiple benefits will be derived from this proposed project and they include both upstream and downstream benefits. With regards to upstream benefits, the proposed project will involve the construction of electric infrastructure that will facilitate the country’s participation in energy trade within the sub-region, provide opportunities for rural electrification. Employment during construction stage will be created and the country will benefit from technology transfer. The downstream benefits will include capacity building of related staff in operations and maintenance, and the management of power sales. Adequate and reliable electric power supply will improve security, good governance, development of industries at national and local levels, and social opportunities. Another important downstream benefit will be the reduction in the depletion of forests which leads to soil erosion, higher temperatures and the emission of CO2, a major contributor to global warming and climate change.

Liberia currently does not have a transmission system, just a distribution system. The Liberia Electricity Corporation (LEC) now operates a 9.64 MW plant under the Emergency Power Program in the city of Monrovia. The first phase was the installation of a 2MW plant to provide street lighting and to supply major health facilities. The second phase now currently
underway is the installation of 7 MW engine and the expansion of current distribution system to include commercial establishments and some residential areas.

The need for electric power in Liberia cannot be over emphasized. Substantial investment is being made in the Mining and agricultural sectors that require electric power. For example, the previous mine has a total power demand of 60 MW. The aggregate power demand for these investments will form the base load for scale.

The West African Power Pool (WAPP) therefore brings glory in this direction of the Liberian economy by providing power which is needed at the time major users of electric power are presently investing in the Liberian economy.

The project comprises the construction of (4) four substations and 532km of 225kV transmission lines in Liberia. One substation in Yekepa, one in Buchanan one to be located at Mount Coffee in Monrovia and the other one to be located near Mambo Town in Grand Cape Mount County. The construction of the substations and the running of the high tension electric transmission lines from Yekepa to Mano River is indeed cutting across the entire length and breadth of Liberia. The line passes through seven (7) important political subdivisions in Liberia (Nimba, Bassa, Bong, Margibi, Montserrado, Bomi and Grand Cape Mount Counties).

The project will be carried out within a narrow corridor of 40 m that will span the counties named above (and some of their communities) for a distance of about 532 Km. The project may therefore be termed a ‘linear’ one.

The proposed project will, among others, consist of the erection of steel transmission towers along the route. The height of the towers will be such as to provide a minimum of 8.0 meters clearance between the lines and open ground and 8.0 meters clearance for roads and houses. Typically, as with the existing system, the towers will be about 35 ~ 40 meters high.
The line corridor that affects more inhabitants in the project area runs from Yekepa through Bong, Bassa, Margibi, Bomi and Grand Cape Mount Counties. Densely populated sections can also be found along the two distribution lines from Mount Coffee to two points in the Greater Monrovia area in Bushrod and Paynesville.

The line has been designed to be as direct as possible although sufficiently near to existing settlements to make future electrification feasible. The line also follows existing transport infrastructure so as to assist construction and maintenance activities. In order to select the optimal preliminary line route, the existing environmental data and obstacles were evaluated using information from field trips, topographical maps, and data collection activities. The proposed route in Liberia will cover a distance of approximately 532 km running from the border of Guinea and Côte d’Ivoire near Yekepa in Nimba County, through Bassa, Bong, Margibi, Montserrado, Bomi, Grand Cape Mount Counties on to border of Sierra Leon.

A total land area of about 200 x 200 m shall be required for the construction and operation of each of the four proposed substations (Yekepa, Buchanan, Monrovia, Mano).

The planned Yekepa substation will be located to the north-west side of ArcelorMittal concession at the Yahmin Village of Nimba County avoiding future expansion plan of the town. Around the planned Yekepa substation, Bona Suah village is situated.
Given the future development of the town of Buchanan, the planned Buchanan substation will be located 9km from the north-western side of Buchanan city at Bassa County. Around the planned Buchanan substation, Peterhill village and Yagweh village are situated. The Monrovia Substation will be built at the Mount Coffee Hydroelectric substation harnessing the resources of Saint Paul River, the restoration of which is planned after its destruction in the civil war.

The planned Monrovia substation will be located around 35km from the north-east side of Monrovia city. No village is around the planned Monrovia substation. The planned Mano substation will be located to the south-east side of a border of Sierra Leon. Around the planned Mano substation, Mambo Town and St. Stephen Episcopal Mission are situated.

The WAPP Project has to meet the environmental requirements of the rules and regulations governing the protection of the environment in Liberia.

The intention is to provide access and some clearance of the entire corridor in a careful and peaceful and compromising manner. Some small encroachment of farms, squatters gardens, and few private properties are involved and there is a need to address these encroachments.

Seeking out ways of promoting stability in the line corridor communities and contributing to community needs and aspirations will yield project benefits, reduce delays and disruption.

1.3. **Scope of Resettlement Action Plan**

The RAP has been prepared in line with the form and format of the World Bank’s Operational Policy 4.12 on Involuntary Resettlement and Involuntary Resettlement Policy of African Development Bank and provides information on the following essential elements:

- Description of the Project
- Project Area of Influence
- Project Impacts that gives rise to resettlement
- Objectives of the RAP
- Socio-economic information of the population to be affected
- Legal framework including mechanism for resolution of conflicts and appeals procedures
- Institutional framework
Eligibility
Valuation & Compensation Loss
Resettlement Measures, involving resettlement and compensation packages and special assistance to vulnerable
Site Selection, site preparation and location
Housing, infrastructure and social services
Environmental protection and management
Community participation and integration with host population, including methods and scope of consultation with PAPs on the resettlement issues
Integration with host populations
Grievance procedures
Organisational responsibilities
Implementation schedule
Costs & Budget
Monitoring & Evaluation

1.4. Project Area of Influence
The proposed construction activities of the Man (Côte d’Ivoire) – Yekepa – (Liberia) – Nzérékore (Guinea) – Buchanan (Liberia) – Monrovia (Liberia) – Bumbuna (Sierra Leone) – Linsan (Guinea) Interconnection Project (Sierra Leone side) is expected to be carried out within seven administrative subdivisions running from the north of the country to the south, and to the west of the country passing through Nimba, Bong, Bassa, Margibi, Montserrado, Bomi and Grand Cape Mount County of Liberia. The transmission lines shall be constructed within a narrow corridor of 40 m that will span these seven counties for a distance of about 532 km. The project footprint will be 21,440,000m² to include the area required for the towers (1,330 units), and the four substations (200m x 200 m x 4). Areas to be occupied by each tower base (5m X 5m per tower) and 4 substation sites will be permanatly acquired while the rest of RoW and access track will be taken temporarily only during the construction or operation stage. This gives a total area of 193,250 m² for permanent land take.

In the alignment of the proposed transmission line, the RAP has ensured that environmentally sensitive areas have been avoided. Deliberate efforts were made to avoid as many villages as possible. It was unavoidable in the case of the Firestone Rubber Plantation in order to minimize distance/length of the line route. Further, the issues taken into consideration for the choice of the site for the substations included the availability of land and proximity to major road networks, general flatness of the terrain and its location.
approximately three to four (3 - 4) kilometers from the main urban towns in the counties, among other salient factors. The corresponding counties are set out in Figure 2 shows the relative locations of these counties and the line route.

**Figure 2** Counties affected by the proposed transmission line
2. IMPACTS THAT GIVE RISE TO RESETTLEMENT

The principal components and activities of the project that has an impact on the resettlement zone of the project are:

2.1. Consultations

Consultations play a major role in identifying the potential impacts of the proposed transmission line project. Consultations with Paramount Chiefs, County Councils and regulatory agencies have assisted in defining the regulatory and institutional framework within which the project would be carried out. Community consultations will assist in the identification of socio-economic and cultural impacts.

A program of public consultation has been developed separately to avoid any risk of apprehension associated with this project like problem of destroying certain plantations such as Firestone rubber plantation, crops. With this method in the project, the inventory will correspond to the socio-economic influence zone/site which will result from the establishment of the electric lines. Information will be obtained from the regulatory agencies, chiefs, town/village heads and members, County Forestry Officers as well as private institutions. The proposed steps below are used when consulting the people in order to ensure smooth implementation of the project:

- Consultation with the relevant government agencies;
- Consultation with the Chiefs and elders of the identified 7 counties;
- Consultations with the Firestone rubber plantation administrative officer and engineers;
- Introducing/disclosing the project and making available relevant information;
- Maintaining and collecting information by enquiry.

Information obtained will make it possible to make the inventory of the existing infrastructures and to collect information about the land management, the socio-economic activities, the infrastructures and expectation of the people, which shall include:

- Habitat and demography (ethnic groups, religion, migrations);
- Organization socio-economic policy, traditional and administrative layer;
- Regional infrastructures;
- Medical health (life expectancy, mortality, infrastructures, causes major of disease, important regional project,
- Education (education level, education type, census of the schools);
Consultations with traditional authorities, town/village chiefs, opinion leaders, County Councils and regulatory agencies were done during the ESIA phase of the proposed Project. Also during the line route survey and selection, some town/village members were also consulted on an informal basis to guide in route and cultural property identification. The outcome of the consultations as well as evidence of consultations was included in the ESIA Report.

The Seven Counties identified to be affected and all other relevant organizations are to be consulted to help ensure all concerns raised by project affected persons are properly addressed.

2.2. Right of Way Selection

The purpose of the line route study of the proposed Project was to examine and determine the optimum line route for the proposed Project and prepare the maps and drawings for the selected line route. A fundamental principle for line routing was the avoidance of relocation or displacement along the RoW.

2.2.1. Methodology

Selection of the previous line route

Details of general methodology for line route selection are included in Section 1.6.1 of the ESIA Report (December 2011)

Comments and recommendations regarding the previous line route

The potential Funding Agencies dispatched their specialists to Monrovia, Liberia (30th August ~ 3rd September, 2010) in order to review and examine the previously selected line route, and to do site visits of the affected communities identified along the selected line route in Liberia section.

In addition to the Funding Agencies recommendations, the Consultant identified another routing that was more environmentally sensitive, for example, avoiding the area in Liberia so-called Lake Piso which will be designated as a multiple protected area in near future during the meeting with Forestry Development Agency (FDA) of Liberia.
Comments and recommendations from relevant authorities regarding the identified sensitive areas in Liberia were summarized as below.

- **Recommendations from the concerned Funding Agencies**
  In general the proposed transmission Line Route is acceptable. There are however a few global biodiversity hotspots for which a more in-depth Analysis of Alternatives will be required. There are areas where the line route will have to avoid or moved further away: Nimba Nature Reserve and proposed RAMSAR site south of Sannequille (Gbedin Wetlands) in Liberia.

- **Comment from the Forestry Development Agency (FDA) of Liberia**
  FDA will designate the Lake Piso as a multiple protected area in the near future. Therefore the necessity of relocation of the selected line route within the boundary of the Lake Piso multiple protected areas should be discussed with FDA.

### Line route selection in the Hotspot areas

Details of the line route selection methodology in the Hotspot areas general methodology for line route selection is included in Section 1.6.2 of the ESIA Report (December 2011).

### Amendment of the previous line route

With the support from Funding Agencies, Power Utility, NGOs and other stakeholders, the Consultant, has suggested the modification of original line route which would enable the circumvention of the Hotspots. In consequence, this relocation of transmission line route and substation would result in changes in line length and number of the Project Affected Persons as below.

#### Table 1 Amendment of the Previous Line Route

<table>
<thead>
<tr>
<th>Description</th>
<th>Previous Line</th>
<th>Amended Line</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line Length (km)</td>
<td>535</td>
<td>532</td>
<td>▼ 3</td>
</tr>
<tr>
<td>Number of the Affected County</td>
<td>7</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Number of the Affected People</td>
<td>996</td>
<td>710</td>
<td>▼ 286</td>
</tr>
</tbody>
</table>

#### 2.2.2. General

Once the route of the transmission line has been established, the land lying within the RoW will be subject to provisions of the existing LEC’s regulations for transmission line projects.
and RoW, which prohibit a number of activities in the RoW, including mining, construction of buildings and cultivation or farming. Local government authorities (Town/Village Chiefs and County Councils) will be consulted to assist in identifying PAPs through community consultations. Conventionally, farmers will be allowed to harvest any crops within areas to be acquired prior to the securing of the RoW. The total area of the lands to be taken for the proposed project is presently unknown because the location and dimensions of tower has not fixed yet. Before the implementation, the SPC in collaboration with relevant governmental agencies will undertake necessary procedures to compensate for losses.

The route has been designed to be as direct as possible although sufficiently near to existing settlements to make future electrification feasible. The line also follows existing transport infrastructure so aiding construction and maintenance activities. In order to select the optimal preliminary line route, the existing environmental data and obstacles were evaluated using information from field trips, topographical maps, and data collection activities. The topography of the line route in Liberia is relatively flat and undulating terrain. The proposed route in Liberia will cover a distance of approximately 532 Km.

2.3. Compensation & Resettlement

The valuation of properties that will be affected has been implemented by the Consultnat for the ESIA study. And, the SPC (Special Purpose Company) and Property Valuation Sections in the Ministry of Finance will undertake necessary compensation procedures. Also, Property Valuation Section, County Forestry Officers and Firestone Rubber Plantation engineer will provide assistance during the compensation. This process has culminated in the preparation of this Resettlement Action Plan, which provides for the census and identification of project-affected persons (PAPs), the valuation of the cost of affected properties and the replacement of lost private lands and property in such situations.

All PAPs have been identified and issues of compensation and involuntary resettlement appropriately addressed. Based on the issuance of an Environmental License from the EPA, the SPC shall go ahead and acquire the right-of-way to allow for entry as required under the LEC Transmission Line Regulations and in compliance with all laws, regulations, operational directives and guidelines. Subsequently a “Notice of Entry” to site construction informing the general public will be published in the national newspapers.
2.4. **Construction of Site Offices**

Site offices will be erected along the corridor to serve as storage points for machinery and other materials that will be used for the construction. These will, however, be demolished upon completion of the construction activities. The locations of the site offices cannot be specified now but their construction will not involve extensive vegetation clearance.

Site offices will be constructed at least 1 km from natural water courses and swamplands as well as from settlements and on relatively level ground. The location of the site offices will not impact negatively on cultural properties, and on forest reserves. It will also be so located as to avoid the destruction of crops and buildings.

2.5. **Storage and transportation of equipment and materials**

Almost all the materials to be used in the construction of the transmission line will be imported. Such components include tower steel and its components in broken down form, conductors, insulators, transformers, switchgear, etc. Materials that will be procured locally will include aggregates, cement, sand, stone and other miscellaneous supplies and services.

The materials shall be stored at the Contractor’s storage site. It must be noted that the materials for the towers will not be bulky and unwieldy. They will therefore not require any specialized vehicles. During construction, the materials will be trucked to the site via public roads and access tracks. Vehicle movements will be minimal since the work camps will be sited close to the proposed sites. The locations of the work camps cannot be specified now but their construction will not involve extensive vegetation clearance. In addition, the work camp will be constructed. The selection of the location of the work camp will be such that it does not impact negatively on cultural properties, and on forest reserves. It will also be so located as to avoid the destruction of crops and buildings.

2.6. **Check Survey of Line Route**

Check survey inspections were undertaken to determine the environmental and social impacts of the state of developments within the RoW corridor to allow for smooth implementation of the project by the SPC contractor under a guidance of the SPC and EPA.

The methodologies used are as follows:

- Traversing the line route
- Visiting almost all the areas that have been noted to have some obstructions.
- Holding discussions with property owners who happened to be on site at the time of the visits.
2.7. Clearing of right-of-way (RoW)
The construction and operation of the proposed line will require a right-of-way of approximately 20 m on each side of the centre line of the transmission line. The right-of-way will therefore be of width of 40 m. This total of 40 m wide corridor, which will run the total length of the transmission line from Nimba, Bong, Bassa, Margibi, Montserrado, Bomi to Grand Cape Mount County, shall be cleared of vegetation to a height of about 1.25 m above ground level.

Trees considered being potentially capable of threatening the proposed transmission line beyond the 20 m width on each side of the centre line of the transmission line will be cut down or pruned as appropriate. These will be trees, which could damage the transmission line if they fall on it or those whose branches may grow so big as to foul the lines. All vegetation clearance will be done by physical means.

The LEC’s (Transmission Line Protection) regulation prohibits activities such as mining, construction of buildings, crops cultivation and farming in the RoW. However LEC will allow minimal farming and vegetable gardening along the RoW except for the areas occupied by tower foundations and 3.0 m RoW maintenance track as this will help reduce maintenance cost of the RoW.

2.8. Tower Spotting
Tower spotting is the determination of the individual sites for the installation of the towers and this takes place over the whole length of the transmission line to identify the optimum foundation design for each tower. Activities that go along with tower spotting will include final survey and soil investigation.

The selection of the foundation design type will follow the collection and analysis of the data of each tower location after soil investigations. At this stage minor adjustments may be made to the final tower location, due to the vertical profile of the transmission line corridor, and to avoid buildings that may have been constructed subsequent to the collection of baseline
data on structures in the proposed RoW. Such adjustments will be limited to a few metres in either direction.

Tower spotting activities necessitate intrusive access and some clearing of vegetation, leading to possible destruction of crops.

2.9. Construction of access and tower corridor tracks
A 3 m wide maintenance road will also be required along the length of the proposed power line route, which will be located within the perimeter or edge of the RoW. The maintenance road will not require any additional permanent land take. Wherever practicable this road will be continuous along the length of the line, with the exception of areas of difficult terrain such as swamps. In these areas access will be obtained from either end of the area and there will be a break in the continuity of the road.

Agricultural access tracks shall be used to gain access to the proposed line. Where there are no such tracks, access tracks will be constructed from the closest public roads to the RoW at intervals along the proposed line route. New access tracks, which will be constructed during the constructional phase, in addition to the tracks constructed during the line route survey will be retained and maintained for the operational phase. This measure will prevent the clearing of additional vegetation to make way for new access tracks for the operational phase. The tracks will be used for this phase of the project cycle for the transportation of men and material to the line route for the installation of towers and the stringing of the lines.

The tracks will be so constructed as to have a width of about 3 m and will be cleared of tree stumps, shrubs and other vegetation likely to obstruct the transport of construction machinery, equipment and operational and maintenance staff to the tower corridor. Cut trees will be neatly stacked to one side of the proposed tracks for the use of, or sale by, the towns/villages close to the site of clearance.

2.10. Clearing and excavation of tower base and foundation
Areas to be cleared will be the proposed tower base areas. These will be selected spots within the RoW for mounting the towers. This total area to be cleared will not be in addition to the total area to be cleared for the RoW but will be within the RoW.
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

The area to be cleared for a single tower will be made up of the dimensions of the tower base (5 m x 5 m) with an additional buffer of 2 m on two sides of the base. Tower foundations will vary according to the prevailing geology.

The ground surfaces of the tower sites will be so graded as to gently provide drainage away from the tower legs and to avoid the collection of water (leading to the creation of stagnant pools) at the tower bases. Where necessary, (particularly on hillsides), terracing, cribbing or riprap may be used to provide protection for tower foundations.

2.11. Clearing of tower track
A track of about 3 m width will be cleared and maintained under sections of the proposed line as far as is practicable. This track will be cleared of all obstructing tree stumps and roots in order to allow the unimpeded movement of light maintenance vehicles for patrolling the line and for the transportation of tools and maintenance crew during the constructional and operational phases of the transmission line.

2.12. Clearing and excavations for substations
A total land area of about 200 m x 200 m shall be required for the construction and operation of the proposed substations at Sannequille, Buchanan, Monrovia, and Mano. Areas of land required for the construction of substations facilities shall be cleared of all vegetation in order to afford access to construction sites. Construction at the substations sites shall involve the casting of all the necessary concrete foundation required to support the new equipment. Once these have achieved a suitable strength the electrical equipment will be delivered and mounted. This involves use of heavy lifting equipment to position the plant followed by wiring and connection.

Four sites have been given priority in the selection of the possible substations sites in Liberia. The sites for the substations shall be permanently acquired.

2.13. Erection of towers and stringing of transmission lines
After transporting the steelwork and its components from the yards to the site, erection of the transmission towers will proceed. Typically for the SPC, the average span between towers will be about 400 m giving a maximum number of towers for this project of about 1,330 units. The towers will have concrete footings with foundation depths of 2–3 m or more depending on the nature of soils at the selected tower spots. Once the towers are erected, the
conductors and shield wires will be strung and appropriately ‘tensioned’ to provide the minimum clearance between ground level and the wires.

The proposed line is expected to cross overhead power and transmission lines, highways, roads, forests, rivers and streams. In crossing such lines, guard structures will be used when installing the conductors to ensure that the line does not cause hazards and nuisances to the public and construction staff alike. Due notification will be communicated to the appropriate authorities in cases where these lines will have to cross roads and utility lines.

Once the towers have been erected and the lines strung, tests and measurements shall be carried out to ensure that the line performs as expected. This involves attaching pulleys to each isolator, threading a rope through these and then pulling the conductor through, under tension, so as to ensure that no contact is made with the ground. Any damage to the conductor during this process (particularly any contact with the ground) will impair the line function. Minimum distances such as clearances between the lines and the ground level shall be checked and the lines shall be ‘tensioned’ as per specification.

After the construction of the line, the soil conditions along the right-of-way will be assessed for such problems as compaction and erosion and mitigative action taken as appropriate. Areas of bare soil are expected to be re-colonized by native cover plants to stabilize the soil, reduce erosion and prevent invasion by undesirable plant species.
3. OBJECTIVES OF RESETTLEMENT ACTION PLAN

Resettlement measures are to be conceived and executed as development activities providing sufficient resources to give the persons displaced the opportunity to share in the project benefits. Until recently, development induced displacement of population was a ‘sacrifice’ some people had to make for the larger good. Resettlement programs in general were limited to statutory monetary compensation for land acquired for the project. However, perceptions are changing because of delays in project implementations and benefits foregone.

Furthermore, impoverished people are a drain on the national economy, thus, avoiding or minimising displacement as well as proper rehabilitation of those displaced make good economic sense as well as being fair to those adversely affected. Good resettlement, it has been observed, can prevent impoverishment of affected persons and can even reduce poverty by building sustainable livelihoods.

The following are some of the factors identified, during the review of World Bank assisted projects over the years, to have contributed to the successful implementation of resettlement programmes:

- Commitment of borrowers in the form of laws, policies, and resource allocation
- Close adherence to established guidelines and procedures in implementation
- Sound social analysis, reliable, demographic assessments, and appropriate technical expertise in planning for development-oriented resettlement
- Reliable cost estimates and provisions of required financing, with resettlement activities phased in tune with civil works construction
- Effective executing agencies that are responsive to local development needs, opportunities and constraints
- People’s participation in setting resettlement objectives, identifying reestablishment solutions and implementing them.

The development of the project which is land based is expected to have socio-economic and environmental impacts on the immediate villages and counties as a whole. As a good corporate entity striving to encourage development and reduce poverty, the SPC subscribes as a matter of policy and practice to the following compensation objectives:

- To consider involuntary compensation as an integral part of project design, and deal with resettlement issues from the earliest stages of project preparation;
To consult with project-affected persons (PAPs) in a meaningful manner, and to provide opportunity for their participation in the planning and execution of resettlement programs;

To assist PAPs in proportion to impact, recognizing the special needs of vulnerable populations;

To compensate PAPs fully and fairly for all assets lost permanently or temporarily, this means timely payment of full replacement value prior to construction;

To ensure that all PAPs who lose residences or businesses are provided acceptable alternative accommodations before construction;

To ensure that PAPs who lose income-generating resources are assisted in their efforts to improve their livelihoods and standards of living or at least restore them, in real terms, to pre-project levels;

Assistance would be given to the affected persons in their efforts to improve former production levels, income earning capacity and living standards or at least restore them to the levels they would have been without the project. The three main performance indicators of power supply systems would all be positively enhanced by the construction of the project. In addition the completion of the project will complement the nation’s policy priorities of poverty alleviation, energy efficiency and promotion of economic growth and enhanced rural electrification.

Farm extension services and health education would be provided to the PAP’s and the affected villages.

These policy objectives apply to all direct economic and social impacts that result from the project and that are caused by the involuntary taking of land that results in relocation or loss of shelter, loss of assets or access to assets, or the loss of income sources or means of livelihood, whether or not the affected persons must move to another location. Further, these policy objectives apply to all components of the project that result in involuntary resettlement, regardless of the source of financing.

All project-affected persons (PAPs) were identified and issues of compensation and involuntary resettlement appropriately addressed. This shall include the identification of PAPs, the valuation of the cost of affected properties and the replacement of lost private lands and property in such situations. Grievance procedures have been instituted for person(s) dissatisfied with their compensation packages to seek redress.
4. SOCIO-ECONOMIC INFORMATION OF AFFECTED POPULATION

The proposed construction activities of the Man (Côte d’Ivoire) – Yekepa – (Liberia) – Nzérékore (Guinea) – Buchanan (Liberia) – Monrovia (Liberia) – Bumbuna (Sierra Leone) – Linsan (Guinea) Interconnection Project (Sierra Leone side) is expected to be carried out within seven administrative counties running from the north of the county to the south, and to the west of the country passing through Nimba, Bong, Bassa, Margibi, Montserrado, Bomi and Grand Cape Mount County of Liberia.

Most of the local communities along the proposed RoW are small-scale farmers, making agriculture and livestock keeping their main economic activities. Other affected population especially those in urban areas, are engaged in activities such as employment, business and fishing. Most farmers practice subsistence farming with very low annual output. There is very little use of agricultural fertilizers and mechanized agricultural. Seasonal crops including sunflower and cotton are grown for cash while food crops include maize, groundnuts and millet.

The transmission lines shall be constructed within a narrow corridor of 40 m that will span these seven counties for a distance of about 532 Km. A total of the seven counties would be directly or indirectly impacted upon by the project. A detailed socio-economic inventory of project affected persons and communities have been completed as part of the ESIA and RAP studies and part of them have been made.

Appendix 1 provides a sample of the questionnaire used for the data collection.

The socio-economic information of the affected communities and population are as outlined in chapter 4.1 through 4.2:

4.1. Summary of the impacts

The total number of affected households located on RoW by loss of trees, crops, and houses is 113. Table 2 described the detailed information. The trees, crops and houses loss are minor since the line corridor avoids passing through settlements and properties in all the counties involved.

Table 2 Summary list of Affected Households and Dependents

<table>
<thead>
<tr>
<th>County</th>
<th>Householders</th>
<th>Dependents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nimba</td>
<td>61</td>
<td>318</td>
<td>379</td>
</tr>
</tbody>
</table>

WAPP/LEC/KEPCO-CEDA Consult 43
4.2. General information of the Socio-economic assessment

4.2.1. Topography
The topographical condition of the planned transmission line from the border of Côte d’Ivoire and Guinea to Sierra Leon and the four substations (Yekepa, Buchanan, Monrovia, Mano) is relatively flat except for the Yekepa area. The line will pass through lateritic soil of Nimba and Bassa, the sandy soil of the coastal areas including some alluvial soils of major rivers and swamp soil.

4.2.2. Geology
According to Bibliography of Liberian Earth Science Liberia is surrounded by rocks of probable Archean age. Rocks of Pan African age extend northwesterly along most of the Liberian coastline from the Cestos shear zone. Along the Atlantic Ocean, the coastline is characterized by lagoons, mangrove swamps, and river-deposited sandbars. Inland, the grassy plateau supports limited agriculture.

4.2.3. Soil
The soils in Liberia have been grouped into six soil associated by the Topographic Engineering Center US Army Corps of Engineers.
Shallow and coarse lithosols, in the hilly and rugged terrain, cover about 16 to 17 percent of the land in Liberia. Lithosols are a thin soil consisting of rock fragments, and is a soil with poorly defined layer horizons that consists mainly of partially weathered rock fragments. Infertile regosols, or sandy soils, are found along Liberia’s coastal plains. Regosols cover about 2 percent of Liberia, and are found along the coast that is generally infertile, although they support large numbers of coconut trees, as well as oil palms. Highly fertile alluvial soils represent only about 3 percent of the land area of Liberia, and these soils are utilized largely

<table>
<thead>
<tr>
<th>County</th>
<th>Householders</th>
<th>Dependents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Margibi</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Bomi</td>
<td>3</td>
<td>101</td>
<td>104</td>
</tr>
<tr>
<td>Bong</td>
<td>7</td>
<td>55</td>
<td>62</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>22</td>
<td>77</td>
<td>99</td>
</tr>
<tr>
<td>Montserrado</td>
<td>12</td>
<td>18</td>
<td>30</td>
</tr>
<tr>
<td>Grand Cape</td>
<td>7</td>
<td>28</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>113</td>
<td>597</td>
<td>710</td>
</tr>
</tbody>
</table>
for agriculture. Alluvial soils are found in the river bottoms, and in swamp soils. Swamp soils, especially those known as half bog soils, are naturally rich in humus, and when drained they provide excellent conditions for swamp rice and similar crops.

4.2.4. Climate
Liberia has two seasons such as a rainy and a dry season. Rainy season starts from April to October while dry season starts from November to March.

Climate of Liberia is known for its sustained heat and heavy rainfall. Because the republic lies south of the Tropic of Cancer and only a few degrees north of the equator, the days vary little in length. The tropical solar radiation is intense and the radiation is uniform across the country. Temperatures remain warm throughout the country, and there is little change in temperature between seasons. The mean annual temperatures in Fahrenheit range from the 70s to the 80s.

The continental and maritime masses of air alternate their movements back and forth, and from north to south. This brings some seasonal differences in rainfall intensity. The coastal region has the heaviest rainfall, from between 155 to 175 inches annually in the west, and with nearly 100 inches of rain annually in the south-eastern part of the country. Monrovia receives almost 180 inches of rain annually. Rainfall decreases going north and inland. The average rainfall near the coastal zone of the project amounts to 4,770mm while towards the interior (up to Yekepa) the amount of rainfall decreases to an average of 2,080mm.

4.2.5. Air Quality
Air quality is good along the transmission line. This can be attributed to the fact that the planned transmission line passes a rural area and very few vehicles ply the route. During the dry season there might be slight increase in the dust levels, but it will not be above International Standards.

4.2.6. Noise
Noise level is very low along the transmission line except for the location near the road and the town area. And the planned transmission line and planned substations are built with full clearance from the existing village. So, no significant impact will be expected during the construction and maintenance. According to the recent assessments of existing substations in the metropolitan area indicate that generated noise could be heard up to only about 60 m from substation sites. The length will be slightly longer than metropolitan area at the suburbs.
4.2.7. Ground and surface water

Water supplies have been improved in both rural and urban areas so that some 40 percent of the population has access to potable water. Surface water is abundant, and groundwater reserves are ample and regularly replenished by the country's heavy rainfall. Rivers The major rivers of Liberia are the Cavalla, the Cestos, the Lofa, the Mano, the Morro, the Saint John and the Saint Paul. The Mano and Morro rivers in the northwest and the Cavalla River in the southeast are boundary lines for part of the country. Most of the rivers of Liberia flow from the mountains inland in the northeast to the coast in the southeast, and parallel each other. Among the low mountains and hills, the river beds are steep and irregular, with frequent falls or rapids.

The line route corridor crosses many rivers and streams in Liberia. The major ones include St. John, St. Paul, Lofa River, Mafa River and several creeks and streams. Sufficient ground water of good quality is present in and around the four substations.

4.2.8. Electromagnetic Frequencies

According to the World Environmental Library, WEL 1.1, information derived from prolonged observations and experiments in numerous countries indicate that the electric and magnetic fields around power transmission and distribution facilities exhibiting frequencies between 50 and 60 Hz have no harmful effects on human health. Magnetic field strengths below 0.4.mT at 50 – 60 Hz induce no detectable biological reaction in humans; the magnetic fields acting on the ground below overhead lines develop maximum field strength of only 0.055mT for frequencies between 50 and 60 Hz. Hence the potential effects of EMFs on human health are non-existent according to current knowledge.

However, an electrically grounded person touching an ungrounded metallic object or a conductor in a static or oscillating field may draw electric current from the object and may experience a micro shock from a spark discharge. The potential effect will be minimized by the consultants/contractors, as usual, by multiple earthing. Protective multiple earthing minimize the chances of people getting electric shocks and the chances of such shocks being fatal.

In order to debunk the misconception that EMFs may cause cancer or harm children and minimize fear and avoid panic among the local populations, SPC will undertake public education and create awareness in the local communities wherever such concerns are
expressed. The LEC will also ensure that dwelling houses and other structures are not built within the RoW in contravention of existing regulations.

4.2.9. Terrestrial Vegetation
According to estimates of the Food and Agriculture Organization (FAO) in the early 1980s, only about 1,430 square miles of the country's total land area (roughly 3.9 percent) were used for cultivation. Permanent tree crops, such as rubber, coffee, and cacao, occupied 946 square miles, or two-thirds of the cultivated area; short-life crops, mainly foods, were produced on about 485 square miles. The FAO also calculated that more than 21,000 square miles of additional land was in a temporary bush and tree fallow state, and much of this is at a stage available for agricultural use. There was little pressure on the fallow areas in the less heavily populated rural regions, and about 80 percent of the subsistence farmers in those regions were reportedly using for crops new land on which the age of the tree or bush stands was seven or more years.

4.2.10. Socio-Cultural Environment
4.2.10.1. Population
The total population of the seven (7) counties affected by the transmission line is approximately 2,013,155. The proposed line is 532km long running from the north of the
country to the south, and to the west of the country passing through Nimba, Bassa, Bong, Margibi, Montserrat, Bomi and Grand Cape Mount Counties. The total estimated population of people living within the range of 300 meters from either side of the transmission line covering approximately 43 villages/towns/hamlets is 24,929 (see affected villages/towns/hamlets). Total number of owners of properties to be affected is 113 and their dependents totaled 597.

**Figure 4 Population and Tribal Groups**

**4.2.10.2. Ecological sensitive sites**
Several ecological sensitive areas such as the Nimba Nature Reserve, Gbedin Wetlands, Lake Piso were identified and an effort was made to avoid these sensitive areas during the line route study. So, no ecological sensitive sites were found within the planned transmission line ROW.

**4.2.10.3. Ethnic, Religious and Cultural Heritage**
There are a few Religious and Cultural items found. So far, the line does not pass through any society bush such as the Poro and the Sande Societies. In Grand Bassa and in Dorley-la, Bomi county two palava huts are within or near the transmission line corridor. ‘A palava hut
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is a meeting place where the villagers usually meet to discuss pertinent issues affecting the community.

It has also been discovered in Dorley-la, Bomi County and Grand Bassa County sporadic graves on or near the transmission line corridor; these are considered grave yards or cementaries but not large enough to divert the line.

There are also few religious structures located within the line route. There is a small Mosque in Dorley-la, Bomi County within or near the line and in Hydro Dirty camp, Margibi County there is a small Church located near the line. These two structures are indeed very small.

4.2.10.4. Historical resources

No Historical resource is found within the planned transmission line Row.

4.2.10.5. Aesthetics and Tourism

There are various tourist attractions within the seven counties. These include attractive mountains, valleys, waters, the Lake Piso Cape Mount, the Kpatawe water fall in Bong County etc. However, none of these are affected by the line.

4.2.10.6. Infrastructure

Liberia has a limited infrastructure that was severely damaged by the country's long civil war. The local drinking water supply is inadequate and volume quality of water is very poor. Most villagers rely on creeks for their major domestic water supply.

Roads in Liberia are in poor condition due to poor maintenance and heavy rains. Only 6 percent of the national road network of 10,600 kilometers (9,942 miles) is paved. There are no passenger rail services, and the iron ore rail transport links are in need of serious repair as large sections of the rail network were dismantled and sold for scrap during the civil war. The railroad rehabilitation work is planned for the transportation of material such as iron ore and coal from Yekepa to Buchanan.

The country's 5 ports of Monrovia, Buchanan, Greenville and Harper, handle 200,000 tons per year in general cargo (80 percent of which is iron-ore deposits) and 400,000 tons a year of petroleum products. Ports in the south-east of the country handle timber exports. There are four sea ports in Liberia. The Free Port of Monrovia, Buchanan Port, the Greenvillle Port and the Port of Harper. Two of these ports-the Port of Buchanan and the Free Port of
Monrovia are located with in the seven line corridor affected counties. These two ports are strategically located to facilitated the transportation of light and heavy equipment for the line route. Also there are road networks and rails facilities closer to the line routes. The 200 miles rail road of Arcelor Mittal from Buchanan to Yekepa is now being renovated and will be in use. Therefore, Materials for the line route intended for Yekepa line route to Buchanan could be served by this means while the line route running through the West and Southwest of the country could be served by the nearest port the Free Port of Monrovia. These two ports are indeed vital in terms of transportation of goods and services within the line corridor.

Robertsport had an international airport until it was destroyed by fighting in 1990. It now carries some regional commercial flights but will need major repairs to carry international flights. Harbel, 56 kilometers (35 miles) from Monrovia, remains the only international airport.

In 1999 Liberia produced 432 million kilowatt hours (kWh) of electricity, but much of the electricity-generating infrastructure has been destroyed or damaged. Two-thirds of electricity is generated from diesel and one-third from hydro-electric sources. Access to electricity is very restricted, and those who can afford it use private diesel generators. Poor provision of electricity is a major cause of criticism of the new government.

Further plans are underway to rehabilitate the Mt. Coffee Hydro Plant Electric plant on the St. Paul River. The first phase of the rehabilitation of Mt. Coffee plant foresees power output of 100 MW.

Firestone rubber plantation in Montserrado county and Iron mine developed by ArcelorMittal in Yekepa are existed near the planned transmission line.

4.2.10.7. Education

The total enrolment at all levels of schools in the nation is very low. For every 100 children starting primary school in Grade 1 only 60 make it to Grade 6. Repetition rates at all school grade levels are above 5%. Approximately 41% of resources at the primary level and 20% at junior high school level were spent on dropouts and repeaters in 2007.

The condition is more or less same along the counties affected by the planned transmission line.

4.2.10.8. Land Use

The main land-use category along the Right of Way (RoW) and within the 20 km buffer zone is agriculture in general except for some concession like the Arcelor-Mittal concession at the
Yahmin Village of Nimba County. The land is covered by predominantly farm bushes and in some parts with savannah grasslands. People used the land to farm where their farms fall within the line corridor and where opportunistic free seeding of rubber trees created tappable assets over time. Few non rubber farms are found encroaching on the RoW.

4.2.10.9. Employment/Manufacturing
The main occupation of 75% of Affected Persons is subsistence agriculture, characterized predominantly by mixed cropping and animal rearing. A small percentage is engaged in a rubber plantation and mining such as the Firestone rubber plantation and ArcelorMittal concession.

4.2.10.10. Agriculture
Vegetation in the project area includes dense and secondary vegetation; coastal savanna and scattered trees and mangroves. There are farms of rubber trees of Firestone rubber plantation in Margibi county, cocoa, Coffee trees owned by private individual and commercial farmers are scattered along the planned transmission line corridor.

4.2.10.11. Public Health
Medical facilities are located in big town such as Monrovia, Buchanan or inside of the big plantation like Firestone rubber plantation in Montserrado county and mining area like ArcelorMittal in Yekepa.

In Liberia the civil war increased the risk of HIV infection. At present, the HIV prevalence rate of 8.2%, is considered very conservative and yet too high for the 2.7 million Liberians, already conflict-torn and poverty ridden. With 42% of the population within the age group of 15-49 years, the country exhibits features of an in-built population momentum. These variables provide grounds for an inevitable exponential rise in the prevalence of HIV infection in the country.

4.2.10.12. Gender issues
International Commitments and Instruments on Women’s Rights and Gender Equality are seriously taken into account in Liberia, as a party to various international instruments on the promotion of gender equality and women’s empowerment.

Regional Commitments on Gender
The RAP takes into consideration the African Charter on Human and people’s rights of Women in Africa which constitutes a milestone in the promotion, protection and respect for the rights of women in Africa. This Protocol reaffirms the principle of promoting gender equality as enshrined in the Constitutive Act of AU as well as the NEPAD. New partnership for African Development (NEPAD), underlines the commitment of the African States to ensure the full participation on African Women as equal partners in African development and states its determination to ensure that the rights of women are promoted, realized protected in order to enable them enjoy full all their human rights.

Women within the tramission line corridor are equally important and considered in terms of benefits for compensation. With reference to our survey, women and children are both direct and indirect beneficiaries of the project areas. They are equally engaged in many socio-economic activities such as petit trading, farming activities and marketing. According to our survey report women make up approximately 9.6% of property affected household. Some of the women are married, while some are either widow or married young ladies.

With reference to benefits that the transmission line will bring to the corridor, women will benefit in terms of good road facilities to carry their products to the nearest markets which will indeed encourage them to increase production and make their lives better off than before. Other socio-economic benefits include better health facilities for in- and out patients mainly maternal facilities that are usually lacking in the project areas to date. Women will also be chanced to work with the project base on their qualifications; but since the majority of the women are unlettered; they can obtain income from catering and other relevant services that skilled employees of the project may utilize. We believe that the project will provide training opportunities for the women that will indeed increase their understanding of environmental issues and will make them to be participants and implementers of environmental related projects.

Gender disparities will be reduced by providing special training facilities to the unfortunate women in the project areas who may not have the requisite qualification to compete with their male counterparts.

The below facilities will be provided:
- On the job training
- Adult education will be provided
- Qualify women will be recruited
- Training of rural women for empowerment to engage in socio-economic activities
- Provision of credit facilities
- Employment to be opened without discrimination
- Strengthen women’s economic capacity and commercial networks and support traditional savings and lending mechanisms for women
- Implement integrated rural women’s programs to enhance women’s access to credit, land, extension services, water, energy, health, education, improved technology and market infrastructure
- Support the formation of women’s groups/cooperatives to improve their access to extension services
- Periodically, undertake gender analysis of socio-economic policies in order to monitor their impacts and restructure them in cases where there are imbalances.

These activities are socio-economic activities recommended for the benefits of the population as requested in comments from donors. The costs are within the social costs column of the total management cost.

4.2.10.13. Landlessness, joblessness, homelessness, marginalisation, food insecurity and loss of basic resources

As opposed to the construction of other infrastructures such as thermal power plants or hydro power plants, the transmission line is a linear project which involves limited and localized resettlement. Given that the affected lands area are small and are communally owned and cultivated, the adverse impact on farming activities will not be significant. However, social impacts of poverty risks in minor resettlement will be taken into consideration before implementing compensation and resettlement. According to ADB’s Risks Assessment and Management in Involuntary Resettlement by Michael Cernea, poverty risks in resettlement comprise of Landlessness, Joblessness, Homelessness, Marginalization, Food Insecurity and Loss of Access to Common Property Resources. They are briefly defined below:

**Landlessness:** Expropriation of land removes the main foundation on which many people build productive systems, commercial activities, and livelihoods. Often land is lost forever, sometimes it is partially replaced, and seldom is it fully replaced or fully compensated. This is the main form of decapitalization and pauperization of the people who are displaced. Both natural and man-made capital is lost.
Joblessness: Loss of wage employment occurs both in rural and urban displacement. People losing jobs may be landless agricultural laborers, service workers, or artisans. The unemployment or underemployment among resettlers may linger long after physical relocation. Creating new jobs for them is difficult: it requires substantial investment, new creative approaches, and more reliance upon sharing project benefits with the resettlers.

Homelessness: Loss of housing and shelter may be only temporary for many people, but for some it remains a chronic condition and is felt as loss of identity and cultural impoverishment. If neighboring households belonging to the same kinship group get scattered, loss of dwelling may have consequences for family cohesion and mutual help patterns. Group relocation of related people and neighbors is therefore preferable to dispersed relocation.

Marginalization: Marginalization occurs when relocated families lose economic power and slide down toward lower socioeconomic positions: middle-income farm households become small landholders; small shopkeepers and craftspeople lose their businesses and fall below poverty thresholds, and so on.

Food insecurity: Forced uprooting diminishes self-sufficiency, dismantles local arrangements for food supply, and thus increases the risk that people will fall into chronic food insecurity. This is defined as calorie-protein intake levels below the minimum necessary for normal growth and work.

Loss of access to common property: Poor farmers, particularly those without assets, suffer a loss of access to the common property goods belonging to communities that are relocated: forests, water bodies, grazing lands, etc. This represents a form of income loss and livelihood deterioration that is typically overlooked by planners and therefore usually uncompensated.

4.2.10.14. Socio-economic conditions of Affected Counties (County Information)

1. NIMBA COUNTY

Geography
Nimba County is situated in the northeastern part of Liberia and shares borders with the Republic of Cote D'Ivoire in the east, and the Republic of Guinea in the northwest. Nimba is bordered by the counties of Bong, River Cess, Sinoe and Nimba. the total geographic area
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(of land and water) of Nimba is 2,300 square kilometres, from north to south, the county stretches 230 kilometres and east to west, 100 kilometres. It has a distance of 298 kilometres from Monrovia to Sanniquellie.

**Climate**

Nimba has a tropical climate. There are two seasons: wet and dry. According to the New Geography of Liberia, average rainfall in Nimba is recorded between 12.5-25mm in January; between 100-150m in the west and 150-200mm in the north, east and south of the county in April; and in October average rainfall is recorded between 200-250mm in the south-eastern portion and 250-300mm in the north-western portion. Prevailing wind is generally south-easterly or monsoonal.

**Topography / Drainages**

There are three principal topographic areas: the northern part of the county is dominated by mountains, hills and deep valleys. Prominent among the mountains is Mount Nimba. The highlands of Nimba form part of the Bletro-Nimba Block in the Central Region of Liberia, one of three large mountain blocks of Liberia, the other being the Kpo-wologisi Block in the western region and the Tienpo-Putu Block in the eastern region. The northern highlands of Liberia are primarily found in Nimba and Lofa counties and form part of the Guinea Highlands also known as the Futa Jallon Mountains. Two relief features are characteristics of this region: long ranges and doomed-shaped hills. The Nimba Range rises north of Sanniquellie and after twenty miles extends into the Republic of Guinea, where it reaches an altitude of 6,083 feet. The so- called “Guest House Hill" in the Yekepa area is the highest point of the Nimba Range on the Liberian side, and at the same time the highest elevation in Liberia, with an altitude of 4,540 feet above sea level. The south of the county is dominanted by plains.

Nimba has four major rivers. St. John is the largest, forming the natural boundary between Liberia and Guinea in its upper stretch. It also internally separates Nimba and Bong counties. the Yah River also has its source from Mount Nimba and flows centrally through the county from north to south-west in a stretch of 200km. The Cestos River (also known as Nooh River) has its source, too, in the eastern part of Mount Nimba. The Cestos River constitutes the natural boundary between Liberia and Cote D’ivoire in the east. It has a stretch of over 300km and also borders Nimba with Grand Gedeh County. Other rivers in the county are the Twah River, Bee River and Weh River. Nimba County contains one artificial lake, Lake Teeleh in Sanniquellie City, which is 200m long and 120m wide.
**Geology / Soil**

All three kinds of soil produced by different conditions of climate and vegetation in Liberia are found in Nimba: lateritic soil or latosols or upland soil, clay or swamp soil, and sandy soil. Generally, lateritic soils cover about 75% of Liberia according to W.E. Reed. They are the most typical soils of the humid tropics, where there are alternating wet and dry seasons. This soil type is premomenant in Nimba. According to soil scientiests, latosols have only 0.24% nitrogen (plant food) and are very acidic. Their fontious farming requires the constant use of fertilizers, an input that nearly all farming households are too poor to afford and this may explain the situation of annual bush falling by subsistance farmers in the county. Nevertheless, latosols are more productive than the other soil types and they provide valuable material for road building due to their hardness.

**Vegetation**

Nimba’s natural vegetation is composed of tropical rainforest, specifically high forest, broker forest and low brush. As in the other nothern counties of Liberia the most prominent forest type is moist semi-deciduous. Threes of this forest type are the nesogordonia papavertifera, limba (terminalia superba), and obechi (triplochiton sclerozylon). Low bush establishes itself in the areas of land rotation where trees are cut and burnt as a result of the shifting or bush falling method of farming. Typical trees of this vegetation type are the umbrella or corkwood tree (mussanga cecropioides) and the oil palm. Swamps are common in the county, and there is a small portion of the vegetation covered with scattered trees and dense elephant grass (pennisetum purpureum). There are, however no natural grass fields except those created by human activities through farming, habitation or the development of football fields. they original vegetation of the county would have consisted of tropical rainforest, which was cut down primarily for farming purposes and the cultavation of other cash crops such as cocoa, coffee, oil palm and rubber. The land abandoned after farming is occupied by elephant grass that slows the regeneration of forest trees.

**Population**

The Norwegian Refugee Council estimated the population of Nimba County in 2007 at 732,195. 98.27% of this population is made of locals, 0.31% (IDPs and refugees) returnees and 0.49% refugees. The population is mostly young. According to the 2005 voter statistics as provided in the County Information Pack, 121,844 or 64% of a total of 190,264 registered voters were between the ages of 18-39. Gender distribution is fairly close: 46.37% female and 53.72% male. More than half of the females are within the child bearing ages of 14 to 49 years, giving rise to high fertility rates in the county.
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Table 3 Population of Nimba County

<table>
<thead>
<tr>
<th>Statutory District</th>
<th>Total</th>
<th>Population by Gender</th>
<th>Population Gender Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Gbehlay-Geh</td>
<td>146,497</td>
<td>68,053</td>
<td>78,50</td>
</tr>
<tr>
<td>Saniquellie Mah</td>
<td>116,947</td>
<td>54,476</td>
<td>62,471</td>
</tr>
<tr>
<td>Tappita</td>
<td>122,687</td>
<td>59,250</td>
<td>63,600</td>
</tr>
<tr>
<td>Saclepae Mah</td>
<td>160,424</td>
<td>73,560</td>
<td>86,864</td>
</tr>
<tr>
<td>Yarwein-Mehnsonoh</td>
<td>31,337</td>
<td>14,590</td>
<td>16,819</td>
</tr>
<tr>
<td>Zoe-Geh</td>
<td>154,303</td>
<td>69,570</td>
<td>84,733</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>732,195</td>
<td>339,499</td>
<td>393,337</td>
</tr>
</tbody>
</table>

※ Source: LISGIS 2008

**Ethnic Composition**
All of Liberia’s sixteen (16) ethnic groups are found in Nimba, but five of the ethnic groups are represented in higher numbers: the Gio, Mano, Krahn, Gbi and Mandingo. Of the five, the Gio and Mano are the predominant ethnic groups and are members of the Mende Fu language group, one of four language groups in Liberia. Over the years, the tribal groups of the county have been interlinked through marriage.

**Religion**
There are three major faiths practiced in Nimba: Christianity, Islam and the Bahai Faith. African traditional practices also have major impact in religious practices in the county. Christianity is the dominant religion, followed by Islam. The dominant local Christian denominations include the Catholic Church, Methodist Church, Baptist Church, Lutheran Church, Episcopal Church, Presbyterian Church, Pentecostal Related Churches, Seventh Day Adventist, Jehovah Witnesses, Church of Christ, Mid-Baptist Church, Church of the Lord Aladura, and Inland Church. Islam is practiced nearly in every district of the county. In addition to promoting their specific doctrines, religious institutions have served as partners to the government and local communities in providing some basic services such as schools, health services, training, etc.

**Tourism**
The fact that Nimba has many attractive mountains, valleys, and waters, investment in tourism has serious economic growth potential. Such investment must however be well planned to consider the infrastructure needs. Nimba attracts over 500,000 visitors annually,
but the county lacks any hospitality services, despite the availability of competitive human and local material resources. Tourism potential will be harnessed with the construction of hotels, guest houses, recreational centers, and restaurants.

**Agriculture**

Subsistence farming is currently the main source of income of the people of Nimba. Apart from small agricultural projects undertaken by some youth and women’s associations, NGOs such as LCIP and ARS, there is not yet any large-scale farming in the county. The typical farming pattern is slash-and-burn and annual bush fallowing. The main food products are rice, cassava, plantain, banana, yam, and sweet potatoes. Some 75% of farm produce is used for family consumption.

For the purposes of achieving food security, Nimba needs to produce 40,000 metric tons of rice annually. Currently the county produces only 800 metric tons of rice, due to rudimentary methods of cultivation. Continued dependence on rice is constrained on food security, and thus the production of cassava and corn must now be prioritized because of their high yield potential and adaptability. Government and private sector intervention will be harnessed to cultivate an additional 5,000 hectares of rice, 4,000 hectares of corn, and 3,500 hectares of cassava. The implementation strategy will require that each of the 17 districts develop pilot project sites, and steps will be taken to introduce mechanized farming. Products like corn and cassava will create added value through their processing and this will result in the employment of over 5,000 youghs per year. Rice processing could also generate by-products such as rice bran, a generous feed for aquaculture, which is mostly practiced in other counties.

Cash crop production of rubber trees, cocoa, sugar cane and coffee is the other main source of income in the county. The cultivation of 13,500 hectares of tree crops will eventually lead to economic growth through sale of products, value addition and job creation.

**Health**

There are currently 41 functioning clinics, which is the same as in pre-war times. Access to healthcare facilities for the estimated population of 732,195 is 435:1 (Source: CIP, Nimba). There are 526 MoH-assigned health workers serving at these facilities. Nurse aids constitute 21.2% of all health workers in the county, followed by registered nurses (17%), and trained traditional midwives (13%). Doctors make up only 0.9% of health workers in the county.

**Water and Sanitation**
Access to acceptable level of sanitation and safe drinking water sources is poor. In six cities, Sanniquellie, Ganta, Saclepea, Tappita, Karnplay and Bahn with population of between 25-50,000 persons, there is need to construct more efficient water systems.

**Roads and Bridges**

Access to market and basic social services is challenged by the deplorable conditions of roads throughout the county. All internal roads are laterite roads. With less than 25km of paved road, investment in road construction and maintenance remains urgent. All seventeen districts ranked road construction or rehabilitation as their top priority. Fifty-one roads and bridges throughout the districts have been prioritized by citizens for construction or rehabilitation. Citizens say good roads will improve access to market by buyers and producers/sellers and promote trade and enhance access to basic services located outside of their communities. The railroad from Yekepa to Buchanan is being rehabilitated by ArcelorMittal under the new mining agreement between GoL and the company.

**Education**

There are 554 schools for a student population of 145,272 (53% male and 47% female). There are 34 upper secondary schools and no formal multilateral/vocational/college/university level institutions in the county. There are 4,114 school teachers of which only 1,311 have been reactitvaed.

**Electricity**

There is no grid system in the county, and only a tiny minority access to electricity. St. John and Cestos Rivers have the potential for hydropower generation, though production could be seasonal-probably 7/12 months out of the year. Currently, needed power is only produced with small generators privately by companies, businesses and individuals. This is very costly and contributes to high cost of goods and services.

**Housing**

In six cities, Sanniquellie, Ganta, Tappita, Karnplay and Bahn with populations of between 25-50,000 persons, there is a need to develop housing estates. Mittal Steel Company has completed the renovation of some housing units in the concession city of Yekapa, and will need to construct additional units.

**HIV and AIDS**
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HIV and AIDS is a major challenge because the epidemic has the potential to slow the progress of many initiatives meant to build much-needed human capital and revitalize the economy. Ensuring that this does not happen requires that the citizens be empowered with the appropriate skills to arrest the spread of HIV and to minimize the impact. Integrating HIV and AIDS into poverty reduction strategies helps to create the necessary policy and planning enviroment for a comprehensive, multi-sectoral response.

While no county-specific data is available, a 2007 DHS estimates national HIV prevalence at 1.5 percent, or 1.8 percent for females and 1.2 percent for males. A previous estimate of 5.7 percent was based on the results of sentinel surveillance among pregnant women and girls attending ten antenatal care (ANC) clinics in urban areas. Future studies will seek to reconcile these seemingly disparate findings.

In any event, the war left most of the population severely challenged in meeting their social, cultural and economic needs, thereby making them vulnerable to a sharp increase in HIV prevalence, the likely result of which would be a negative impact on development: increased child and adult morbidity and mortality, increased absenteeism at the workplace and in schools, and lower economic output, among other effects.

HIV and AIDS-related vulnerability impacts a broad spectrum of the population, especially young people and females in particular, such that in Liberia as elsewhere, there is an increasing feminization of the epidemic.

By strengthening the health infrastructure at the county level, the CDA works to promote human development by reducing the impact of HIV and AIDS vulnerability, morbidity and mortality. County health and social welfare authorities will participate in the development and implementation of a new national multi-sectoral strategic framework led by the NAC, reducing new HIV infections through the provision of information, and scaling up access to treatment and care services, mitigating the impact of the epidemic on those already infected and affected.

2. MARGIBI COUNTY

Geography
The county is ideally situated along the Atlantic Ocean in the south and neighbors Montserrado County on the east, Bong County on the north and Northeast, amd Grand
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Bassa County on the west. The total land area of the county is approximately 2866.67
squares miles, with an estimated 118,000 acres of this total being utilized by rubber
plantations, namely Firestone and Salala, to name but two.

Climate
The climate of Margibi is hot and humid, with an average annual temperature of 80°F (27°C).
There are two major seasons in Liberia, dry and rainy. The dry season lasts from December
to March in the coastal areas and for a longer period in the inland areas. Annual rainfall
along the coast averages 200 inches (510cm). Inland areas receive about 85 inches
(220cm) of rain per year.

Topography and Drainages
A narrow coastal plan extends inland from the coastline, and the land gradually rises to the
high Bong Range in the northwest, and Gibi Mountain in the north, bordering Grand Bassa
County. Margibi County’s most important rivers are the Farmington, which forms the border
with Grand Bassa County, and the Du River, which forms the border with Montserrado
County. Both rivers have the potential for hydroelectric power generation.

Geology and Soil
The soil is excellent for agricultural production and many cash crops. The soil in the lower
part is mostly sandy clay loam, with an abundance of nutrients, and that of Upper Margibi is
characteristic of highland soils.

Vegetation
High-elevation regions have forests of evergreen and deciduous trees, including ironwood
and mahogany. Mangrove swamps are found mainly in the coastal areas.

Population
The total population of Margibi is 240,996 of which the female population dominate 53.34%.
Detailed information is shown in the table as below.

<table>
<thead>
<tr>
<th>Statutory District</th>
<th>Total</th>
<th>Population by Gender</th>
<th>Population Gender Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Firestone area</td>
<td>41,681</td>
<td>19,639</td>
<td>22,042</td>
</tr>
<tr>
<td>Gibi</td>
<td>24,184</td>
<td>11,823</td>
<td>12,361</td>
</tr>
</tbody>
</table>

WAPP/LEC/KEPCO-CEDA Consult
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

<table>
<thead>
<tr>
<th></th>
<th>Kakata</th>
<th>Mambah-Kaba</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>101,903</td>
<td>73,228</td>
<td>240,996</td>
</tr>
<tr>
<td>Agricultural</td>
<td>48,142</td>
<td>32,840</td>
<td>112,444</td>
</tr>
<tr>
<td>Population</td>
<td>53,761</td>
<td>40,388</td>
<td>128,552</td>
</tr>
<tr>
<td>Agricultural</td>
<td>47.24%</td>
<td>44.85%</td>
<td>46.66%</td>
</tr>
<tr>
<td>Agricultural</td>
<td>52.76%</td>
<td>55.15%</td>
<td>53.34%</td>
</tr>
</tbody>
</table>

※ Source: LISGIS 2008

Ethnic Composition
The Bassa (48%) is the dominant ethnic group, though all or nearly all of Liberia’s tribes are represented in the County.Kpellleh (44%) is the second dominant ethnic group in Margibi.

Religion
About 90% of the county’s population is Christians, with roughly 5% Muslims and 5% Animists.

Tourism
No Tourism site is found in the county.

Agriculture
The agriculture productive capacity in the county is below average for Liberia. About 80 percent of farming is subsistence farming. Food crops production is not as widespread in this county as other counties in Liberia. Only about every second household has access to agricultural land, according to the CFSNS. In 2005, rice was only produced by 33% of farming households. The main crops cultivated in 2005 included cassava (79%), Rice (33%) and Corn (12%). This is in part explained by the local preference for the traditional dumboy dish, which is more commonly consumed than rice. Commercial or cash crops produced in the county included rubber, produced by 52% of households; cocoa, produced by 10% of households; coconuts, produced by (14%) of households; sugarcane and pineapple, each produced by (14%); plantain/banana, produced by (34%); palm nuts, produced by (14%); and cola nuts, produced by 3%. One percent of households surveyed owned goats, another 6% owned pigs, 6% owned ducks and 39% owned chickens.

The constraints to agricultural growth are many, as shown in the below table. Chief among them is a lack of capital for purchase of the various inputs that are missing. Because the population does not have access to credit and savings products, there is little possibility for communities to increase production to match their potential.
In spite of constrains, agriculture is a major component of economic revitalization and poverty alleviation in Liberia and Margibi County. With a population annual growth estimated at about 2.5%, the realistic objective of doubling per-capita incomes within ten years would require an average annual growth rate of close to 10% per annum. With 50% of the county’s GDP coming from agriculture, achieving this objective will require a similar rate of growth in agriculture. Strong and sustained growth in agriculture is particularly important since it can create employment for many low-skilled people, as a major engine of the rural and overall economy for many multiplier shifting workers to manufacturing and services. Strong agricultural growth is achievable during the early stages of the country’s reconstruction efforts, supported by the resettlement of displaced populations and the quick recovery of very depressed agricultural production, in particular food crops. Experience in other post-conflict countries indicates that agricultural growth is a major factor in early economic recovery, reaching 4% two years after the end of conflict and accelerating to an average of nearly 8% in years 3 through 5 after the crisis before setting down to about 4% in years 6 through 10, which is a more typical long-run growth rate for agriculture in most developing countries.

**Health**

Besides the Firestone medical facilities, which receive approximately 9,000 patients visits a moth and at time buttresses other facilities by helping to provide storage and some medical equipment, there are two main functional government hospitals serving the county; C.H. Rennie Hospital, a referral site in Kakata; and the Mike M. Baydoun Health Center in Marshall City. Both facilities badly need ambulances, renovation and supplies for full operation. Apart from the two hospitals, the government owns 19 clinics among the 36 functioning health facilities in the county. The most prominent among them may be the Dolo Town Community Clinic that was built by the US Embassy. All the government medical employees are on the government payroll and treatment is provided free of charge with drugs provided by government and INGOs. Firestone Liberia actively participate in vaccination campaigns for the eradication of childhood diseases.

**Water, Energy and Sanitation**

Water and electricity are still a wish for many communities. As typical rural Liberian county, Margibi does not have access to public power. All individuals and organizations in need of electricity, including the local authorities, have to operate their own generators. A survey has just been conducted for connection of Kakata and Marshall to the Emergency Power Program already operational in Monrovia. Prior to the war, most parts of Margibi County had a water and sewage system that has since broken down, leaving the population even in the
cities without improved water and sanitation facilities. With 146 hand pumps in use in the county, an average of 1650 people are making use of each pump. Some 1685 people share each available latrine, as there are only 143 latrines in use in the county.

Roads and Bridges
Communities living in 305 villages located in remote areas such as Worhn in Gibi District and Marshall City, Larkaya and Lloydsville Townships are completely inaccessible by road during rainy season. Thus, fishing boats remain the only alternative used to cross many rivers into some parts of Lower Margibi.

Education
Margibi County is well known for its concentration of outstanding educational institutions. The most prominent among them is the Booker Washington Institute (BWI), which awards diplomas and is known for its vocational/technical training courses. The county also boasts of the Harbel Multilateral High School, where the University of Liberia is operating up to 2nd year of studies; the extension of the Gbarnga-based Cuttington University College; the Kakata Rural Teacher Training Institute, in charge of training and reactivation of teachers; and the Konola Academy, a co-educational institution and prestigious upper secondary school; among others.

The Firestone School System, owned and operated by the Firestone Rubber Company, caters to over 15,000 children within the concession area. This school system is well-organized and effective, as not only do they have appropriate facilities and educative materials, but also boast a science laboratory at the Firestone Senior High School.

50 educational facilities among the 290 recorded by the Norwegina Refugee Council are fully functional. The government through the Ministry of Education runs several of them at primary and junior schools level, while faith-based communities and private organizations run the others.

Despite the many well-known schools, many children in remote areas of Margibi County still lack access to education because of bad road conditions, damaged facilities, and a lack of qualified teachers. Like many LNP and other civil servants, teachers are often reluctant to settle in far-flung areas because of the hardship and low salary. Some informal education targeting over-aged students and adults is also organized by women’s groups as a means of skills improvement and reducing illiteracy.
Communications, Postal Services and Telecommunications
Postal services are functioning in the county, notably in Harbel. Newspapers are only found in Kakata and Harbel. There is very good cellular telephone coverage from Lonestar, Cellcom, Libercell and Comium. Besides Radio Veritas, Liberian Broadcasting Corporation, and UNMIL Radio coverage, Margibi is also covered by two community Radio Stations (in Harbel and Kakata) that were created with support from MercyCorps.

3. BOMI COUNTY

Geography
Bomi County is situated in the northwestern region of Liberia and borderd by Gbarpolu County in the north, Grand Cape Mount County in the east and the Atlantic Ocean in the south. The capital city is Tubmanburg. There are four administrative Districts (Klay, Dewien, Suehn Mecca and Senjeh), comprising five Chiefdoms and 18 Clans. Bomi County has an area of 755 square miles.

Climate
Bomi County is generally warm throughout the year. It has two seasons: the rainy season beginning in April and ending in October, and the dry season covering the months of November to March. The average annual rainfall of Bomi County is approximately 80 inches.

Topography / Drainage
Bomi County is generally hilly with a few plains and valleys. The county is endowed with ample water resources to supply fish and other livelihood options, including the Atlantic Ocean and the Po, Wlein, Mahei, Lofa and St. Paul Rivers, among others. Many of the rivers are suitable for mini hydroelectric generation to supply electricity to citizens and industry.

Geology / Soil
In general, Bomi County has a sandy clay soil type. As a costal county it is covered by coastal plain of Liberia which is about 0-50m above sea level.

Vegetation
There are many valuable commercial timber species found int eh county. However, currently there exists no large-scale logging activity. Timber processing and pit sawing are carried out only at a small scale. Bomi County is a fertile land with rolling hills. Approximately, 45% of the land is covered by grassland.
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Population
The population of Bomi County will be known with greater certainty with the completion of the national census, which is currently underway. According to the 1984 National Housing and Population Census, Bomi County has a population of 99,200. A UNHCR/NRC count of December 2005 found a population of 105,345 persons. Meanwhile, the government’s pre-war population count was reported at 91,615.

Ethnic Composition
The four largest ethnic groups in the county are the Gola, Vai, Kpelle and Mandingo, although all sixteen of Liberia’s main ethnic groups (Dey, Gola, Gio, Vai, Kpelle, Mende, Bassa, Gbee, Grebo, Kru, Krahn, Mandingo, Sap, Lorma, Kissi and Gbandi) are thought to be represented. The Golas are in the majority, followed closely by the Vai and the Kpelle, who are mainly settled in the boundary region between Bomi and Gbarpolu. The Mandingo is found under various Clans.

Religion
The religion of Bomi County can be roughly sub-divided into two groups: Christians, estimated at 40% of the population, and Muslims, estimated at 60%.

Tourism
No Tourism site is found in the county.

Agriculture
Before the civil war, Bomi was essentially an agricultural zone, with 70% of the population actively engaged in subsistence agriculture and related activities. According to county officials, production of food crops in 2005 was very low compared to pre-war times. Rice, the staple food crop, was grown by 20% of households, while cassava and sweet potatoes/eddoes were produced by 60% and 3% respectively. About 3% of households produced corn, while 5% produced vegetables. Despite the county’s great potential for agricultural production, the recent Comprehensive Food Security and Nutrition Survey points out that Bomi as one of the counties with the highest vulnerability to food insecurity and chronic child malnutrition.

Several NGOs working in Bomi County including NRC, CCF, and ICRC/Liberia Nationa Red Cross Society have distributed seeds and agricultural inputs for rice and vegetables over the
last three years. The Chinese and Liberian governments also distributed tools and see rice to 50 communities with seed rice of 18,122kg.

According to the Office of the Superintendent, the major constraints to agricultural production include a lack of seeds, tools, fertilizers and pesticides, farmers' returning late for planting, and bird and ground hog attacks. Additional constraints and their corresponding percentages were taken from the Comprehensive Food Security and Nutritional Survey (CFSNS). Majority of the crops grown in the county include rubber, oil palm plantains, vegetables, cassava etc.

**Health**

Currently, less than 15% of the County’s population has access to health care. The County Health Team is led by the Ministry of Health and Social Services. The hospital and 16 functional clinics are providing services: nine of the clinics are run by World Vision Liberia (WVL), three by Save the Children UK (SCUK) and two by African Humanitarian Action (AHA) part of the hospital is also occupied by the Pakistani UNMIL Battalion, who assist in rendering medical services to the community. There is one government doctor at the hospital, who is assisted by a gynecologist from St. Luke’s Private clinic on an on-call basis. There is no proper pharmacy and only seven medicine stores to service the entire County.

**Road and Bridges**

The physical damage to roads and bridges, particularly following the rainy season continues to limit the ability of humanitarian agencies to provide critical support, hinders the displaced/refugee return process and obstructs access to markets, thus impeding economic productivity and self-efficiency. The problem is especially bad in the Suehn Mecca District. The Road Taskforce has been instrumental in the assessment of about 30 farm-to-market (feeder) roads and has mobilized communities to rehabilitate these roads with WFP assistance. NGOs involved in roads and bridges rehabilitation and construction include, GAA and Peace Winds Japan.

There is currently a free flow of transportation between Monrovia and Tubmanburg due to the good condition of the road. Transportation to other parts of the county is often severely hampered by the bad road conditions. Taxis and other commercial transport are nearly always overloaded, posing a hazard to human life.

Exact figures on the population centers that are inaccessible by vehicle are hard to come by. The NRC needs assessment report gives an insight on what the situation might look like,
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documenting 23 villages in Senjah District, 18 in Klay District, 37 in Suehn Mecca District and 27 in Dowein District that are all inaccessible. County-wide 105 villages are cut off from vehicular transport. Similarly, the County Assessment and Action Report (CAAR) estimates the number of persons without access to a passable road at 20,000.

Energy / Electricity
There is no grid electricity power anywhere in Bomi County. The very few consumers with access to electricity are serviced by small private generators.

Communications, Postal Services and Telecommunications
The Ministry of Posts and Telecommunications has rehabilitated the Post Office in Tubmanburg, but while it was recently opened officially by the Vice President, it is not known when the Post Office will begin operating. There is a popular community radio station “Radio Bomi”, located in Tubmanburg and disseminating useful information to the people of the county. The Lonestar and Libercell private wireless GSM networks are providing the only telephone services in the county.

4. BONG COUNTY

Geography
Bong County is situated roughly at the geographic center of Liberia. It is bordered by Lofa County on northwest, Gbarpolu County on the west, Margibi County on the southwest, Grand Bassa County on the south-east, and Nimba County on the east and north-east. On the north, Bong County is bordered by the Republic of Guinea. Gbarmga the Capital city of Bong is 200Km NE of Monrovia.

Climate
The climate of Bong County is tropical, hot and humid. The temperature generally ranges from 65°F to 85°F. Base on the prevailing precipitation, two seasons are differentiated: rainy and dry. The rainy season lasts from mid April to mid-October. The dry season begins in November and ends in April. However, with the planet experiencing climate change, a slight fluctuation in the timing of the seasons has been noticed.

Generally, the wind blows from northeast during the dry season and from the southwest during the rainy season. Wind mileage is normally greatest in the rainy season, sometimes bringing violent storms capable of destroying houses and crops.
Bong County has a conventional type of rainfall of around 70 to 80 inches. Toward the interior, the rainfall decreases because the air loses moisture except for high areas where the air forces rise during some relief rain.

**Topography / Drainage**

The county is said to be well watered by six principal rivers and a number of small streams. The St. John River runs through Bong County and rises in Guinea where it is known as Mano River, north-west of the Nimba Mountains. The Mano River received much water from Naye River, the Zoi and Yja Creeks.

**Geology / Soil**

The soils of Bong County are mostly latosols, which occurs on undulating and rolling land and occupies about 18% of the total land area in Liberia. This soil is heavily leached and silica nutrients and humus are readily washed out.

**Vegetation**

Bong County is part of the high forest belt, which can be divided into an evergreen rain forest zone and the moist semi-deciduous forest zone. The evergreen forest receives an annual rainfall of 80 inches and consists of species that do not have a marked period of leaf fall. The tallest trees reach 200 feet.

The semi-deciduous forest is a transition to the deciduous forest type found in the Ivory Coast. The long dry sason (4.5-5.5 months) forces many species to drop their leaves during part of this period to minimize evaporation. The occurrence of this vegetation in Bong County is based on soil conditions.

**Population**

As noted above, the current population of Bong County is estimated at 520,000 based on a census of the County Health Team; while an NRC needs assessment survey put the estimated population at 378,161. The NRC estimates annual population growth in the county as 4.5 percent. Traditionally, at certain times in the year, especially during the rains, people have moved in search of alternative sources of income, especially to the rubber plantations. The population is now thought to be decreasingly transient in nature.

According to the NRC, males are estimated at 40 percent, females 51 percent, about 46 percent of females are the children bearing age (15-49 years), fertilities rate of 6.7, children under five years is 15 percent. The county's dependency ratio is 1.41 according to the
Information Management Office of Bong County (IMO), marking it higher than Liberia as a whole, which has a ratio 1.37. Families or households in the county are generally headed by males at a rate slightly higher than the national average; the sex of household head is estimated at 84% male and 16% female, while the national figures are 87% and 13%. The percentage of elder-headed households in the county is the same as the national average percentage, at 8%.

**Ethnic Composition**

Ethnic groups found in Bong County include all of Liberia’s 16 tribes. The Kpelle people represent the largest tribal block in the county, and members of many tribes speak the Kpelle language as a result. All of the tribes have over the years been interlinked mostly through marriage.

**Religion**

Although both Islam and Christianity are practiced, with Christian consisting the majority, for the most part the two groups of practitioners live amicably together. The dominant Christian denominations operating in Bong County are: Catholic, Methodist, Baptist, Lutheran, Episcopal, Presbyterian, Pentecostal-Related, Seventh Day Adventist, Jehovah Witnesses, Church of Christ, Mid-Baptist Church and the Church of the Lord/Aladura. The Gbarnga Central Mosque was built in 1964, and between 1960 and 1989, Islam had reached in every District of Bong County. Religious institutions have worked over the years to buttress government efforts in the training of youth and other development activities.

**Tourism**

Bong County is blessed with several natural sites of interest, which when properly developed and maintained could attract tourists and generate revenues for the development of the county. The county is fortunate to contain a number of potential tourist, draws, which when properly developed, will help boost the economy and provide jobs:

- Wonyah Falls on the St. John River, Kokoyah District
- Other sites on the St. John in Zota, Fuamah and Sanoyea Districts
- Kpatawee Waterfall, Suakoko District (though also identified as a potential hydropower generation site)
- Dobil Island and Bogn Range, Fuamah District
- Tortor and Kpingan Hills, Zota District
- Koya and Gbenyayeaa Forests in Jorquelleh District
The strategy for developing these tourists sites will necessarily include in inclusive process of local economic development (LED) dialogs to ensure that the surrounding communities bring their own contributions to bear, and to ensure maximum possible benefit for all stakeholders and protection of the sites.

**Agriculture**

The agro-ecosystem of Liberia consists of four major zones, of which Bong County is situated in the mountain and plateau zones, where citizens traditionally grow rice, cassava, maize, oil palm, cocoa, coffee, rubber and sugarcane. Citrus and cereal crops are also cultivated in the county. The potential for these crops are quite high compared to the current output. As stated in the PRS, realizing this agricultural potential is one of the keys to reducing poverty.

In the area of livestock production, Bong County has large and small ruminants, pigs, rabbits, guinea pigs, chickens, ducks and guinea fowl, mostly raised on the domestic scale. The production of livestock has never been properly prioritized as compared to crops.

Like other counties in Liberia, Bong County is going through a seemingly unending food crisis, in spite of its great domestic agricultural potential. The agriculture sector at present is almost entirely made up of traditional smallholders farms and household gardens, and consumers in the county have long been accustomed to depending on imported rice and other staples, in spite of the fact that these crops can be readily grown in Liberia.

As shown in the below table, the main constraints to increased production reported by farmers are related to a lack of capital for seeds, tools, and other inputs. As mentioned previously, access to credit is extremely limited in the county.

**Health**

As in the education sector, much has improved in healthcare delivery since the end of the war, but enormous gaps remain in both access and quality of care. No formal system of health administration has been established in Bong County. Health services are mainly provided in Gbarnga at Phene Hospital with funding from the Lutheran Church and the Government of Liberia. Bong Mines Hospital in Fuamah District is run by the County Health Team. Thirty-three clinics are spread over the county, out of which 26 are supported by international NGOs. Phebe Hospital, being the major referral hospital in the county, provides VCT services and blood bank facilities. The only functioning X-rays machine redies at the
UN BANBATT Level II Hospital. Many international NGOs collaborate with CBOs and the Government to carry out health related promotions and provide limited services, including GBV prevention and response, sexual and reproductive health education and referrals, and life skills education including hygine and water safety, and awareness around HIV and AIDS and Lassa fever.

The healthcare delivery system is affected by a chronic lack of trained personnel and inadequate cold chain equipment. The ratio of physicians to the general population is estimated at an abysmally low 1:71,200, nurses at 1:9,800, and midwives at 1:9,300. Most qualified personnel are based in Monrovia and have little incentive to relocate to rural areas. To fill the gap and provide adequate basic coverage to the whole population, the county requires an additional 64 health posts, 2 nursing training institutes and 2 hospitals.

Water and Sanitation

According to a recent UNICEF survey, water for domestic use comes mainly from unprotected sources (65%), yet only 35% of households purify their water before consuming it. Although 45% of households indicated that they use toilets; only 15% use ventilated improved pit (VIP) latrines or flush toilets. The rest use traditional toilets: open field or bush. Gbarnga City does not have a pipe-borne water supply system. Hand pumps exist; though not in great enough numbers to serve the city and the districts and many are non-functional. In general, proper water and sanitation measures are not taken by locals.

5. GRAND BASSA COUNTY

Geography

Grand Bassa County is relatively located in South central Liberia. The Atlantic Ocean is on the South, Margibi on the Northwest, Bong County on the North, Nimba on the East and River Cess is on the Southeast. The absolute location of Grand Bassa in Liberia is latitude 6° 45’ to latitude 5° 30’ north, and from longitude 10° 30’ to longitude 9° 00’ west. The total land area is approximately 3,382 square miles (8,759 square kilometers).

The county former four administrative districts are now divided into five statutory districts all headed by Statutory Districts Superintendents. Presently Grand Bassa has nine administrative districts, eleven townships, three cities (Buchanan, Edina and St. John River city) and forty-five clans.
Climate
The climate of Bassa is tropical, hot and humid. It has average rainfall of about 4000mm per year. Like Liberia, it has two seasons-rainy season (from April-October) and dry season (from November-March).

Topography
The County has a flat coastline and narrow coastal plain which extends inland from the seashore. The hinterland comprises gradual hills and few high elevations. The coastal region does not rise more than 60 to 70 meters, excepting occasional small hills.

Drainage
The County is drained by several rivers and creeks. The major rivers are St. John, Farmington, Mechlin, New Cess, Llor, Timbo and Benson River. Owing to the low level of the coastal plain, several settlements near the sea-including Buchanan city are vulnerable to inundation and erosion. During the last rainy season, Benson and Mechlin Rivers overflowed their banks caused flooding. As a result, many villages remain inaccessible during certain time of the year due to deplorable road conditions.

Geology / Soil
The County soils can be categorized as laterite (55%), which is leached out, alluvial (19%) and sandy and loamy (26%). Two onshore sediment-filled basins are located along the coastline. Roberts Basin, which is filled with sediments of the Farmington River formation and Paynesville Sandstone; and the Bassa Basin, which is filled with materials from the St. John River formation.

Vegetation
The high elevation region of the County is generally covered by green forest such as evergreen and deciduous trees (iron wood and mahagony) while the savanna covers most part of the coastal areas. Rubber and palms trees are also planted in concession areas and on small private farms.

Population
The total population of Bassa is 221,693 with female (110,780) and male (110,913); hence a difference of (133) which shows that both males and females are equal (see below). Most of the population appears to be concentrated around Buchanan and District # 3 (Gorblee District) which is part of Wee Statutory District. The average household size is 4.8 persons.


**Table 5 Population by District, Grand Bassa County**

<table>
<thead>
<tr>
<th>District</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Bassa</td>
<td>110,913</td>
<td>110,780</td>
<td>221,693</td>
</tr>
<tr>
<td>Common Wealth (Buchanan)</td>
<td>17,334</td>
<td>17,559</td>
<td>34,893</td>
</tr>
<tr>
<td>District #1</td>
<td>12,555</td>
<td>12,057</td>
<td>24,612</td>
</tr>
<tr>
<td>District #2</td>
<td>12,724</td>
<td>12,998</td>
<td>25,722</td>
</tr>
<tr>
<td>District #3</td>
<td>25,281</td>
<td>24,244</td>
<td>49,525</td>
</tr>
<tr>
<td>District #4</td>
<td>15,315</td>
<td>15,139</td>
<td>30,454</td>
</tr>
<tr>
<td>Owen- grove</td>
<td>6,774</td>
<td>7,140</td>
<td>13,914</td>
</tr>
<tr>
<td>St. John River City</td>
<td>5,028</td>
<td>4,982</td>
<td>10,010</td>
</tr>
</tbody>
</table>

※ Source: LISGIS 2008

**Ethnic Composition**

Bassa-speaking people are in the majority, making up 94% of the County’s population. Other ethnic groups in the County include the Kpelle (5%), and the Kissi (1%), and small numbers of other groups. The Kru, often originating from neighboring Sinoe County, and Fanti fishermen and traders are also a part of the population.

**Religion**

According to current estimates, the Christians religion is the most dominant at 93%, followed by an estimated 5% Muslim and 2% animists.

**Agriculture**

Palm oil and food crops production are the most important livelihood activities in the county. Currently the palm oil is mostly produced by former employees and squatters of the concession area of Liberia Incorporated (LIRINC), also known as Palm Bay Plantation.

There is a problem of low agriculture production in the county due to the lack of farm implements, seeding, etc. in the county; access to agricultural land for cultivation is estimated at 81%. Of this percentage, some 83% of the farmers cultivate crops. The main crops cultivated are cassava (87%), rice (60%) and plantain/banana (7%). Some 36% of households produced cash crops including cocoa, plantain/banana, coffee, palm nuts/oil and coconuts. Three percent of households owned goats, another 51% owned chicken and 8% owned ducks. The main crops produced for home consumption are rice, cassava, (used to
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make the traditional dumboy, gari and fufu dishes which in Grand Bassa is more popular than rice), plantain/banana, sweet potatoes and corn.

Fisheries
In Buchanan one of the major economic activities is fishing, but it is carried out on a small scale. There is a great potential for fishing industry in Buchanan. These activities lack refrigeration facilities. The Kru, Fanti and market women are mainly engaged in these activities.

Health
The County has a 75-bed Government owned hospital, but it is located in Buchanan. The rural people are not served, although, there are about 31 functional health facilities in the county, they are inadequate.

Water and Sanitation
An estimated access to improved water and sanitation is 10% and improved water and sanitation is 7%.

Education
The available schools in the county often face a problem of over crowdedness. The availability of trained and qualified teachers is also a serious problem. Due to poor incentives, many teachers left the classrooms in search of greener pastures. Currently there are 257 functioning educational facilities in the county but many are operated by volunteers in makeshift facilities such as churches and private accommodations, and do not have desks or chairs.

Housing
As of December 2006, 4,574 families were living without proper shelter. More recently about 50 houses in Buchanan small Fanti Town are threatened by the alarming speed of coastal erosion, and a relocation plan is necessary for the whole affected community”. An integrated coastal area development planning by both government and development partners is recommended.

Economic Activities
Economic development requires natural resources to be efficiently exploited. Grand Bassa County is endowed with ample exploitable natural resources including gold, timbers,
diamond, uranium, sand and rocks. Investment in these areas will yield significant dividends to the people. Such investment could reduce the high rate of youth unemployment and provide considerable income for re-investment in the county. Among these, timbers and golds have been exploited on a small scale.

There are presently three major companies in the county; Mittal Steel, Buchanan Renewable Energy and Liberia Agricultural Company (LAC) all operating on a low scale. The rehabilitation of basic infrastructure (Buchanan Port, Monrovia-Buchanan Highway and railway Buchanan-Yekepa) will facilitate the arrival of other companies in the county). The Monrovia –Buchanan high way is now under construction. The Port of Buchanan is about 2,000 to 3,000 meters from the Atlantic Street.

6. MONTSERRADO COUNTY

Geography
Montserrado is one of the smallest counties in Liberia. Its relative location is the Atlantic Ocean on the south, on the north by Bong County, Bomi County on the west and Margibi County on the east.

Montserrado comprises of 2 statutory districts, 2 chieftdoms, 7 cities, 21 townships, and 1 borough. A statutory district is headed by a superintendent while an administrative district is headed by a commissioner. A statutory district comprises two or more administrative districts.

Climate
As a small territory of Liberia, Montserrado has a tropical climate with 2 seasons-rainy and dry seasons. Average temperature falls between 21 and 36 degrees Celsius while average rainfall is about 75 inches.

Topography / Drainage
The County consists of hills and valleys in the interior and lowlands along the Coast. With direct access to the sea, the county has many rivers including St. Paul River and Mesurado River.

Vegetation
The lowlands along the coast are covered with savanna grasses, mangrove woodlands and scattered palm trees. Inward are Water-logged swamps, and patches of secondary forest.
Population

Table 6 Population by District, Montserrado County

<table>
<thead>
<tr>
<th>District</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caresburg District</td>
<td>15,048</td>
<td>14,664</td>
<td>29,712</td>
</tr>
<tr>
<td>Common Wealth</td>
<td>5,752</td>
<td>6,124</td>
<td>11,876</td>
</tr>
<tr>
<td>St. Paul River (Hotel Africa area inclusive)</td>
<td>34,981</td>
<td>36,850</td>
<td>71,831</td>
</tr>
<tr>
<td>Todee</td>
<td>17,479</td>
<td>16,519</td>
<td>31,998</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>73,260</td>
<td>74,157</td>
<td>145,417</td>
</tr>
<tr>
<td>Greater Monrovia*</td>
<td>476,473</td>
<td>494,351</td>
<td>970,824</td>
</tr>
</tbody>
</table>

*Greater Monrovia is not under the political Jurisdiction of the Montserrado leadership although it is located in the region.

Ethnic Composition

At the time of its founding, Montserrado County was composed of three main tribes: the Deygbo or Dey on the coast, and Kpelle and Gola in the north. These groups were joined by the formerly enslaved people from America in 1821. Eventually all of Liberia’s 16 tribes came to populate the County, so that today Montserrado, and particularly Greater Monrovia, is considered highly diverse and representative of the population of Liberia as a whole. Bassa-ande Kpelle-speaking peoples are in the majority, making up 21% and 52% of the County’s population respectively, but every other Liberian language and dialet can also be found. The population of a few ethnic groups does not reach the 1 percent mark, including the Sapo, Krahn and Mandingo. However, the 0% notation should not be interpreted as having no presence in the County.

Religion

An estimated 68.2% of the population is Christian, while 31.8% is Muslim, according to the County Superintendent’s office.

Tourism

No Tourism site is found in the county.

Agriculture

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*Source: LISGIS 2008*
The population is mostly engaged in subsistence agriculture. Only about 40% have access to agricultural land. The main crops cultivated include Cassava (90%), rice (16%), vegetables (18%), sweet potatoes/eddoes (8%), plantain/banana (8%), corn (16%) and pulses (1%).

Fishing
There are seven (7) artisanal fishing communities located along the beaches of Montserrado. Those directly and indirectly engaged in fishing activities earn their livelihood from the sector. Majority of those indirectly involved are market women who buy, smoke, and sell fish on a retail basis.

Health
Currently the majority of the rural population has to walk for hours or days to access a Clinic. The county suffers shortage of health facilities; as a result, health is considered one of the needy facilities in the county. Both the facilities and the services are inadequate to meet the urgent needs of the citizens. Health is one of the priorities of the county.

Water and Sanitation
In most part of rural Montserrado access to sanitation facilities is non-existent, and locals still use the bushes to attend nature. Those along the coastal areas often use the beaches. The majority of the populations are without pipe borne water. There are hand pumps but they are not regularly maintained, as a result, there are frequent outbreaks of water-borne diseases. There is a need for maintenance to be considered in both planning and budgeting. In Montserrado there is an average of 3,014 persons to one latrine and in Careysburg District 766 per latrine, in St. Paul 1,777 per latrine.

Education
The Ministry of Education in 2006 report, reported 252 schools in St. Paul River, 52 in Todee and 35 in Careysburg. However, many children are still forced to walk for several hours to reach the nearest educational facilities where at time they receive sub-standard education in often dilapidated buildings.

Economic Activities
Owing to the lack of factories and industries in the county, production is predominantly subsistent.
7. GRAND CAPE MOUNT COUNTY

Geography
Grand Cape Mount County is located on the West-central portion of Liberia. The country is bordered by Gbarpolu County to the northeast and Bomi County on the South Southeast, on the North by the Republic of Sierra Leone and on the South by the Atlantic Ocean.

The county has a total area of 5,162 square kilometers (1,993 square miles). The absolute location of Cape Mount is latitude 7° 10’ N and longitude 11°00’ W.

The county has five administrative districts; Common Wealth, Garwula, Gola Konneh, Porkpa and Tewor Districts.

Climate
Cape Mount as a coastal region has high annual rainfall because the coastline runs approximately from South-east to North-west and at right angles to the prevailing South-western rain-bearing winds. It has two seasons: rainy and dry seasons. The rainy season begins in April and ends in October with an average rainfall of 400 mm and temperatures ranging from 28 and 34 degrees Celsius, while humidity goes as high as 90 to 100 percent. The dry season is from November to March.

Topography / Drainage
Grand Cape Mount has a large natural lake called “Lake Piso”, which forms a confluence with the Atlantic Ocean with beautiful shores that attract tourists. The county is also endowed with mountains such as the Bie Mountains in Porkpa and Gola Konneh Districts, which contain a large deposit of iron ore. Cape Mount has good network of rivers such as Maffa, Mani, Konja, and Lofa which separates Bomi from Cape Mount, and the Congo Mano River, separating Sierra Leone and Liberia. These rivers contain rich deposits of gold and diamonds and provide food and livelihoods for many communities. Cape Mount is richly endowed with natural resources, mainly iron ore in Porkpa and Gola Konneh Districts, and diamonds and gold in Porkpa, Gola Konneh and Tewor Districts. There is a unconfirmed report that the county has some deposit of oil.

Vegetation
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The coastal belt of the county has coastal savannah, coastal mangroves, and scattered trees and farmland. Towards the interior are some semi-evergreen, rain forest and secondary forest.

**Population**

Cape Mount County is sparsely populated. It has a density of 25 inhabitants per square kilometer (65 persons per square mile).

<table>
<thead>
<tr>
<th>District</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Cape Mount County</td>
<td>65,679</td>
<td>61,397</td>
<td>127,076</td>
</tr>
<tr>
<td>Garwula</td>
<td>13,668</td>
<td>13,268</td>
<td>26,936</td>
</tr>
<tr>
<td>Gola Konneh</td>
<td>13,157</td>
<td>10,361</td>
<td>23,518</td>
</tr>
<tr>
<td>Porkpa</td>
<td>22,208</td>
<td>20,407</td>
<td>42,615</td>
</tr>
<tr>
<td>Tewor</td>
<td>3,298</td>
<td>3,249</td>
<td>6,547</td>
</tr>
<tr>
<td>Common Wealth</td>
<td>6,547</td>
<td>14,112</td>
<td>20,659</td>
</tr>
</tbody>
</table>

* Source: LISGIS 2008

**Ethnic Composition**

The five major groups in the County are the Vai, Gola, Mende, Mandingo and Kissi. Other minority ethnic groups include Bassa, Gbandi, Grebo, Kru, Lorma, and Mano. The Vai vernacular is widely spoken, followed by the Gola, with percentage distributions of 60% and 23% respectively. Mende, Mandingo and Kissi languages are also spoken by sizeable minorities. The Vai script, introduced by Bokelehe, serves as means though which many locals are able to communicate and keep financial transactions and other records. Culturally, inter-marriages among the tribes are permissible and common. This leads to cultural assimilation that creates a bond of unity.

**Religion**

The two main religions in the County are Islam and Christianity. It is estimated that 70% of the population in Cape Mount are Muslims, while 25% are Christians and a smaller minority are practitioners of traditional religions. The relationship between the two major religious communities is largely harmonious.

**Tourism**
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The Lake Piso region, with its fantastic biodiversity makes it very attractive to tourists. In the 1970s, tourism thrived in the county, especially after the construction of 75-bed room hotel. There are also a number of historical sites including the Tallah Township, which was a World War II Allied base. To promote tourism and other commercial activities that will help to provide employment, revenue and economic growth, the CDA process heard calls for the declaration of the Lake Piso region as a multi purpose protected area, construction on air strip, rehabilitation of Hotel Wakolor, construction of additional motels and restaurants in Robertsport along Lake Piso, on Yark Island and in Sembehun, development of the beaches and construction of public park”.

Agriculture
Approximately 78% of the rural households in the county are engaged in agricultural activities at subsistence level. Farmers cultivate various crops including oil palm, rubber, cocoa and coffee and food crops such as rice, cassava, yarm sand vegetables including pepper, bitter ball, okra, potato leaves, cabbages and others.

Agricultural production remains low due to limited access to extension services, traditional methods of farming, late supply of seeds, lack of capital and credit, lack of tools and other farm inputs.

Fishing
Fishing is another means of survival in the county. According to statistics about 11% of households were engaged in Ocean fishing, while 15% fished in rivers, 81% in creeks and 2% in swamps. However, the fishing industry remains underdeveloped. Fishing provides employment to about 30 per cent of the population of Robertsport and its environs. Currently most fishing is carried out by the Fanti and Kru people who have trained many local youth. However, lack of cold storage facilities, coupled with a lack of capital continues to constrain growth in the sector. There is a need to organize fishing cooperatives and provide inputs to local fishermen to engage in commercial fishing as well as smoking and cooling.

Health
There is one hospital (the St. Timothy Government Hospital) located in Robertsport and some 32 functional health facilities-30 clinics, one health center and one health post. The African Humanitarian Agency (AHA), the Medical Teams International (MTI) and International Medical Corps are playing a pivotal role in supporting the health section. Some
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74% of the local facilities are currently supported and run by INGOs with funding from UN Agencies and bilateral donors”. There is no report on the presence of donors such as USAID, World Bank, AFDB, UNMIL, etc project in the county. World Bank promised to initiate some assistance but in January of 2010.

According to epidemiological data from health facilities the principal causes of morbidity are malaria, pneumonia, sexually transmitted diseases, diarrhea diseases, urinary tract infections, hypertension and pelvic inflammatory diseases. The current staffing gap in the County is one doctor, 35 nurses, 15 certified assistants and two technicians. The rehabilitation of medical infrastructure, provision of a regular supply of medication, recruitment and training of more health staff, especially nurses and traditional birth attendants, provision of vehicles and rehabilitation of the County hospital are crucial in meeting with the health needs of the growing population of the county.

Water and Sanitation
Only 20% of the communities in the county have access to clean water facility. The poor water and sanitation problem has contributed immensely to the poor health of the inhabitants. Only about 35% of the pre-war wells and hand pumps have been rehabilitated to date which is inadequate. Therefore, the rehabilitation of all pre-war damaged wells and hand pumps and the construction of additional ones in nearly every town is necessary to increase accessibility of safe drinking water to the PRS goal of 50% coverage.

Road & Bridges
The County has only one paved road, leading from Monrovia to Bo Water Side, and seven major feeder roads. There exist also several farm-to-market or secondary feeder roads. With all these roads, there are still problems, the physical damage to roads and bridges mainly during rainy season usually create problems for the free movement of citizens throughout the county. Deterioration of roads is attributed to lack of maintenance and the absence of qualified technicians, which has warranted the rehabilitation of bridges by masons and carpenters. Accessibility to some areas during the rainy season is virtually impossible due to damaged bridges.

Education
There are about 124 functional educational facilities in Grand Cape Mount County. Of this number, 107 are elementary schools, 14 are junior highs and three are senior high schools.
Enrollment is estimated at 26,748 including 13,888 boys and 12,860 girls, with a teacher population of 341, which 311 are male and 30 are female.

**Housing**

In many parts of the county, adequate shelter and basic housing fall seriously below the acceptable standard. "Between January and December 2006 the Norwegian Refugee Council conducted a multi-sectoral needs assessment survey in the county. A total of 348 villages with a combined population of 198,002 were survey, and of this group, 11,472 families without shelter were recorded. NRC has embarked on shelter assistance for approximately 1,500 households in the county with funding from DFID, USAID/LCIP through its implementing partner North West Development Association funded shelter construction for 195 beneficiaries including ex-combatants and vulnerable persons.

**4.2.10.15. Socio-economic conditions of Affected Villages(Category II)**

Socio-economic survey for the people residing within the 600 meter width band (300 meters from the center of the line route on either side) was carried out. Majority of the population along the line route base their livelihoods on agricultural, growing (a) cash crops such as rubber, oil palm, kola nuts, sugarcane, cocoa and coffee, (b) food crops such as plantains, orange, cassava, eddoes, etc. Farming method is slash and burn shifting cultivation carrying out petty trading of surplus crops and small businesses to provide monetary income. Estimated average annual income is the equivalent of US$79. Other income earning opportunities in the area are minimal. Wage labor is available to some people within the agricultural section or as contractors with large commercial plantation.

Settlements within 600 meter band width (300 meters from the center of the line route on either side) are listed as below

<table>
<thead>
<tr>
<th>No.</th>
<th>County</th>
<th>Town/Village</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Nimba</td>
<td>Youpia</td>
<td>850</td>
</tr>
<tr>
<td>2.</td>
<td>Nimba</td>
<td>Mulbah Konneh Village</td>
<td>73</td>
</tr>
<tr>
<td>3.</td>
<td>Nimba</td>
<td>Mohnyen Village</td>
<td>86</td>
</tr>
<tr>
<td>4.</td>
<td>Nimba</td>
<td>Vah Village</td>
<td>78</td>
</tr>
<tr>
<td>5.</td>
<td>Nimba</td>
<td>Dennis Power Village</td>
<td>83</td>
</tr>
<tr>
<td>6.</td>
<td>Nimba</td>
<td>Mark Glee Village</td>
<td>97</td>
</tr>
<tr>
<td>7.</td>
<td>Nimba</td>
<td>Stanley Village</td>
<td>120</td>
</tr>
<tr>
<td>No.</td>
<td>County</td>
<td>Town/Village</td>
<td>Population</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>-------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>8.</td>
<td>Nimba</td>
<td>Budadin Town</td>
<td>800</td>
</tr>
<tr>
<td>9.</td>
<td>Nimba</td>
<td>Zao Junction</td>
<td>425</td>
</tr>
<tr>
<td>10.</td>
<td>Nimba</td>
<td>CNC Camp</td>
<td>300</td>
</tr>
<tr>
<td>11.</td>
<td>Nimba</td>
<td>Sam Biepa Village</td>
<td>105</td>
</tr>
<tr>
<td>12.</td>
<td>Nimba</td>
<td>George Weah Farm</td>
<td>77</td>
</tr>
<tr>
<td>13.</td>
<td>Nimba</td>
<td>Zolowea Town</td>
<td>550</td>
</tr>
<tr>
<td>14.</td>
<td>Nimba</td>
<td>Darlopa</td>
<td>2,000</td>
</tr>
<tr>
<td>15.</td>
<td>Nimba</td>
<td>Zuakarzue #1</td>
<td>800</td>
</tr>
<tr>
<td>16.</td>
<td>Nimba</td>
<td>Zuakarzue #2</td>
<td>Not available</td>
</tr>
<tr>
<td>17.</td>
<td>Nimba</td>
<td>Zorgowee</td>
<td>Not available</td>
</tr>
<tr>
<td>18.</td>
<td>Nimba</td>
<td>Gbobayee</td>
<td>Not available</td>
</tr>
<tr>
<td>19.</td>
<td>Nimba</td>
<td>Sinkimpa</td>
<td>Not available</td>
</tr>
<tr>
<td>20.</td>
<td>Nimba</td>
<td>Kpouh</td>
<td>Not available</td>
</tr>
<tr>
<td>21.</td>
<td>Nimba</td>
<td>Gbobaley</td>
<td>Not available</td>
</tr>
<tr>
<td>22.</td>
<td>Nimba</td>
<td>Tonwee Ganpaqua</td>
<td>Not available</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td><strong>Subtotal</strong> 22 Towns</td>
<td><strong>6,484</strong></td>
</tr>
<tr>
<td>23.</td>
<td>Margibi</td>
<td>Hydro Dirty Town</td>
<td>175</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td><strong>Subtotal</strong> 1 Towns</td>
<td><strong>175</strong></td>
</tr>
<tr>
<td>24.</td>
<td>Bomi</td>
<td>Kpormakpor Vallige</td>
<td>65</td>
</tr>
<tr>
<td>25.</td>
<td>Bomi</td>
<td>Golodee Lansana</td>
<td>1,984</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td><strong>Subtotal</strong> 2 Towns</td>
<td><strong>2,049</strong></td>
</tr>
<tr>
<td>26.</td>
<td>Bong</td>
<td>Dozen Town</td>
<td>475</td>
</tr>
<tr>
<td>27.</td>
<td>Bong</td>
<td>Gbarwo Kpallah</td>
<td>850</td>
</tr>
<tr>
<td>28.</td>
<td>Bong</td>
<td>Gbar Town</td>
<td>920</td>
</tr>
<tr>
<td>29.</td>
<td>Bong</td>
<td>Tarpeh Town</td>
<td>785</td>
</tr>
<tr>
<td>30.</td>
<td>Bong</td>
<td>Kokoya, Boepa Camp III</td>
<td>475</td>
</tr>
<tr>
<td>31.</td>
<td>Bong</td>
<td>Boepa Camp II</td>
<td>100</td>
</tr>
<tr>
<td>32.</td>
<td>Bong</td>
<td>Lorta (Kpa District)</td>
<td>225</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td><strong>Subtotal</strong> 7 Towns</td>
<td><strong>3,830</strong></td>
</tr>
<tr>
<td>33.</td>
<td>Grand Bassa</td>
<td>Dorwein Town</td>
<td>1,100</td>
</tr>
<tr>
<td>34.</td>
<td>Grand Bassa</td>
<td>Kardorpue Town</td>
<td>1,150</td>
</tr>
<tr>
<td>35.</td>
<td>Grand Bassa</td>
<td>Kroe Town</td>
<td>850</td>
</tr>
<tr>
<td>36.</td>
<td>Grand Bassa</td>
<td>Kola Tree Town</td>
<td>250</td>
</tr>
<tr>
<td>37.</td>
<td>Grand Bassa</td>
<td>Eye To Eye Village</td>
<td>125</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td><strong>Subtotal</strong> 5 Towns</td>
<td><strong>3,475</strong></td>
</tr>
<tr>
<td>38.</td>
<td>Montserrado</td>
<td>Frank Town</td>
<td>1,350</td>
</tr>
<tr>
<td>39.</td>
<td>Montserrado</td>
<td>Little Frank Town</td>
<td>148</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td><strong>Subtotal</strong> 2 Towns</td>
<td><strong>1,498</strong></td>
</tr>
<tr>
<td>40.</td>
<td>Grand Cape Mount</td>
<td>Sanjanama Town</td>
<td>1,500</td>
</tr>
</tbody>
</table>
### Table 9 Distribution of Educational facilities within the project areas

<table>
<thead>
<tr>
<th>Town/Village</th>
<th>Elementary</th>
<th>Junior High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kahnla</td>
<td>1 public</td>
<td>-</td>
</tr>
<tr>
<td>Lugbeyee</td>
<td>1 public</td>
<td>1 junior</td>
</tr>
<tr>
<td>Kardorpue</td>
<td>1 public</td>
<td>-</td>
</tr>
<tr>
<td>Zwanzhun</td>
<td>1 public</td>
<td>1 junior high</td>
</tr>
<tr>
<td>Mambo</td>
<td>1 public</td>
<td>1 junior high (Private)</td>
</tr>
<tr>
<td>Kokoya Boepa</td>
<td>1 public</td>
<td>-</td>
</tr>
</tbody>
</table>

### Education

Levels of education are low across the project affected areas. Baseline studies found that approximately 25% of the population aged over 15 is illiterate. Overall women’s illiteracy level is twice that of men. The educational facilities available to towns/villages are inadequate.

### Credit

Banks are only found in County centers. Rural credit is provided by a local credit group called “SUSU” where savings are kept by a group of people with mutual understanding. Local people sometimes obtain credit from NGOs and other friendly local business people.

### Housing

Rural houses are generally constructed of sun-dried mud brick with either thatched or corrugated steel sheet roofs. Generally housing conductions in the project affected area are very poor. Majority of the houses are built of mud, sticks and thatch. The houses do not have toilet facilities, not water supply. The majority used the nearby bushes to defecate.

### Health
The rural communities within this periphery lack any sanitation, and clean water provision is sporadic and confined to a few wells with hand pumps. Most people creek-water for their needs. Most households lack easy access to health services. Many households predominantly are reliant on usage of medicinal plants and traditional healing to treat illnesses. The survey found one clinic in Lugbeyee, one in Manbu Town and one in Kokoya Boepa.

The baseline surveys looked at the health-care facilities that were available to households and how families were using the services that are available to them. There are no official disaggregated data on birth rates or numbers of births per woman in the survey areas, but nationally these rates are recognized as being high. There is also no published data available on rates of illness or spread of diseases in the project affected areas. Nationally the infant mortality rate is 157 per 1000 live births (2004); the main causes of death among infants under the age of 5 are due to neonatal causes, malaria or pneumonia. HIV prevalence of 15-49 year is recorded at 5.9% (2003). The total expenditure on health as a percentage of the gross Domestic Product was 4.7% in 2003 (WHO).

Many people within the project affected areas expressed that they rely on traditional medicine. Many people do not use western medical facilities such as hospitals and clinics perhaps due to lack of financial resources, physical distance to hospital or clinics. One other finding is that the people prefer traditional treatment because consultation with a herbalist is cheaper and quicker than a hospital consultation. There are clinics in Lugbeyee, Mambu, and Kokoya Boepa towns. The rest of the project affected towns/villages have no health facilities.

4.2.10.16. Land Tenure and Agriculture

Agriculture is recognized as the most important part of the Liberian Economy and in 2008 agriculture and forestry combined to produce 61% of the gross domestic product of the country. It was recorded that 70% of the national population were engaged in agricultural activities (Somah 2005).

There are two major forms of land tenure in Liberia: private land ownership with owners holding titled deed; and customary ownership. The latter is the most common in the project area. Customary land ownership plots are allocated to residents within the town quarters by the the Town Chief and elders council. As in many Liberian villages, quarters allocated in predetermined land area as associated to family lineages (patrilineal), resulting in an
entwinement of farming with residence and descent. Quarters are not stable entities as family fortunes and migration in and out can change their composition. Strangers or landless people within a community can request to use land directly to families who have an allocated quarters or the Town Chief but they may be refused. Baseline surveys found that compensation requirements for families within areas used by other community members was almost invariably said to be a 50 kg sack of seed rice irrespective of farm size. This is particularly interesting because it overlap with a request stipulation that famers on non-family land including son-in-laws are often requested, regardless of whether they pay rice or not, not to plant tree crops. Under the widespread customary practice of acquiring or asserting land claims through tree planting (Unruh, 2008), this restriction is a means of ensuring that the land lent outside the family is not at risk of leaving the family quarter.

It was found that households farm a mixture of tree crops, subsistence and cash annual and biennial crops. The type of crop and the use of the plot varies with plot size, the topography and pressure on land availability. Some households only grow cash crops, others, a mixture of cash crops and subsistence farming. Some households sell surplus, others cannot grow sufficient to feed their families for the year and have to support their households with other income.

Robber, cocoa, coffee, and plantains are usually grown as plantation- single tree stand areas cropped continuously over period of years. Rubber takes 7 years to mature and can be tapped for 25 years or more whereas plantains stands are replanted every two years. Tree crop producing households are in the minority. More households own stands of fruit trees- coconut, kola and other fruits – and sugarcane.

Some crops such as swamp rice can be repeated during the year on the same plot, other crops such as cassava can produce a crop two years running before the plot is abandoned to fallow to restore fertility. Households typically grow rice, cassava, peppers and green leafy vegetables.

4.2.10.17. Governance
Liberian society is characterized by a veneration of elders and patriarchy. Each hamlet village or town has a Town Chief. Under the traditional administrative system, rural Town Chiefs are organized under Clan Chief and Paramount Chiefs. The traditional Chief is advised by a group of Council of community elders who are invariably men. The Chief and elders are responsible for a range of duties in organizing rural life including allocating land
use on communal lands giving permissions for strangers to enter and stay in the community, permitting house building and settling disputes on all aspects of community life. The system was damaged during the civil war but is regaining strength and respect as peace continues. Increasingly male youths are invited to participate in Elders Councils in recognition of their roles in the war and experience they gained in leadership. A consultation found that a consideration number of youth or younger members of communities were given the role of Town chief.

There is an official Government Administration hierarchy of District Superintendent and District Officers, County Superintendent and Officer of line Ministries as well as Central Government Ministries. Management of rural communities is a partnership of the Governmental system and the traditional Chief and councils of Elders. In addition, there are other structures that determine how communities operate and who is accepted in the community. Firstly, the Zoes are the traditional herbalists/medicine men/leaders. The Zoe recognized as controlling relations between the spirit world embodied in nature, the ancestors and living communities. They are also recognizing as medicine men carrying knowledge of plants for medicinal usage. The role is handed down through families. Secondly, the Poro and Sande Cultural societies are important aspects of community life and they are recognized under national legislation. The Poro and Sande societies are fraternities/societies of men and women organized in groups of people of the same age bands. Their purpose is to teach life skill and reinforce cultural knowledge and practices. Membership of each society determines ‘belonging’ and acceptance in a community.

4.2.10.18. Socio-economic Conditions of Properties Affected People

The social-economic study was done by interviews with random sample households in large village. The results were tabulated and analyzed.

Properties Affected People are individuals who own properties that will be directly affected. The properties include cash crops, food crops, houses/ huts/ buildings, land, etc. These are the people among the project affected communities that will receive compensation for properties to be affected. There are approximately 113 householders whose properties will be affected and their dependents totaled 597 (see appendix 5 for numbers of people and the types of properties to be affected by the proposed Project).

It is indeed difficult to differentiate socio-economic conditions of project affected people and Properties Affected People. These two groups are residing in similar communities. They all will enjoy services such as schools (primary and secondary), water, health and road
networks. With reference to employment, contractors will employ local people living in the
neighborhood of the project area to work as casual laborers. In this light, properties affected
people and their dependents would be given first preference. Besides direct part time
employment, other temporary job opportunities will be possible such as the provision of
small commence and services e.g. sale of agricultural products.

It is expected that Special Purpose Company (SPC) will enter into an agreement with local
communities for clearing the line corridor as well as Security Services.

Again the properties Affected People and their dependents should be given preferences.
The compensations they will receive including these opportunities would indeed raise their
income levels and they would have better living conditions.

4.2.10.19. Corporate Social Responsibility

The project has to consider bearing some corporate responsibilities. The SPC as the
implementing body of the project should consider providing facilities such as water supplies,
schools, health facilities, housing facilities, roads, etc. for the impacted population. Specific
budgetary appropriation is therefore recommended in order for SPC to meet these social
responsibilities.

4.2.10.20. Some Socio-economic Benefit

There is a need that settlements within the influence of the transmission line corridor obtain
some benefits from the line such as shield wires to supply electricity for street lighting,
schools, health centers, social gathering areas such as palava huts, and other public
buildings, and solar systems street lighting. It is essential that this is done in order to
minimize the risks of vandalism of the transmission line. Nowadays it is unacceptable that
power lines go over the head of communities without any benefits, since this create conflicts.
5. LEGAL, REGULATORY AND POLICY FRAMEWORK

This RAP has been prepared to comply with the requirement of the Constitution of Liberia, Environmental Protection Agency (EPA) and the World Bank Group (WBG) institutions and has therefore been prepared in accordance with WBG RAP requirement as indicated in OP 4.12 on “Involuntary Resettlement”. The main Liberian laws applicable to the project area are as stated below.

5.1. Liberian Constitution

The constitutional basis for environmental law is found in Article 7 of the 1986 constitution of Liberia, which provides for public participation of all citizens in the protection and management of the environment and natural resources in Liberia. The clause embraces environmental protection as a fundamental rule according to which the country must be governed. It binds state institutions in particular the legislative and executive to adopt and activate environmental policy and to formulate national development plans that are environmentally sustainable.

5.2. Conservation of the forest of Liberia Act of 1953

Early legislation establishing forest reserves and conservation area were included in the Conservation of the Forests of the Republic of Liberia Act of 1953. This Act and a supplementary Act for the Conservation of the Forest of 1957 provided the framework for the use of forests and wildlife resources and allowed for the creation of government reserves, native authority reserves, Communal Forests, National Parks, and Wildlife refuges.

5.3. Forestry Development Authority Act of 1976

In 1976, the Act that created the Forestry Development Authority established and defined the responsibilities of the Forest Development Authority, outlined offences and penalties in connection with the Act, made provisions for an Advisory Conservation Committee and Specified power of forest officers with regard to trees in reserve areas.

5.4. The National Resources Law of 1979

The National Resources Law of 1979 includes chapters on forests, fish, wildlife, soil, water and minerals. The Law gave the FDA to create and establish government forest reserves and national parks where logging hunting or mining are strictly prohibited. The law also covered matters such as the control and prevention of soil erosion, reserving and improving soil fertility, adequate use of water resources and controlling pollution of public and private waters from industrial or agricultural wastes.
5.5. The Wildlife and National Parks Act of 1988
The Wildlife and National Parks Act of 1988 identified a number of protected areas and specified policies and objectives regarding wildlife conservation in the country. Regulations to be declared by the FDA under the new Act concerning wildlife and protected area conservation have been drafted and cover hunting, internal and international trade, and procedures for establishing new protected areas. The FDA is re-establishing its protection program for the National Forests.

5.6. The enactment of the Forestry Law of 2000
The enactment of the Forestry Law of 2000 also provides for environmental protection. It states in chapter 8 that "all forestry operations and activities shall be conducted so as to avoid waste and loss of biological resources and to protect natural biological resources against damage, as well as to prevent pollution and combination of the environment. The Law provides for the establishment of protected areas, research in the conservation of forest resources, reforestation and afforestation programs, and the conduct of education and awareness programs on forest resources conservation and management. A provision in the Forestry Law also prohibits the waste of forest resources.

5.7. The Public Health Act
The public Health Act contains provisions for the protection of the sources of drinking water and the inspection of potential sources of pollution. The law has limitations in terms of its enforcements. The Act does not address the total management aspect of water resources. In 1981, with the assistance of UNDP, the Government of Liberia, through the Liberian Hydrological Service Bureau of the Ministry of Lands, Mines and Energy prepared a draft water law. The law laid down a complete framework for water resources management in Liberia, but was not enacted.

5.8. The Environmental Protection Agency Act of 2002
The 2002 Environmental Protection Agency Act established the Environment Protection Agency (EPA) and the institutional arrangement that support the Agency. The main bodies created under the Act are the Policy Council, the Agency, the Board of Directors, and County and County Environmental Committees. It also provides for the formulation and periodic update of a National Environment Action Plan, which will incorporate county and county environmental action plans. The National Environment Action Plan (NEAP) is intended to be an integral part of the National Plan for Sustainable Economic Development in Liberia.
addition, the act mandates the institution for enforcing the law and provides the tools through which the environment will be managed. It provides for an Environmental Administrative Court to hear cases from aggrieved parties. It requires that environmental impact assessment (EIAs) be carried out for all activities and projects likely to have an adverse impact on the environment. It provides for a mechanism for ordering a person responsible to restore degraded environment. The act requires that formulation of environmental protection standards, guidelines and procedures; and economic incentives to encourage environment-friendly using practices. The Environmental Court has the provision to meet in counties capitals and in Monrovia. The act also foresees the establishment of a national environment fund for revenues received by the Agency, such as fees for permits, fines, contributions and donations.

5.9. The Environment Protection and Management Law

The Environment Protection and Management Law is a parallel bill to the Environemental Protection Agency Act. The Environment Protection and Management Law enable the EPA to protect the environment through implementing the law. The EPA is responsible to ensure that all sectoral laws confirm to the framework law.

The Environment Protection and Management arrange the rules, regulations and procedures for environmental impact assessment, auditing and monitoring. It establishes regulations for environmental quality standards; pollution control and licensing; guidelines and standards for the management of the environment and natural resources. It also addresses the protection of biodiversity, national heritage and the ozone layer. Other areas covered include environmental restoration orders; inspections; international obligations; and information access; education and public awareness. Several subjects comprised in the Environmental Protection and Management Law anticipated stand-alone, sector-specific statutes, rules and regulations that may be required to facilitate implementation of this law.

In 2003, the Government of Liberia signed three new laws aimed at protecting Liberia’s forests from deforestation, fragmentation and degradation. These laws – the protected Forest Area Network Law, the Sapo National Park Act and the Nimba Nature Reserve Act – has come into force. Preparation of the laws was led by Fauna Flora International with technical input from many Liberian and international partners, and financial support from the European Commission, the Critical Ecosystems partnership fund and the patron Trust.
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The third law creates the Nimba Nature Reserve. It is approximately 13,400 hectares. This mountainous reserve is contiguous with the Nimba Nature Reserves of Guinea and Côte d’Ivoire, which together were declared a Nature World Heritage site by UNESCO in 1981.

5.10. Land Act 1856
Prior to independence, land acquisition and distribution was done on the basis of relationship and class system. Opposition to this system of land tenure led to the establishment of a set of rules known as the "digest of law to govern the affairs of the settlers in terms of land distribution." This later culminated into the Land Distribution Act of 1856 which removed the restriction to land distribution based on citizenship. This Act was repealed by the 1950 Land Act which restricted land ownership to citizens and naturalized citizens especially those of Negro decent.

5.11. County Act 1969
This Act officially distributed and demarcated land boundaries in Liberia. Prior to the Act, counties were created through political means. For instance the four oldest counties in Liberia - Montserrado, Sinoe, Grand Bassa and Maryland were all products of political events.

5.12. Land Acquisition Act 1929

5.13. Policy Framework
Liberia has been operating fragmented environmental policies before 2000. Each public agency governed its own policies it had set. Under the auspices of the National Environmental Commission of Liberia (NECOLIB), established in 1999, a National Environmental Policy of the Republic of Liberia was prepared and submitted to the office of the President in August 2001. The document was approved in November 2002. The objectives of the National Environmental Policy of Liberia are to ensure the improvement of the physical environment, improve the quality of life of the people and ensure reconciliation and coordination between economic development and growth with sustainable management of natural reserves.

The policy focuses on the following areas:
In order to promote effective implementation of sectoral environmental policies and strategies, the National Environmental Policy, among other things, calls for the strengthening of institutional mechanisms and reviewing and where necessary formulating environmental legislation. It also calls for establishing a national environmental council and an autonomous government agency. It seeks to develop and implement systems and guidelines for assessing environmental impacts of development economic activities and to increase environmental education and public awareness. Other goals include developing capacity for environmental management, empowering local communities in the management of natural resources through community participation, and involving the private sector and non-governmental organizations (NGOs) in all aspects of management of their natural resources and the environment.

The Environmental Policy defines policy goals, objectives and principles for sustainable development, but does not include measures and actions to address the priority problems.

Liberia is a party to Convention of Biological Diversity, the Cartagena Protocol on Bio-safety and the Abidjan Convention for the protection and development of the Coastal and Marine Environment. The EPA is mandated to function as focal point for conventions on the environment. The Environmental Protection Agency (EPA) formerly the National Environmental Commission of Liberia (NECOLIB) has participated in the Development of a Collaborative Institutional Data Framework for Integrated Environmental Assessment and Reporting for West Africa and with the assistance of UNDP and UNEP prepared a State of the Environment Report in November 2002, which has been approved and published.

Besides these environmental policy documents, other strategies and plans that address environmental protection include National Energy Strategy (1984), the Ten-year Forestry Sector Development Program, policies in the agricultural sector, the mining/mineral resources sector and the National Plan of Action for the protection of the Coastal and Marine Environment from Land and sea-based activities (2005).
Liberia has an environmental agenda and has therefore signed a number of Multilateral Environmental Agreements and Conventions. The obligation of the Government of Liberia to the CBD (Convention on Biological Diversity) and CITES (Convention on the International Trade of Endangered Species) Conventions requires the proponent to respect the principles of sustainable environmental management in its construction and maintenance undertakings of the transmission line. The principles of these MEAs and the World Bank OP 4.12 (as revised in April, 2004) are applicable to this project. Due consideration has been taken of them in the preparation of this document. In selecting the line route, the over-riding consideration has been the avoidance of environmentally sensitive areas and settlements and the minimization of the destruction of property and farms.


**World Bank Operational Policy 4.12 Involuntary Resettlement.**

The main focus of this operational guideline is to seek to avoid project affected people experiencing negative effects associated with the project such as loss of security, loss of land or assets on land, or being put into a detrimental life situation due to a Bank supported development project.

**World Bank Operational Policy 4.36 Forests.**

The management, conservation, and sustainable development of forest ecosystems and their associated resources are essential for lasting poverty reduction and sustainable development, whether located in countries with abundant forests or in those with depleted or naturally limited forest resources. The objective of this policy is to assist borrowers to harness the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests

**African Development Bank Involuntary Resettlement Policy.**

The African Development Bank’s involuntary resettlement policy has been developed to cover involuntary displacement and resettlement of people caused by the African Development Bank financed project and it applies when a project results in relocation or loss of shelter by the persons residing in the project area, assets being lost or livelihoods being affected. The policy is set within the framework of the African Development Bank’s Vision in which poverty reduction represents the overarching goal. Within this goal, the strategic action to achieve sustainable development will be pursued. It reaffirms, therefore, the commitment of the African Development Bank to promote environmental and social
mainstreaming as a means of fostering poverty reduction, economic development and social well-being in Africa. It is therefore meant to assist African Development Bank and borrowers to address resettlement issues in order to mitigate the negative impacts of displacement and resettlement and establish sustainable economy and society.

**African Development Bank Environmental and Social Assessment Procedures (ESAP).**

The ESAP has been developed to improve decision-making and project results in order to ensure that African Development Bank-financed projects plans and programs are environmentally and socially sustainable as well as in line with African Development Bank’s policies and guidelines. The ESAP intend to replace the actual procedures and integrate all crosscutting considerations into the new assessment process. The ESAP propose to regional member country and Bank staff various instruments for assessing projects. The ESAP also formalise the use of Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP) and Environmental and Social Audits as instruments to enhance project benefits and (in order of priority) to prevent, minimise, mitigate, or compensate for adverse impacts.
6. INSTITUTIONAL FRAMEWORK

Various institutions have been established in Liberia to have either direct or indirect responsibilities for compulsory acquisition of properties in line with the Liberian Constitution. This is to ensure that property affected persons are provided with prompt, fair and adequate compensation and that they are not worse off following the implementation of any project.

The following institutions would have various roles to play in the implementation of the Resettlement Action Plan for the project:

6.1. Ministry of Public Works

This Ministry has the responsibility for the design, construction and maintenance of roads, highways, bridges, storm sewers, public buildings and other civil works. Other functions include urban and town planning, provision of architectural and engineering of infrastructure required for Government. The Ministry has a Special Implementation Unit (now working as an Infrastructure Implementation Unit) charged with the implementation of both urban and rural infrastructure works on behalf of the Ministry.

- Ministry of Planning and Economic Affairs
  
  This Ministry is responsible for national development planning, project preparation and coordination. It provides technical guidance to all governmental agencies in preparation of development programs and projects.

6.2. Ministry of Health and Social Welfare

The Department of Environmental and Occupational Health in this Ministry handles matters relating to water and sanitation. It conducts sanitary inspections in public eating places including drinking water surveillance; construction and/or supervision of water wells and pit latrines and the promotion of community health education. The Department of social welfare handles repatriation and resettlement of internal and external displaced people in Liberia.

6.3. Ministry of Lands, Mines and Energy

The Ministry of Lands, Mines and Energy supervises the development and management of water resources and conducts scientific and technical investigations required for environmental assessments. The implementation of water and sanitation activities is done through the Department of Mineral and Environmental Research. The Ministry’s mandate dictates that it must be involved in Special projects on the evaluation of urban sanitation, particularly the provision of guidance for geotechnical investigation of solid wastes landfill.
disposal sites. The Bureau of Land Survey of this Ministry is the technical section of the Government that handles land demarcation and land survey.

6.4. Environmental Protection Agency (EPA)
The EPA is mandated to set environmental quality standards and ensure compliance with pollution control. It is responsible for the provision of guidelines for the preparation of Environmental Assessments and Audits, and the evaluation of environmental permits. These may include certification procedures for landfill and other activities potentially dangerous to the environment.

6.5. Special Purpose Company
A Special Purpose Company (SPC) to be established for the project will be responsible, among others, for pre-project development as well as the post project implementation of all resettlement-related activities with the close cooperation with the relevant authorities in Liberia. As a substructure of the SPC, the Project Implementation Unit (PIU) will be given the responsibility for the implementation and operation of the project and made up of, among others, environmental specialists, sociologists and engineers. The functions and responsibilities of the SPC and PIU is included in Section 14.2

6.6. National Resettlement Advisory Body (NRAB)
Prior to the commencement of operation of the project the relevant grievances mechanism should be put in place such as the National Resettlement Advisory Body that will be mandated to approve and endorse compensations and other transactions that may occur between the project administration and the local people. This set-up will serve as the representative of both the Government of Liberia and the local people.

6.7. Liberia Refugee Resettlement and Reintegration Commission (LRRRC)
The LRRRC has the mandate to resettle and reintegrate Liberian Refugees that were externally displaced during the Liberian civil war. The LRRRC is also responsible for resettlement of disaster victims in time of natural or man-made disaster.

These may include acquisition of land for refugees or disaster victims. With reference to the capacities of these institutions, it is recommended that the relevant sections of these institutions responsible for resettlement coordination and Implementation be trained and the resourcues be provided.
6.8. Central-level Arrangements

As the project executing agency, SPC has overall coordination role on compensation and rehabilitation measures. SPC will undertake effective implementation of the resettlement, compensation and rehabilitation measures outlined in the resettlement plan to be supplemented by three community Liaison Assistants, and community and county officials.

It should be noted that the 710 affected persons are scattered along the line corridor of approximately 532km length; therefore, resettlement in a particular area is impossible rather compensation to project affected persons is recommended.

6.9. Town Level Arrangements

The Resettlement Action Plan activities including compensation for the Project Affected persons’ loss will be mainly carried out by the SPC as stated in Chapter 5.4.1. However it is necessary for SPC to work closely together with Community Liaison Officer (CLO) in terms of land conflict, compensation, security of the citizens along the line route corridor, employment opportunities, and negotiation with relevant agencies during project preparation, construction and operational phases. The Community Liaison Officer will assist the implementation of the plan in each county. The responsibilities’ of CLO include

- Ensuring that all project affected people obtain their compensation
- Investigating and solve land conflict between community people and between communities that arise during project construction and operational phases.
- Serving as liaison officer between the SPC and the communities in terms of community development

In order to support smooth implementation of the land acquisition and compensation and mitigation measures, the CLO will establish integration and coordination with the Office of the County and District Administrations, the paramount, Clan and Town Chiefs and elders in which the affected area lies. A Local Consultative Forum (LCF) will be established covering towns along 5-10km sections of the line corridor.

The Community Liaison Officer Assistant (CLOA) will support the SPC for the effective implementation of the resettlement plan, help affected persons and provide information campaigns to promote clarity and transparency, help with community level consultations about entitlements and of what to do with compensation payments and income generation opportunities. The CLO/As will also act as advocates for PAPs to access government and other NGO program for income generation and local development. The CLOs will disburse compensation money and other assistance as specified in the list of losses according to the procedures described in this Resettlement plan.
6.10. Other related Stakeholders near the Line Route corridor

Major projects in the line route corridor that could be impacted include Arcelor Mittal Iron Ores Extracting Company, Buchanan Renewable, Firestone Rubber Plantation Company, B.F. Goderick Rubber Plantation Company, etc. These companies will have the opportunities to utilize continuous/constant reliable, reasonable and cheap power supplies to be provided by the WAPP project. They can also share social facilities such as health, education, roads and also joint functional training facilities that all of the aforementioned companies including SPC could utilize sufficiently.

In order to incorporate the various companies operating within the line route corridor areas, SPC should:

- Request the companies to join meetings to jointly discuss the role of SPC and the opportunities that are to be opened to them in terms of cheap, reliable and constant power for smooth operation of their respective entities;
- View the individual corporate plans of these companies in order to integrate their plans with the corporate plan of SPC. This will reduce the cost of each facility if costs are jointly shared. If any of the companies is to construct a clinic in a town which is within the corridor of WAPP project, then that company and SPC can share the cost of construction including management and maintenance of the social project for the people.
- Such would be more economical in case of road project that both the SPC and that company will utilize jointly
- If an environmental disaster within the line route corridor area that would also be within the operational area of a particular company, SPC and the company should share the responsibilities to protect the area of disaster;
- Share security information in order to speedily react within their joint operational area;
- Provide joint training services for both skilled and unskilled workers for their respective entities including rendering free training services to villagers who would like to benefit from such services to enhance productivities and efficiencies.
7. ELIGIBILITY

According to the Terms of Reference (TOR) by the client, the width of right of way is 40 m for the 225kV transmission lines. The RoW for 225 kV transmission lines is, extending from the centre line of the transmission lines and towers. In accordance with the Terms of Reference (TOR), a 40 m right of way (RoW) also referred to as a wayleave, will be required for the entire route, i.e. 20 m on each side of the centre of the line within which vegetation will be cleared close to ground level.

The transmission line is to be constructed within a narrow corridor of 40 m that will span Nimba, Bong, Bassa, Margibi, Montserrado, Bomi to Grand Cape Mount Counties for a distance of about 532 km. The project footprint will be 21,440,000m² to include the area required for the towers (1,330 units) and the four substations (200m x 200 m x 4). Areas to be occupied by each tower base (5m X 5m per tower) and 4 substation sites will be permanently acquired while the rest of RoW and access track will be taken temporarily only during the construction or operation stage. This gives a total area of 193,250 m² for permanent land take.

The land lying within the RoW will be subject to provisions of the RoW Regulations, which prohibit a number of activities in the RoW, including mining, construction of buildings and cultivation or farming. Persons whose properties fall within the RoW have been identified through consultations with local government authorities, chiefs, community members and farmers. Conventionally, farmers will be allowed to harvest any crops within areas to be acquired prior to the securing of the RoW. This section provides information as well as spells out the criteria for determining their eligibility for compensation and other resettlement assistance.

7.1. Eligibility Criteria

The RAP carried out a census to identify the persons who will be affected by the transmission line and substation projects before the construction. The completion of the census therefore marked the cutoff-date for eligibility for compensation. Those who will come into the area after the cutoff date will not be eligible for compensation.

For purposes of determining eligibility criteria, displaced persons may be classified in one of the following groups, depending on the type of right they have to the land they occupy:

- The owners do not have title deeds but they have a ‘customary’ legal claim to it.
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. This group of people mostly comprises those who have bought land or other immovable property but have not yet completed the process of acquiring title deeds.

Those who have no recognizable legal right or claim to the land they are occupying. These are mostly encroachers into state land or those who might occupy customary land without permission or recognition by the local authority (chief).

7.1.1. Cut-Off Date

Cut-off date for the compensation was officially announced to PAPs and community leaders during the census and identification process. A signed agreement between the PAP household, community elder or leader, and LEC/Consultant representative was completed for each property or parcel. The signed agreement contained the date in which the asset was identified for compensation. Another notification will take place to announce the period (time for payment of compensations and others) for compensation payments and which should be done 2 to 3 months prior to the commencement of construction. This time will make it possible for all those who have claims against the administration of the project to be settled and other complains thereto and solution found before the construction begins. The public consultations have been held since November 2009 and the PAP inventory list was verified by the Consultant, LEC, MLME (Ministry of Lands, Mines and Energy), MIA (Ministry of Internal Affairs) in December 2011. So the beginning of census (Cut-off date) is November 2009 by the definition of the World Bank OP 4.12. The consultant also informed that no one shall be registered on the PAPs after the cut-off date.

7.2. Displaced Persons

The displacement of persons through the involuntary taking of land results from the following:

- Relocation or loss of shelter
- Loss of assets or access to assets
- Loss of income sources or means of livelihood

whether or not the affected persons must move to another location.

Displaced persons, therefore, are those persons who, as a direct consequence of the project would either:

- physically relocate or lose their shelter
- lose their assets or access to assets,
- lose a source of income or means of livelihood
whether or not they are physically relocated to another place.

7.3. Project Affected People
The Project Affected Person (PAPs) includes persons that the LEC and the Consultant identified to be affected by the transmission line and substation projects during the inventory.

PAPs include:
- Person whose property are partly or wholly affected (permanently or temporarily) by the Project;
- Person whose premise and/or agricultural land is in part or totally affected (permanently or temporarily) by the Project;
- Person whose crops (annual and perennial) and trees are affected partly or totally by the Project.
8. VALUATION & COMPENSATION LOSS

Upon identification of the need for involuntary resettlement in the project, the Environmental consultant carried out a census to identify the persons affected by the project to determine who will be eligible for assistance, and to discourage inflow of people ineligible for assistance. LEC and Environmental consultant has also developed a procedure, a Resettlement Policy Framework which is satisfactory to the World Bank, for establishing the criteria by which displaced persons will be deemed eligible for compensation and other resettlement assistance. The procedure includes provisions for meaningful consultations with affected persons and villages, local authorities, and it specifies grievance mechanisms.

The LEC Resettlement Policy Framework outlines the similarity between World Bank’s policy requirement and that of the Liberia Government.

Despite the similarities and to ensure best practices, LEC and Environmental consultant has largely adopted the principles outlined in the World Bank’s Operational Policy 4.12 and this has been the basis for preparing this Action Plan. In this regard the following principles and objectives would be applied:

- Acquisition of land and other assets will be minimized as much as possible.
- All PAPs residing or cultivating land along an alignment or segment of alignment to be rehabilitated or constructed under the project are, as of the date of the baseline surveys, entitled to be provided with compensation sufficient to assist them to improve or at least maintain their pre-project living standards, income earning capacity and production levels. Lack of legal rights to the assets lost will not bar the PAP from entitlement to such rehabilitation measures.
- Basically compensation will be made to the PAPs who hold the legal ownership or can prove their ownership regardless of gender. However, it is recommended that women and households headed by them should be included as the member of the Grievance committee. During the survey and valuation stages, women and households headed by them encourage to serve as witnesses.

The compensation to be provided is at replacement cost (market value) for houses and other affected structures and or agricultural land for land of equal productive capacity acceptable to the PAP. Plans for acquisition of land and provision of compensation will be carried out in consultation with PAPs to ensure minimal disturbance. Entitlements will be provided to PAPs no later than one month prior to expected start up of works at respective project site.
8.1. Resettlement Procedure

The procedures to be used by the SPC to ensure that all persons affected by the proposed transmission line project are compensated following procedures and standards in line with World Bank’s Operational Directive 4.12 are as outlined below:

- Referencing of all properties, both crops and buildings, by officers of the Property Valuation Section (PVS) in the Ministry of Finance to be supervised by Estate Surveyors from the SPC.
- Assessment of the values would be done by the PVS and the valuation advice forwarded to SPC.
- The assessed report would be vetted and corrections effected where necessary to ensure that the amounts are accurate and fair to the Authority. These would then be processed for payment.
- Offers would be made to the claimants on the basis of the PVS’s advice.
- Claimants dissatisfied with the offer have a right to petition for reconsideration. In this regard, such claimants are required to submit counter proposals supported by valuation prepared by private property valuers of their choice.
- The private valuers’ reports are considered by the SPC in conjunction with the PVS to ensure that claimants are treated fairly.
- Where necessary any agitated person would be invited to negotiate and arrive at acceptable figures.
- Where the parties, after all the negotiations, are not satisfied then they can seek redress at the court.
- The County Development Committee shall appoint finance negotiators and lawyers for the uneducated groups to be represented fairly in such situations.

However, in the light of the concerns raised by the PAPs, and considering the current developments, a participatory approach to resolving social conflicts arising from the valuation and compensation process, the following shall apply:

- The procedure for payment of compensation for affected persons shall be reviewed to ensure that “fair” compensation covers loss of future land use and that prices shall reflect the prevailing market values (economic rates).
- Since most of the farmers are illiterates, County Development Committees and other community-based organisations shall be involved in the whole process to safeguard their interests.
- Compensation payments shall be handled promptly to avoid imposing undue hardship on the rural farmers and also avoid any conflicts with the communities.
8.1.1. **National Resettlement Advisory Body**

Prior to the commencement of operation of the project the relevant grievances mechanism should be put in place such as the National Resettlement Advisory Body that will be mandated to approve and endorse compensations and other transactions that may occur between the project administration and the local people. This set-up will serve as the representative of both the Government of Liberia and the local people.

**African Development Bank Involuntary Resettlement Policy** was also taken into consideration to deal with the resettlement issues. This policy covers economic and social impacts associated with African Development Bank financed projects involving involuntary acquisition of land or other assets which results in:

- Relocation or loss of shelter by the persons residing in the project area.
- Loss of assets or involuntary restriction of access to assets including national parks, protected areas or natural resources,
- Loss of income sources or means of livelihood as a result of the project. Whether or not the affected persons are required to move.
- Displaced persons in the following two groups are entitled to compensation for loss of land or other assets taken for the project purposes.

Those who have formal legal rights to land or other assets recognized under the laws of the country. This category will generally include people who are physically residing at the project site and those who will be displaced or may lose access or suffer a loss in their livelihood as a result of the project activities:

Those who may not have formal legal rights to land or other assets at the time of the census but can prove that they have a claim such as land or assets that would be recognized under the customary laws of the country. This category may also include those people who may not be physically residing at the project site or persons who may not have any assets or direct sources of livelihood derived from the project site, but who have spiritual and/or ancestral ties with the land (e.g. graveyards, sacred forests, places of worships). This category may also include sharecroppers or tenant farmers, seasonal migrants or nomadic families losing user rights, depending on the country’s customary land use rights. Additionally, where resettlers lose access to resources such as forests, waterways, or grazing lands, they would be provided with replacements in kind.
A third group of displaced persons are those who have no recognizable legal right or claim to the land they are occupying in the project area and who do not fall in any of the two categories described above. This category of displaced persons will be entitled to resettlement assistance in lieu of compensation for land to improve their former living standards (compensation for loss of livelihood activities, common property resources, structures and crops, etc.). Provided they occupied the project area prior to a cut-off date established by the borrower and acceptable to the Bank. At the minimum, under the Bank’s policy (with no contradiction to the borrower’s legislation), land, housing, and infrastructure should be provided to the adversely affected population. Including indigenous group, ethnic, linguistic and religious minorities, and pastoralists who may have rights to the land or other resources taken for the project.

The cut-off date must clearly be communicated to the project affected population. Persons who encroach on the project area after the cut-off date are not entitled to any form of resettlement assistance.

8.2. Exploration of Land Compensation Method

Resettlement of indigenous peoples with traditional land-based modes of production is particularly complex and may have adverse impacts on their identity and cultural survival. Therefore, taking of lands from their owners must be handled carefully to avoid exacerbating land use conflicts elsewhere or within the same villages.

To find a most appropriate and practical way of compensation for land-take, the Consultant investigated the funding agencies guidelines related to land acquisition and the World Bank Operation Policy 4.12 (OP4.12) on Involuntary Resettlement was taken into account. The main focus of this operational guideline is to seek to avoid project affected people experiencing negative effects associated with the project such as loss of security, loss of land or assets on land.

The OP4.12 stipulates in its subchapter 11 and 12 that

11. Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. These strategies may include resettlement on public land (see footnote 1 above), or on private land acquired or purchased for resettlement.
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12. Payment of cash compensation for lost assets may be appropriate where (a) livelihoods are land-based but the land taken for the project is a small fraction of the affected asset and the residual is economically viable; (b) active markets for land, housing, and labor exist, displaced persons use such markets, and there is sufficient supply of land and housing; or (c) livelihoods are not land-based. Cash compensation levels should be sufficient to replace the lost land and other assets at full replacement cost in local markets.

During the ESIA Study, the Consultant found that

- For the proposed project, land will be taken permanently only for the tower spots (approximately 5m X 5m) and substation sites. This tower spots will be put approximately every 400m along the RoW.
- In general, farming method is slash and burn shifting cultivation carrying out petty trading of surplus crops and small businesses to provide monetary income. It means that after few years’ cultivation in certain area, farmers leave that areas as fallow and move another place.
- Most of the areas near the villages have already been occupied by some villagers or left as fallow. To find alternative land for their cultivation, they have to use the farm land located far away from their villages which is not practical.

Also, the Consultant held meetings to discuss the land compensation issues with responsible Ministries of Government of Liberia. During the meeting with the Assistant Minister of Lands, Mines and Energy on 15th August 2011, it was noted that cash compensation would be more preferred option for the loss of land for transmission line project rather than land-for-land exchange considering that the land to be taken for the proposed project is a small fraction and scattered along the RoW. And the Program Director of Infrastructure Implementation Unit (IIU) of Ministry of Public Works indicated that cash compensation is adopted generally to compensate the land affected by infrastructure project in Liberia.

Based on the major findings and outcomes of consultation meeting, the Consultant has concluded that cash compensation for the affected lands is appropriate and practical for the proposed project rather than cash compensation. Therefore, in the present ESIA study, cost for land compensation is calculated based on cash compensation.
However, if land for land exchange is needed as part of the governments’ cost-sharing portion, it should be taken into consideration by Government of Liberia during the compensation stage.

8.3. Determination of Values

The LEC and the Consultant have adopted the World Bank Operational Policy 4.12 which recommends the use of Replacement Cost method of valuation of assets. With regard to land and structures, “replacement cost” is defined as follows:

- For agricultural land, it is the pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes.
- For land in urban areas, it is the pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes.
- For houses and other structures, it is the market cost of the materials to build a replacement structure within an area and quality similar to or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors’ fees, plus the cost of any registration and transfer taxes. The policy further states that “in determining the replacement cost, depreciation of the asset and the value of salvage materials are not taken into account, nor is the value of benefits to be derived from the project deducted from the valuation of an affected asset and where domestic law does not meet the standard of compensation at full replacement cost, compensation under domestic law is supplemented by additional measures so as to meet the replacement cost standard.”

Also, Involuntary Resettlement Policy 2003 of African Development Bank took into consideration to deal with the resettlement issues.

8.4. Overview of the SPC’S Asset Valuation Principles

The LEC and the Consultant used prices of the Property Valuation Section (PVS) in the Ministry of Finance and the Ministry of Agriculture as a guide to determine the compensation for agricultural crops and residential properties respectively. The methodology for the calculation of crop compensation rates takes into account both the market value of
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agricultural produce, and the reestablishment period of perennial crops. It must be noted the computation of these values were based applicable rates prepared by the PVS. To ensure that the affected people are paid fair values, these rates will be adjusted to meet the actual replacement and market values of the crops or other assets to be lost and also to meet the World Bank Standards. Categories of affected assets are provided in Table 10.

Table 10 Categories of Affected Assets

<table>
<thead>
<tr>
<th>Asset Category</th>
<th>Types of Loss</th>
<th>Types of Affected Persons</th>
<th>Compensation Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Land</td>
<td>Restriction on use due to RoW</td>
<td>Families, individuals, lessees,</td>
<td>Cultivation may continue subject to height restrictions.</td>
</tr>
<tr>
<td></td>
<td>Loss of land title and use</td>
<td>Families, individuals lessees,</td>
<td>Cash payment at full market value or offer or replacement land.</td>
</tr>
<tr>
<td>Residential /Commercial Land</td>
<td>Loss of land title and or restriction of use</td>
<td>Families, individuals lessees, stools.</td>
<td>Cash payment at full market value. Payment for diminution in value</td>
</tr>
<tr>
<td>Structures</td>
<td>House or living quarters</td>
<td>Families, individuals</td>
<td>Cash payment at full replacement cost or offer of replacement houses.</td>
</tr>
<tr>
<td>Community and Cultural Sites</td>
<td>Schools, community centres, markets, health centres.</td>
<td>Communities</td>
<td>Construction of replacement properties at suitable sites.</td>
</tr>
<tr>
<td></td>
<td>Shrine, other religious symbols or sites.</td>
<td>Communities, religious leaders</td>
<td>Pacification rites/full payments for replacement.</td>
</tr>
<tr>
<td></td>
<td>Cemeteries, burial sites</td>
<td>Communities</td>
<td>Offer of equivalent land and pacification rites.</td>
</tr>
<tr>
<td></td>
<td>Rights to food, medicines and natural resources.</td>
<td>Communities</td>
<td>Payment in kind/cash based on negotiation.</td>
</tr>
<tr>
<td></td>
<td>Loss of grazing land</td>
<td>Communities</td>
<td>Offer equivalent land.</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Roads, bridges, utilities</td>
<td>Communities</td>
<td>Repairs, rehabilitation or replacement.</td>
</tr>
<tr>
<td>Environment Related - Protected Forests</td>
<td>Losses due to environmental impacts that might result from land</td>
<td>Communities/Farmers</td>
<td>Repairs, rehabilitation or replacement.</td>
</tr>
</tbody>
</table>
### 8.4.1. Asset Valuation Principles

The asset valuation principles try to take into account the type of asset under each category as each type has valuation characteristics which are peculiar to it. Thus, in valuing assets, the following principles were used as a guide:

- Valuation of assets was undertaken by qualified valuation professionals.
- Valuation of assets is arrived at as replacement cost plus transaction costs. Depreciation of structures and assets should not be taken into account.
- Cash compensation levels should be sufficient to replace the lost land and other assets at full replacement cost in local markets.

### 8.4.2. Entitlement Policy

All project affected persons (PAPs) are entitled to the following types of compensation and rehabilitation measures:

- PAPs losing residential land and structures
The mechanism for compensating loss of residential land and structures will be cash compensation reflecting full replacement cost of the structures without depreciation.

If the residential land and/or structure is only partially being affected by the Project and the remaining residential land is not sufficient to rebuild the residential structure lost, then at the request of the PAP the entire residential land and structure will be acquired at full Replacement cost, without depreciation.

Tenants, who have leased a house for residential purposes will be provided with a cash grant, and will be assisted in identifying alternative accommodation.

PAPs losing agricultural land and crops
- PAPs will be compensated for the loss of standing crops and fruit or economic trees at a fair market price.
- PAPs whose land is temporarily taken by the works under the Project will be compensated for their loss of income, standing crops and for the cost of damaged infrastructure.

8.4.3. Valuation of Crops
For forest reserves, large estates and commercial plantations such as the Firestone rubber plantation, the Consultant with the support of the LEC used the ‘investment method’ which essentially tailors the compensation to the productive life of the assets to be taken in that forest or estate with younger productive trees receiving proportionately more, than forests or estates with older productive trees. LEC and the Consultant used a tree count within an area and multiply the count by a standard unit value for that type of tree crop. In both methods, calculation of the unit value is based on production techniques, yield and farm gate price information collected regionally by the Ministry of Agriculture.

With regard to land, the Consultant discussed with the Paramount Chiefs and County Development Committee on recent land sales of titled properties. In rural areas, where land is held under customary tenure, the Consultant investigated the current market price of land, and verified this price information with indirect measures, such as informal payments to chiefs at the time of the land transfer. This information was then forwarded to the Ministry of Finance for final valuation.
8.4.4. Valuation of Structures

Field inspections carried out to authenticate the ESIA report revealed that impacts on structures are concentrated in the seven Counties (Nimba, Bong, Bassa, Margibi, Montserrado, Bomi to Grand Cape Mount). The Consultant determined replacement cost based on the current price of building materials. In this method, calculating the amount of material necessary for structures of different types provides a unit value per square meter that is multiplied by the area of the structure to be taken in order to establish the value of each structure. Since the proposed line traverses rural lands/areas, these estimated amounts are verified with local housing prices.

In the determination of the replacement cost, depreciation is disregarded. Additionally, a percentage of the Capital Value of the structure may be added to cover legitimate costs incurred by the PAP in locating replacement land or structures and any incidental expenses that may incur due to the acquisition of the land. This is known as the disturbance allowance.

8.5. Strategies for Payment of Compensation

In line with the laws and statutes in Liberia and in conformity with International Standards, all properties such as buildings, lands, and crops shall be duly compensated for, in accordance with the provisions of the regulation, at the appropriate replacement values in line with the LEC/Property Valuation Sections procedures, in addition to its compliance with the related Funding Agencies’ standards on involuntary resettlement. Referencing of all properties, both crops and buildings will be assessed by valuation professionals and certified Valuers in collaboration with officers of the Property Valuation Section (PVS) and monitored by the Environment & Community Relations Unit (ECRU) or other related departments of the SPC. The inspections shall be carefully and meticulously done to ensure that all affected properties and their details are captured by both the PVS and the SPC.

Based on the assessment of the values as indicated in the report, the SPC will undertake compensation for the loss of properties. The PAPs also have the right, to engage private valuation consultants to advice on the values of their affected properties. The cost of such services is however not borne by the PAP’s but by the acquiring agency and in this case, the SPC.

To this end, a Project Affected Persons Inventory list, which identifies all affected properties, owners and estimated prevailing market replacement values, has been prepared and shall be updated to meet current market values prior to project implementation period.
Subsequently, photographed identification cards or other means of verifying authenticity of eligible PAPs have been applied.

Once the physical assets affected are inventoried and valued, the SPC in collaboration with the PVS, determines the rate of compensation to each affected person. An Inventoried Form, which lists the assets affected, will be delivered to the PAPs at a village meeting convened in their localities. The inventory of assets lost is given or read to the PAP, who signs the Form to signify agreement with the physical inventory. In the instance of a disputed inventory, the PAP may request a re-assessment or may, in exceptional instances, commission an independent assessment. These will include a photograph of the affected land and assets and a schematic of the boundaries inside the RoW.

Compensation will be paid by the SPC to each PAP and witnessed by community leaders in a meeting in each of the affected villages. The SPC representative provides the list of affected assets and the chiefdom compensation amount to the PAP (or reads it to the PAP if illiterate) to ensure that there is continued agreement on the compensation sum. In those instances where residences and other structures are affected, the SPC will enlist the assistance of local authorities to assist in the identification of acceptable, alternative plots, if necessary. All residential relocation takes place within the PAP’s current town or village, and usually requires moving back a relatively few meters out of the RoW. Full payments are made for residential plots or developable parcels of land in line with the provisions. Additionally, properties where land take is 50% or greater will be compensated for the full value of the land, as stipulated in the World Bank’s OP4.12 policy. For areas encumbered by the towers spots, full payment is made for those portions. Farmlands are also paid for, in so long as the owners can justify that they qualify for compensation.

8.5.1. Beneficiaries for Compensation
By constitution of the country, any persons who could establish that his/her interests or rights to any land affected by a state project is to be paid fair and adequate compensation once it has been established as having been substantially affected and the remainder not suitable for the purpose for which it was acquired, such a person would be adequately compensated. Accordingly all the various interest holders are to be paid to make up for the loss of interests once the level of impact is substantial.

8.5.2. Negotiation of Agreements
Eligibility to resettlement and compensation is based on the census undertaken during the project and is proportionate to the level of impact suffered by each PAP. All affected perennial crops are compensated for based on the detailed count that was carried out at the census stage. Damaged crops would be compensated for too. Valuation is based on counts made during the census with an applicable official rate. Negotiation of agreements between the SPC and project-affected persons is to discuss the physical asset inventory and the unit price per area of farm/trees.
9. RESETTLEMENT MEASURES

The Consultant, with the support of the LEC has completed an inventory of all affected properties and a census of many of those whose properties are to be affected. The inventory includes baseline information as well as the detailed compensation and other entitlements for each PAP. A description of the affected structures will be provided at the final Resettlement Action Plan (RAP).

9.1. Assistance to the Vulnerable

If involuntary resettlement is unavoidable, it should be well planned and executed so that economic growth is enhanced and poverty reduced, especially for such vulnerable people. Resettlement especially stresses on persons and households that are:

- Without adequate income or assets
- Without sufficient family support, e.g. children, without adults for support, elderly persons, without working adults for support, single parents, especially single mothers;
- Stigmatized due to gender, ethnicity, occupation, illness
- Highly dependent due to age (the elderly and children), mental or physical disability.
- Caretakers or sharecroppers with no buildings or fields of their own, or who are losing all the land they work.
- Poor female-headed-households without extended family support
- Elderly poor, especially those without extended family support

International experience is that the dominant risks of involuntary resettlement in general are landlessness, joblessness, homelessness, economic setback, increased morbidity and mortality, food insecurity/malnutrition, social disorganization, loss of common property. Several risks are often realized simultaneously e.g. loss of land, employment, home, in a deteriorating social structure. This course tends to drive those already living close to the edge, over the edge.

The LEC and the Consultant has adopted a community based strategy for dealing with the vulnerable. For each case, the LEC and Environmental consultant consulted with the household and as appropriate with the RoW Identification Committee, traditional authorities, local notables, neighbors, and extended family elders in order to craft a resolution. Many of these people may be risk-averse and may lack the dynamism, initiative, and to move and re-establish in a new location and undertake new vocation. Women and households headed by them are likely to suffer more than men because the compensation is often paid to the men.
9.2. Identification of the Vulnerable

9.2.1. Children
All children are vulnerable; however they are not a homogenous group and each category imposes unique vulnerability all of which create serious challenges for child development and growth. Street children, orphans, physically disable children, child laborers, and former abductees require special attention in light of their intensified vulnerability. The girl child in all these categories of vulnerable children is worse off. The root of girls vulnerability are formed very early within the family. These values are reinforced in schools, communities and institutions that support children and their families. Early intervention is necessary to stem negative consequences, such as inadequate development and damage of the self-esteem of the girl child. Lack of access to education and training is also hampering the growth of children in general and girl-children in particular.

9.2.2. Youth
According to the recent census, 77% of the Liberian population comprise youth below the age of 35 years. Generational inequalities impact on the livelihoods of the youth thus creating different vulnerability and opportunities for female and male youth. Generally the youth suffer from lack of education, training, skills, and unemployment. However, as a result of patriarchal culture practices, boys are more favored to own and benefit from economic assets and opportunities like land, property and training through inheritance, donation or sponsorship. Due to the low value attached to girls in society, their vulnerability extends to harmful practices such as Female Genital Mutilation (FGM), Gender Based Violence (GBV), sexual exploitation, and early marriages. They are more vulnerable to HIV and AIDS than the male youth due to their inability to negotiate safer sex, early engagement in sex, and higher risk of becoming a commercial sex worker as a result of lack of access to free education, school dropout unemployment and lack of access to information. The youth needs to be empowered with special attention paid to the female youth.

9.2.3. Persons with Disabilities (P WDs)
P WDs face discrimination in education and lack of user-friendly facilities and services; as well as in the job market as a result of social biases and stereotypes associated with disability generally. Women with disabilities suffer double discrimination-first as women and second as persons with disabilities and therefore they need special attention. The need to promote friendly enviroment for P WDs including promoting their full participation in the development of the country is critical for ensuring growth with equity. The Government has
established a National Commission for Disabilities through an Act of Legislature with an objective to protect and promote the rights of PWDs.

9.2.4. Elderly Persons
The elderly constitute 3.6% of the population of Liberia; they face constraints in accessing services, in increasing their incomes and improving their livelihoods. They suffer from old-age related diseases requiring special medical attention most of the time lacking from the nearest health facility. Elderly persons, especially women are burdened with care of orphans and other dependants; and are overwhelmed by the social challenges and responsibilities in the wake of HIV and AIDS, poverty and the consequences of the 14 years civil war. This calls for targeted interventions and special programs for elderly women.

9.2.5. People Living with HIV and AIDS
Whereas HIV and AIDS data is not disaggregated by sex, evidence indicate that women are more exposed to HIV infections due to several factors, biological, economic and socio-cultural, but most significant is the high rate of sexual violence, particularly rape. The National Health Survey shows trends of a higher degree to HIV infection among women and girls compared to men and boys (1.8% versus 1.2%). The high rate of unemployment couple with low level of education and training further make women more vulnerable to HIV infections. As a result of culture and social pressures, economic dependency, and fear of violence, women are often less able to negotiate safer sex.

- Communities still do not understand issues related to HIV and AIDS and often abandon or isolate relatives living with the pandemic, at a time when they most need their support. Women particularly bear the brunt of the burden of the disease and require a multi level support although presently the country has limited ‘safety nets’ to assist and support them. Fear of negative effects, stigma and discrimination prevents many women from sharing their personal experiences, with serious implications in accessing treatment and controlling HIV infections. Special attention need to be given to the unique needs of women living with HIV and AIDS. There is also need to make accessible confidential and quality Voluntary Counseling and Testing (VCT) services at all levels to the population with focus on women and youth.

9.3. Mechanism for Selection of Vulnerable
The following issues are considered in evaluating the PAPs who are highly susceptible and would be adversely affected by the project:

- Number of people in database with cash crops
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

- Field findings: extent of loss of fields (total farm size and number trees and crops to be affected)
- Village-by-village estimate of potential vulnerable population
- Estimate of vulnerable population
- The elderly persons, widows and orphans
- Women and children at risk of being dispossessed of their productive assets.
- Household strength
- Disability or disadvantaged PAPs

9.4. Strategy for Vulnerable Groups

Members of vulnerable groups are often not able to make their voice heard effectively, and account will be taken of this in the consultation and planning processes, as well as in establishing grievance procedures. They are often physically weaker, and may need special help in the relocation/disturbance phase. In particular, female-headed households may lose out to more powerful households when assets will be demolished to make way for the transmission line.

Therefore, old people, women and children shall be considered for additional assistance and need special attentions to ensure that they are supported to be benefited from compensation entitlement and other mitigation measures.

These actions are needed to be provided to old people, women and children:

- Vulnerable Groups including the poor, sick, orphaned and vulnerable children need to be given priority in employment opportunities arising from the project.
- Unskilled labor should be drawn from local communities among women, and income generating opportunities for women will be considered during project construction in the form of food preparation and sale to workers.
- To pay equal remuneration to men and women workers for same work or work of a similar nature is recommended at the project level.
- Households only inhabited by old or feeble shall be given full assistance in building new homes.

Further during construction, it is recommended to identify appropriate micro-programs that could be provided under the Project such as revolving fund financial incentives and assistance for housing construction among others at the government level.

9.5. Level of Assistance
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

Assistance to vulnerable may include the following;

- Identification of persons and cause of vulnerability (information to be gathered directly from the communities);
- Assessment of impact suffered in relation to the whole;
- Identification of required assistance through interactions with the identified vulnerable (e.g. going to the bank with the person to cash the cheque, assistance in post payment period to secure the money, monetary assistance, etc);
- Implementation of assistance;
- Monitoring.

To ensure that the project is perfectly managed to its logical conclusion, SPC has made the necessary budgetary provisions to ensure that mitigation commitments stated in the ESIA (including compensation) and monitoring programs can be implemented effectively.

For the 225 kV Man (Cote d’Ivoire) – Yekepa – (Liberia) – Nzérékore (Guinea) – Buchanan (Liberia) – Monrovia (Liberia) – Bumbuna (Sierra Leone) – Linsan (Guinea) Interconnection Project (Sierra Leone side), the vulnerable people have not yet been identified as the property impact assessment was undertaken during the off farming season in the region (February-March, 2008). However, with the data on age distribution received from the various counties, a provisional budgetary appropriation of the compensation budget has been made to cover the group. In making the estimate, SPC had relied on experience obtained on past projects.

**Table 11 Summary of Vulnerable Groups**

<table>
<thead>
<tr>
<th>County</th>
<th>Age</th>
<th>Sex</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Nimba</td>
<td>0~15 years</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>65~90 years</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>57</td>
<td>35</td>
</tr>
<tr>
<td>Bomí</td>
<td>0~15 years</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>65~90 years</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>41</td>
<td>13</td>
</tr>
<tr>
<td>Bong</td>
<td>0~15 years</td>
<td>26</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>65~90 years</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>28</td>
<td>16</td>
</tr>
<tr>
<td>Montsserado</td>
<td>0~15 years</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>65~90 years</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

<table>
<thead>
<tr>
<th>County</th>
<th>Age</th>
<th>Sex</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>subtotal</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>0~15 years</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>65~90 years</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>Margibi</td>
<td>0~15 years</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>65~90 years</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Grand Cape Mount</td>
<td>0~15 years</td>
<td>31</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>65~90 years</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>subtotal</td>
<td>50</td>
<td>19</td>
</tr>
<tr>
<td>Grand total</td>
<td></td>
<td>204</td>
<td>142</td>
</tr>
<tr>
<td></td>
<td></td>
<td>346</td>
<td>(204+142)</td>
</tr>
</tbody>
</table>

9.6. Grievance Procedure

This section describes mechanisms available to affected people for complaints about aspects of their treatment under project activities. Grievances are likely to arise in one or more of the following cases a) where the value of assets is disputed, b) where the amount of compensation is disputed and c) where the identity of the person to be compensated is disputed.

Grievance Redress Mechanism

There are three ways in which grievances shall be resolved. These are:

- Grievance Redress Committee: There shall be a grievance redress committee made up of representatives from the counties (the county Development Committee), the County committees and the project implementers. This committee shall hear disputes regarding displacements and cases and shall only be referred to arbitration or courts of law when the grievance redress committee is unable to resolve an issue. Arbitration shall be an option for grievance redress where the parties involved in agree to resolve their dispute through arbitration.

- Arbitration. The SPC will identify the parties are or name an arbitrator in the agreement. Where an arbitrator is not named in the agreement, the agreement should designate a person who would be appointed as an arbitrator.

- Courts of Law: It should be noted that arbitration only works where the parties to a dispute agree to resolve a difference through arbitration. Where there is no consent, then a court of jurisdiction may be used to resolve a dispute.
Grievance resolution usually starts with the complaint being discussed at the community and clan levels. The SPC, through interactions with the Environmental Coordinator and the Community Liaison Officer, in the SPC will document the grievance. Most concerns are handled quickly and easily. For complex issues, complainants are invited for a sit-down discussion with one or more responsible persons (local authorities, councillors), typically in the presence of family members or “witnesses” of one sort and another. These grievances are logged or recorded on a form, which provides for tracking the process of resolution. For especially sensitive or potentially serious complaints, the responsible officer takes notes and sometimes writes a note for the record. If the complaints have to do with irregularities in measurements/tree counts or disputes in compensation payments, the grievance committee notes such complaints and conduct a verification exercise in the first instance to confirm the allegation or otherwise.

Agreement is “proved” by the complainant’s continued participation in the resettlement planning and implementation process and / or not taking the issue further. If the informal process is not resolving an issue, complainants are urged to make their complaint in writing. Even non-literate persons do prepare letters using professional letter-writers. A detailed record of each written complaint and response/resolution thereof will be kept as part of the grievance resolution records.

In more complex cases, LEC, in coordination with the SPC may be asked to seek the advice, and, where appropriate, intervention, of traditional authorities and members of the Resettlement Negotiation Committee to help resolve disputes. Liberia is a “mediation” society, and the SPC makes use of these and other mediation models to help resolve disputes. Impacted persons / households have the right under Liberian law to take their grievances for resolution in the court system.

For the sake of transparency and to ensure that the PAPs have confidence in the grievance resolution mechanism, The members of the GRC include representatives from counties such as CLOs (Community Liaison Officer), representatives of PAPs and Project Manager of SPC as mentioned in the table below

Figure 5 Structure of Grievance Redress Committees
The role of the grievance committees as set up is outlined below:

- To witness the collation of the field data during the survey and crop count exercise
- To take stock of all counted trees on the field
- To sign the SPC tree count forms indicating that the tree counts recorded are a true representation of the counts
- To investigate any anomalies/complaints brought by any PAP’s and report to the project officials for verification, if their findings confirm the grievance of the PAP.
- To have in their possession copies of the government rates adopted in the valuation and cross-check figures on any disputes presented to the committee
- To report formally any anomaly detected during the RAP implementation period for early resolution.

- Some of the mechanisms put in place during the project implementation period are:
  - Inclusion of chiefdom opinion leaders in the survey and valuation stages to serve as witnesses in terms of disputes on plot limits, ownership and tree counts/measurements
  - A project officer is always at hand to take note of all disputes
  - Some of the PAP’s including local authorities have been selected by the PAP’s as their Grievance committee members who are readily available to investigate any dispute as and when they arise
  - Petitioning the company in charge of the project for redress
  - The Liberia Constitution allows for the right of access to the court of law by any person who has an interest or right over an affected property. In practice going to court has been a rare occurrence. In most cases PAPs, represented by the consultants are able to negotiate acceptable awards. The fees of such consultants are paid by the acquiring authorities.

**Set-up of Grievance Redress Committees**
During the PAPs investigations, the Consultant held several interviews, the Consultant held several interviews with local authorities and it was founded that the superintendents took the complaints of mediation during the PAPs investigations. Therefore the Consultant indicated that a committee which is responsible for settling complaints between local communities should be organized and functioned for the smooth implementation of project.

In order to set up the Grievance Redress Committee (GRC) responsible for handling grievance arising from resettlement of the Project, KEPCO team accompanied with the representatives of MIA (Ministry of Internal Affairs), MLME (Ministry of Lands, Mines and Energy) and LEC were organized and carried out meaningful consultation meetings with the superintendents of seven affected counties. During the meetings, details of the Project, environmental and social impacts, compensation process were briefed. KEPCO requested the superintendents to give a written acceptance of the position for the GRC member as required by the Funding Agencies. In response to the request from 1st to 5th of December 2011, all superintendents of seven affected counties gave their consent to KEPCO’s request. The list of the chairs of the GRC established in the seven affected counties is in the table below.

**Table 12 Chairs of the Grievance Redress Committees**

<table>
<thead>
<tr>
<th>County</th>
<th>Chair of GRC</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nimba</td>
<td>Christina Dagadu</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Bong</td>
<td>Lucia F. Herbert</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Bomi</td>
<td>Samuel F. Brown</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Margibi</td>
<td>Levi Z. Piah</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Montserrado</td>
<td>Grace Tee-Kpaan</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>Julia Duncan-Cassell</td>
<td>Superintendent</td>
</tr>
<tr>
<td>Grand Cape Mount</td>
<td>Catherine N. Watson-Khasu</td>
<td>Superintendent</td>
</tr>
</tbody>
</table>

**9.7. Livelihood Restoration Program**

In addition to compensation for losses of land and other productive assets, The World Banks OP 4.12 “Involuntary Resettlement” requires that displaced persons be assisted with their move and supported for a transition period at the settlement site and assisted in the effort to improve their livelihoods, or at least to restore them.
Livelihood restoration measures have been designed to assist severely affected farmers and others lose productive/income generating assets, including those losing their house and for vulnerable households. These measures may include the following:

- Provision of agricultural extension services: Severely affected farmers and will be assisted to improve productivity on remaining agricultural land, by linking them with government driving programmes such as West Africa Agricultural Productivity Program funded by World Bank. The Consultant recommends that links will be facilitated by the SPC and Ministry of Agriculture to the local agricultural and rural development when a detailed PAPs investigation has been carried out.

- West Africa Agricultural Productivity Program (WAAPP-1C): Approved 24-Mar-2011, $83.8million of total project cost, To generate and accelerate the adoption of improved technologies in the participating countries’ top agricultural commodity priority areas that are aligned with the sub-region's top agricultural commodity priorities.

- Skills training: Displaced PAPs will be provided the skills training programme such as soap or baskets production in the job training centres and social organisations in and out of county, which would help them to maintain and/or improve their income generation potential. The skills training programme will be designed during project implementation.

- Project related job opportunities: PAPs will be prioritized in gaining employment in the works linked to the project including the short pre-recruitment training. Information about the employment opportunities will be comprehensively available at to local community by the environmental coordinator of the SPC.

<table>
<thead>
<tr>
<th>Restoration</th>
<th>Cost</th>
<th>PAPs</th>
<th>Total Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural extension services</td>
<td>40</td>
<td>126</td>
<td>15,120</td>
</tr>
<tr>
<td>Skills training</td>
<td>15</td>
<td>31</td>
<td>2,790</td>
</tr>
<tr>
<td>Programme Facilitation/Support</td>
<td>-</td>
<td>1,884</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>19,701</strong></td>
</tr>
</tbody>
</table>

Table 13 Estimated cost of livelihood restoration program
10. SITE SELECTION, SITE PREPARATION AND LOCATION

For the affected structures inside the RoW that need to be relocated, for example, to cover location of a tower or substation construction, would require demolition and re-construction. Land was found to be available in the same vicinity outside the RoW for re-construction of the building and therefore would not require re-location of persons. Due to this land exchange, there was no need for identifying new sites for construction of buildings for the affected persons.

With respect to farms, many of the annual crops that are being grown by the farmers can be allowed to be cultivated within the RoW after construction. This includes, yams, pepper, millet, maize, tomatoes, etc, and would not require any reallocation of land for this purpose. Perennial crops like palm trees, mangoes, guava, oranges, etc would have to be cut down. Again, there is land available within the same proximity and therefore no new sites would be required.

Some support to host communities with respect to this project will be addressed as part of the livelihood restoration and community development programs.
11. HOUSING, INFRASTRUCTURE AND SOCIAL SERVICES

11.1. Buildings
Most buildings are officially categorized by the Ministry of Finance for valuation purpose as "temporary", i.e., built only with traditional materials, "semi-permanent" with traditional walls and corrugated iron roofs, and permanent (brick or concrete walls). All the affected buildings are personally owned by the dwellers. A typical family house has 2 - 4 rooms with a total surface of 80 m². Depending on the household's wealth, the floor may be paved or plain mud. Generally, houses do not have running water, toilets, or electricity. The construction technique of a typical mud house includes building the frame of the building with strong wooden poles, putting the roof in place, erecting the walls with smaller vertical and horizontal wooden poles arranged into a grid, and filling this grid with a wet mixture of clay, mud and straw. The walls may eventually be plastered with a different mixture. Most of the materials are locally available at no monetary cost, except for the iron sheets. Such a construction requires two to three weeks of work for a team of three. Smaller structures within the family yards or nearby include stores, bathrooms and pit latrines.

11.2. Public and Community Services
There are various churches and mosques within the communities along the transmission line project. These faith based organizations are however located outside the land acquisition boundary. Many of the communities have village barris (Village Community Centers) where meetings by the general communities are held. Consultations with the various communities were held in such areas.

11.3. Water and Power
Households were asked where they obtain their water for drinking, cooking, washing themselves and washing clothes. Majority of them obtain water for drinking from boreholes, hand dug wells and nearby streams. Water for washing is usually obtained from nearby streams.

Use of the boreholes, hand dug wells is therefore extensive and a principal main source of water in the project area. Women or children usually perform the task of collecting water from nearby streams. None of the villages, like other villages in the counties, have a piped system in place.
12. ENVIRONMENTAL PROTECTION AND MANAGEMENT

The Man (Côte d’Ivoire) – Yekepa – (Liberia) – Nzérékore (Guinea) – Buchanan (Liberia) – Monrovia (Liberia) – Bumbuna (Sierra Leone) – Linsan (Guinea) Interconnection Project is one that is classified as requiring a detailed environmental assessment and involving involuntary resettlement. A detailed Environmental and Social Impact Statement (ESIA) report has therefore been prepared for the project and this report provides information on the potential environmental impacts of the associated resettlement issues. It is expected that the project shall involve an influx of workers into the project area which has concomitant impacts on both the environment and the resettlement program. Constructive environmental management, provided through the environmental assessment provides good opportunities and benefits to re settlers and surrounding populations.

The methods adopted in identifying the impacts to be associated with the proposed project, and its assessment were based on information gathered during community meetings, surveys, analysis and results of the biological, physical and socio-economic and cultural data and consultations with stakeholders. The main impacts of the Man (Cote d’Ivoire) – Yekepa – (Liberia) – Nzérékore (Guinea) – Buchanan (Liberia) – Monrovia (Liberia) – Bumbuna (Sierra Leone) – Linsan (Guinea) Interconnection Project (Sierra Leone side) will be on the inhabitants in the settlements within the project area. Field studies were conducted to assess those aspects of the socio-economic/cultural environment that would be most impacted by the project.

The project is expected to have diverse socio-economic impacts as it traverses seven districts (Nimba, Bong, Bassa, Margibi, Montserrado, Bomi to Grand Cape Mount). It needs to be stressed that, being a project that cuts across from the eastern to the western districts (with careful selection of the route) entire villages will not be affected thus occasioning group resettlement. To ensure that, the impacts on individuals are minimised, LEC and Environmental consultant instituted several measures to address the extent of the effect of the project on the communities. This section provides information of the assessment of the environmental impacts of the proposed resettlement and measures to mitigate and manage the involuntary resettlement impacts.

It is recommended that the significance of any likely social impacts resulting from resettlement should be identified and dealt with. Such impacts should address the availability of alternative productive land or access to other resources and since the nature of
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agriculture is fallowing; it is likely that productive areas are already under form of ownership; therefore, it is recommended that the potential for conflict should be considered.

12.1. Land Ownership

Acquiring the RoW will not have a significant impact on land ownership, because the characteristics of transmission line construction project are quite different from the construction of other infrastructures such as thermal power plant or hydro power plant and it is a linear project which involves in only limited and localized resettlement. For the project, areas to be occupied by each tower base (5m X 5m per tower) and five substation sites will be permanently acquired while the rest of RoW and access track will be taken temporarily only during the construction or operation stage. Therefore, the affected lands areas are relatively small compared to construction of other huge infrastructure and the affected lands are normally communally owned or cultivated together.

So, the potential conflicts on lands will not be significant.

However, there is a possibility that the land-use conflicts might be happen, it is necessary to take into consideration for appropriate mitigation measures for potential for conflicts between PAPs and existing owners.

The regulations and guidelines for land ownerships are specified as below:

- **Liberian Constitution 1986**
  - Article 22 (a) and (b) of the Constitution vests in all individuals have the right to own property either on individual basis or in conjunction with other individuals, as long as they are Liberian Citizens. This right however does not extend to mineral resources on, or beneath the land.

- **Land Act 1856**
  - Prior to independence, land acquisition and distribution was done on the basis of relationship and class system. Opposition to this system of land tenure led to the establishment of a set of rules known as the “digest of law to govern the affairs of the settlers in terms of land distribution” This later culminated into the Land Distribution Act of 1856 which removed the restriction to land distribution based on citizenship. This Act was repealed by the 1950 Land Act which restricted land ownership to citizens and naturalized citizens especially those of Negro decent.

- **County Act 1969**
This Act officially distributed and demarcated land boundaries in Liberia. Prior to the Act, counties were created through political means. For instance the four oldest counties in Liberia – Montserrado, Sinoe, Grand Bassa and Maryland were all products of political events.

- Land Acquisition Act 1929
  - The procedure for obtaining land located in the Hinterland is as follows:
    - Obtain Consent of Tribal Authority to have a parcel of land deeded to the individual by the Government;
    - Pay a sum of money as a taken of his/her intention to live peacefully with the tribesmen;
    - Paramount or Clan chief signs a certificate which purchaser forwards to the office of the District Commissioner (who also acts as the Land Commissioner for the area); and
    - The District Commissioner after satisfying himself that the land is not encumbered in any way approves that the land be deeded to the applicant and issues a certificate to that effect.
  - The procedures for obtaining land located in the County Area is as follows:
    - Apply to the Land Commissioner in the county in which the land is located; and
    - The Commissioner shall issue a certificate if he is satisfied that the land is unencumbered.
    - Upon completion of the above steps, the purchaser shall pay the Bureau of Revenues the value of the land valued at a minimum rate of fifty cents per acre. He shall obtain and submit a receipt to the president for an order to have the land survey. A deed will then be drawn up by the Land Commissioner, authenticated, and given to the purchaser.

12.1.1. Acquisition Methodology

The procedure for obtaining land located in the Hinterland is as follows:

- Obtain Consent of Tribal Authority to have a parcel of land deeded to the individual by the Government;
- Pay a sum of money as a taken of his/her intention to live peacefully with the tribesmen;
Paramount or Clan chief signs a certificate which purchaser forwards to the office of the District Commissioner (who also acts as the Land Commissioner for the area); and
The District Commissioner after satisfying himself that the land is not encumbered in any way approves that the land be deeded to the applicant and issues a certificate to that effect.

The procedures for obtaining land located in the County Area are as follows:
Apply to the Land Commissioner in the county in which the land is located; and
The Commissioner shall issue a certificate if he is satisfied that the land is unencumbered.
Upon completion of the above steps, the purchaser shall pay the Bureau of Revenues the value of the land valued at a minimum rate of fifty cents per acre. He shall obtain and submit a receipt to president for an order to have the land survey. A deed will then be drawn up by the Land Commissioner, authenticated, and given to the purchaser.

12.2. Tenurial Arrangements
The tenurial arrangement under the provisions and operation of the Liberia Custom are briefly outlined as below:
Customary Tenure is the form of land ownership by virtue of one’s customary rights and occupation of the land; they have proprietary interest in the land and are entitled to certificates of customary ownership. It is a principle that is generally accepted as binding and authoritative by the class of persons it applies to.
Freehold Tenure derives its legality from the constitution and its incidents from the law. It involves the holding of land in perpetuity or for a period less than perpetuity fixed by a condition. It enables the owner(holder to exercise the full powers of ownership, subject to law.
Leasehold Tenure is created either by contract or operation of the law. It is a form of land ownership which a landlord or lessor grants the tenant or lessee exclusive
Possession of the land, usually for a period defined and in return for a rent. The tenant has security of tenure and a proprietary interest in the land.
Licensees/Sharecroppers are granted authority to use land for agricultural production. Licensees have no legal security of tenure or any proprietary right in the land. This tenure is purely contractual.
Thus the majority of the affected persons are themselves landowners. In effect, the effect of the landowners losing their sources of income through the farming activities will be minimal.

12.3. Land Use & Settlement

The land use along the transmission line right of way is mainly the small-scale subsistence farming. Indication are that the area traversed by the project is intensively cropped with cereals which is the main crop planted in the region. Settlements in these areas are mostly rural, taking the form where there are a group of buildings accommodating various members of an extended family. In accordance with the LEC Transmission Line Regulation, a 40-meter right of way is required for the entire length of a transmission line energized at 225 KV (i.e. 20 meter corridor on either side from the centre line). Various land use activities would not be permitted in the RoW during the construction stage. This is to make way for scheduled constructional activities to be carried out expeditiously. Cultivation and other uses of the land may continue after the completion of the project provided the owners of the land strictly adhere to regulations about the use of the RoW corridor.

Removal of tall trees from the RoW is essential and unavoidable for the safety of the power lines and may be classified as a residual impact. In selecting the final line route, however, care was taken to minimize the number of trees that will have to be cut. For successful implementation of the project, trees taller than 1.25 meters above ground level will have to be harvested or pruned to heights within the prescribed limit in order to ensure the safety of the conductors. The baseline studies undertaken indicate that there are farms and secondary forest in the vegetation zones traversed by the proposed line route, and also not in the areas of protected forests.

During the construction stage, farms within the Right-of-Way corridor would be affected. Thus portions of the farm holdings would be destroyed. Farmers whose crops may not be ready for harvesting would feel the major impact. Also, perennial tree crops such as coffee, cacao, palm trees, guava, mangoes, oranges etc would be destroyed within the RoW. This would result in loss of crops to the owners.

During the survey, the team observed that the proposed RoW traverses potential farmlands including few secondary and primary forest areas. There was evidence of farming activities within most of the areas under influence. Enquiries made from the local indigenes confirmed that most of the crops planted along the stretch include crops like rice, maize, cassava,
sweet potatoes, yam, pepper, groundnut and vegetables. Cash crops include rubber, cocoa, coffee, oil palm, kola, etc. Provision has been made in the budget to cater for such properties and to cater for all damages to crops should construction be undertaken during the farming season.

Buildings both residential and non-residential as well as other structures within the RoW would be removed. This is to make way for construction to be carried out. Surveys carried out indicated that six houses (6), nineteen huts (19) and five (5) buildings will have to give way to facilitate the implementation of the project.

During the survey and consultations with some local authorities and the County Development Committees, the team was informed that the choice of the route alignments does not affect any areas zoned for development. Most of the areas the line traverses are farmlands for the local indigenes. The County Development Committees, Town and Country Planning Offices have also corroborated the information and confirmed same after plotting the plan on the schemes of the various counties.

There will be consultation with communities and private individuals who own land deeds. Communal land will not be paid for since the project is Government owned. Land owned by private individuals only with deeds will be paid for. All properties on both private and communal lands removed will be paid for.

12.4. Lands to be affected
As indicated, ownership of land will not be disturbed by the acquisition of the RoW for the project. However, in some cases the restriction on the ownership will be somewhat complicated when fertile farming lands are acquired for the RoW of the Project. Availability of alternative productive land and the expected conflicts over that land needs to be investigated. Because, there is a slight possibility that the land-use conflicts might be happen, it is necessary to take into consideration for appropriate mitigation measures for potential for conflicts between PAPs and existing owners.

Usually, fertile land is already being used or claimed - yet existing land uses and claims go unrecognized because land users are marginalized from formal land rights and access to the law and institutions. Therefore, mitigation measure for potential conflicts about alternative productive land or access to other resources in minor resettlement should be prepared.
To mitigate potential for conflicts between PAPs and existing owners, any shift in land use can only take place with the free, prior and informed consent of the local communities concerned. And adequate compensation and alternative resettlement or access to productive land should be planned and provided before resettlement with prior consultation.

Also, in line with the SPC’s desire to ensure the sustainability of the environment within which it operates, the SPC should avoid intruding into or interfering with cultural properties of the local communities as much as possible.

The following are the lands, which are to be affected.

- **Tower Sites**
  - Areas where the towers will be sited will be permanent loss. In all approximately 1,330 towers are to be erected to carry the transmission line. An assessment of the lands with the respective areas to be permanently encumbered will be done based on prevailing land values capitalised over the number of years of the transmission line operation. The application will take into consideration the appropriate years purchased for fair values to be paid to the respective individuals/communities/families. The dimensions and the locations of tower base has not fixed yet.

- **Transmission Line RoW**
  - As generally planning regulations do not allow building under the transmission lines, these plots are rendered un-developable by the proposed Project. Consequently, the SPC is under legal obligation to pay the value of these plots even though the lands have not been legally acquired. This is to enable the owners secure replacement plots and thus minimize the impact on them.

- **Substation Site**
  - The LEC has proposed the construction of four substations to be located at Yekepa, Buchanan, Monrovia and Mano. The proposed sites are approximately three to four (4-5) kilometres from the main towns. The proposed sites are approximately 200 m x 200 m. The owners of the land would be adequately compensated after the necessary negotiations have been completed. SPC, in consultation with Chiefs and elders of the villages will identify the family owners to enable SPC proceed to deal with the legitimate owners in the acquisition of sites.

During the initial inventory, vast parcels of land were identified. Information gathered indicated that it belongs to families and some individuals. Their ownership rights are
however yet to be established as evidence of titles are yet to be authenticated. The lists of the affected people are yet to be prepared since due process has to be followed in establishing the rightful owners.

12.5. Impacts on Population & Demography
The project is not expected to have any significant adverse impacts on the size of the populations within the counties. At its peak, the project will require about 200 - 300 workers. Out of this number, 60% – 70%, which will usually be unskilled labour, may be employed from among the locals. The skilled workers from outside the county will be about 200 in number. The workers will be all males but their numbers are such that this would not alter the gender balance within the villages to any appreciable extent.

The ethnic composition of the affected persons shows that most of them are indigenes of the affected villages and this will not be significantly altered during the duration of the project implementation phases.

12.6. Impacts on Employment & Incomes
The proposed Project is expected to provide direct job opportunities for about 300 - 350 persons from the counties. They will be used mainly as labourers and for the main non-specialized tasks such as watchmen and bush clearing. This will be a positive impact on the villages. Some of the people will acquire skills on the job, which could lead them to other opportunities when the project is over.

During the operation and maintenance phases, contractors who will carry out line maintenance vegetation clearing on behalf of the SPC would employ some of these people and this would be an additional benefit. Apart from these direct jobs, the project would also create indirect job opportunities like food vending and sale of petty items to the workers, which would be taken up mostly by women in the counties.

Employment created by the project and the incidental indirect jobs created, such as petty trading and food vending, will help to boost the levels of incomes. This impact, though positive, will only be of a rather limited duration.

12.7. Benefits arising from the project
12.7.1. National Level Benefits
Multiple benefits will be derived from this proposed project and they include both upstream and downstream benefits. With regards to upstream benefits, the proposed project will involve the construction of electric infrastructure that will facilitate the country’s participation in energy trade within the sub-region, provide opportunities for rural electrification. Employment during construction stage will be created and the country will benefit from technology transfer. The downstream benefits will include capacity building of the LEC staff in operations and maintenance, and the management of power sales. Adequate and reliable electric power supply will improve security, good governance, development of industries at national and local levels, and social opportunities. Another important downstream benefit will be the reduction in the depletion of forests which leads to soil erosion, higher temperatures and the emission of CO2, a major contributor to global warming and climate change.

The key drivers for increasing access to electricity are primarily to attain the Millennium Development Goals such as the eradication of extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality, improve maternal health, combat HIV/AIDS, Malaria and other diseases, and in particular, ensure environmental sustainability towards poverty alleviation.

The benefits to be derived from the implementation of the project are immense, especially considering the problems of supply experienced in Liberia in the recent past. The implementation of the project will ensure that the objective of ECOWAS to establish a regional electricity market in West Africa through the judicious development and realization of key priority infrastructure that would permit accessibility to economic energy resources, to all member states of the ECOWAS shall be realized.

12.7.2. Regional Level Benefits
The project itself is a direct attach on poverty in Liberia. It obviously becomes a part of the Poverty Reduction Strategy (PRS) in Liberia. It is aware that the main objective of the project is to contribute toward raising income and productivity of the rural poor. Particularly emphasis is given to improvement in health, nutrition and basis education especially through improving and redireting public services, such as rural water supplies, sanitation facilities, primary schools, etc. The specific benefits are as below.

- Road: the project will construct road that will be used both for the project and the population of the corridor. This accessibility is indeed part and parcel of material progress and the fact that transport plays a very major role in development. The economic benefits of the roads will include increased agricultural production, lower
costs for transporting goods in and out of the area, and employment in small scale and commercial activities along the road. Social benefits will include better access to health services, a wider range of goods for sale in local stores, and easier communication with friends and relatives far and near. Social relations or interaction between people along the line route will also increase.

- **Basic Needs:** The project will bring about the attainment of basic needs around and within the corridors.

  - **Employment:** Due to the speciality of their work, the professional wokers cannot be replaced by locals. However, some local staff may be hired to take up foundation excavation, transportation of cubic meter of earth and stone, conveyance of building materials and road building and repair etc during the construction stage. That can offer locals some temporary work opportunities. Moreover during the operation period, the properly trained local residences may be hired as the bush clearing worker or transmission monitoring ranger to maintain the transmission line RoW and monitor the towers regularly. By creating regular employment oppurunites like this, the Project will contribute to local villages’ income increase and development.

  - **Housing:** within the project area there will be better and improved housing units not only for those that will be compensated but also other settlements that will be located along the corridor. Those who will directly and indirectly be working with the project will indeed have improved housing conditions. There will be the need for housing rather than its demand.

  - **Health:** the entire population of the corridor will benefit from health facilities that will be provided for project employees and the general public of the corridor. Health centers and clinics will be constructed to serve the population.

  - **Education:** both formal and informal education that will be brought by the project will indeed benefit the entire population of the corridor from elementary to junior high and senior high education.

  - **Water supplies:** the provision of clean and safe drinking water supplies is a major problem in Liberia. Nowadays, there are outbreaks of water borne diseases in many parts of the country. It is expected that the population of the project areas will tap this opportunities to clean and safe drinking water supplies.

  - **Nutrition:** it is obvious that as one income increases the quality and quantity of goods consumed in many cases increase. Those that will be gainfully employed with the project including those directly employed will change their respective
nutritional habits. Both the elderly and the children who are the victims of malnutrition will recover from changed and improved diets.

12.8. Some Anticipated Problems
There may be hunters who may lose their access or crossing points to their hunting spots as a result of the project. It may restrict their access and make hunting activities more difficult. Owing to the line corridor and the frequent patrol of project employees, many species previously hunted may re-locate due to the disturbance and possibly to a distance from the line route. Hunters will be restricted to use the line route area neither its environs.

The status code of the rural people in terms of cultural practices will be disturbed. Members of the Poro and Sande societies along the line route are anticipated to be affected even if the line does not pass through them. Initial consultations show that these groups may not allow to have the society “bush” be close to the line route for fear of disturbances from non-members working on the line route and for secrecy.

There will be disruptions in the social systems brought by outsiders, including foreign workers, which might be difficult to manage if not appropriately addressed. These foreign attitudes and indisclines may disturb the daily status code of the tribal people, including possible spread of communicable diseases including HIV/AIDS, which are common in many construction sites. However, the scale of construction is anticipated to be relatively smaller although it is still expected that migrants from various urban areas will begin to visit the project areas.

As noted, there might be an increase of HIV and AIDS cases due to the migration of young people including male and female in and out of the project areas. These young migrants including the project employees will easily mix with the population of the project areas, the result will be unsafe sex and sex for money. The health mitigation measures proposed in the ESIA will address the health issues.

12.9. Cultural & Religious Properties
The implementation of the proposed projects has the potential to impact significantly on cultural properties and historical sites and items. Issues regarding cultural properties and the possibility of cultural and/or archaeological ‘chance finds’ are considered to be significant and require mitigation. There is also the potential to intrude into or interfere with the cultural properties of some counties.
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During the consultation process, however, the Chiefs and elders of the various counties also confirmed that no such cultural or historical property falls within the area of influence. Any such property which was not identified during the survey but comes out as an issue during project implementation will be adequately addressed in line with the RAP Policy.

No significant cultural property is known to be affected by the acquisition of the substation sites and the transmission line system based on consultation made to date. However, in compliance with the requirement of the World Bank Group and other stakeholders, a decision would be taken by SPC to realign the proposed transmission line as the first option in such a way that those sensitive properties that may not have been initially captured will be avoided by introducing strong angle towers at the appropriate places.

Where this option is not possible, consultations will be held with the chiefs of the affected communities and the necessary items provided for the purification right of relocation to be performed.

12.10. Management of Impact on Archaeological Chance Finds

In line with current international practice and the desire to ensure the sustainability of the environment within which the Authority operates, the SPC will avoid intruding into or interfering with cultural properties of the villages as much as possible. Consultations with the Museums Authority have been carried out in connection with any historical or archaeological ‘chance finds’.

There were no archeological chance finds during the survey stage. This notwithstanding, SPC has developed procedures for finds regarding archaeological and cultural property.

The following procedure, for dealing with all such finds, is followed:

- Upon the discovery of any such chance finds:
  - The Director of the Liberia Museum shall be notified immediately in writing, stating the exact site or location of the item. The letter shall include adequate photographs of the antiquity.
  - SPC shall permit and facilitate such access to, and inspection of the site of discovery as the Director may so require. SPC shall also permit to be affixed or applied thereto, any seal or identification mark of the board.
  - SPC shall not alter damage, destroy or remove any antiquity from its original site without the consent of the Board. If removal of the item becomes
12.11. Routing of the Transmission Line
As much as possible, the line route was selected to avoid built-up areas so as to minimise the amount of compensation to be paid for acquired land in the proposed right-of-way that would have physical structures on them. The path of access roads shall be selected so as to avoid crossing streams and other water bodies.

12.12. Minimization of Constructional Damages
Conscious efforts are made by SPC to reduce constructional damages. To this end only about up to five meters of the RoW would be cleared. To ensure that the interest of the farmers is considered, they are advised to harvest all crops that could be of benefit to them although compensation would be paid for all crops within the forty-meter (40 m) corridor. Destruction would be kept to the barest minimum and farm owners would be duly consulted and given adequate notification before construction. Owners of structures would be paid fully and would also be permitted to salvage any materials for re-use if they so wish. Such retrieved materials become bonus to the house owners.

12.13. Contractual Obligations
The SPC engages contractors for the construction of the transmission line and the substation components of the project. An Owner’s Engineers are also engaged to assist in project supervision and management. The firms shall be responsible for identifying and establishing site offices for project implementation purposes. As part of the contractual arrangements, contractors are required to submit Construction Environmental Management Plans. The Contractor’s EMP includes, to the extent practicable, all steps to be taken by the Contractor to protect the environment in accordance with the current provisions of national environmental regulations and/or the ESIA/EMP for this project.

Notwithstanding the Contractor’s obligation spelt out above, the Contractor shall, in addition, endeavor to implement all measures necessary to restore the project sites to acceptable
standards and abide by environmental performance indicators specified in the ESIA/ESMP to measure progress towards achieving objectives during execution or upon completion of any works.

- These measures include but not limited to the following:
  - Minimizing the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and people living downwind of dust generating activities.
  - Ensuring that noise levels emanating from machinery, vehicles and noisy construction activities are kept at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and villages near rock-blasting areas.
  - Ensuring that existing water flow regimes in rivers, streams and other natural or irrigation channels is maintained and/or re-established where they are disrupted due to civil works being carried out.
  - Preventing bitumen, oils, lubricants and waste water used/produced during the execution of works from entering into rivers, streams, irrigation channels and other natural water bodies/reservoirs and also ensure that stagnant water in uncovered borrow pits is treated in the best way to avoid creating possible breeding grounds for mosquitoes.
  - Preventing and minimizing the impacts of quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. In as much as possible restore/rehabilitate all sites to acceptable standards.
  - Ensuring that the discovery of ancient heritage, relics or anything that might or believed to be of archaeological or historical importance during the execution of works is reported to the Director of Museum in fulfilment of measures aimed at protecting such historical or archaeological resources.
  - Discouraging construction workers from engaging in the exploitation of natural resources such as hunting, fishing, and collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.
  - Implementing soil erosion control measures in order to avoid surface run off and prevents siltation etc.
- Ensuring that garbage, sanitation and drinking water facilities are provided in construction workers camps.
- Ensuring that in as much as possible, local materials are utilized to avoid importation of foreign material and long distance transportation.
- Ensuring public safety and meeting traffic safety requirements for the operation of moving machinery in order to avoid accidents.
- Discouraging the use of foul or infuriating words on project-affected persons (PAPs) or any other persons seeking information on the project by construction workers. All such persons and grievances should be politely referred to the appropriate authority for redress.
13. COMMUNITY PARTICIPATION & SCOPE OF CONSULTATION

To ensure an adequate flow of information on projects with Involuntary Resettlement as one of its unavoidable impacts, public consultation has been made an integral part of the RAP. This includes consultations during the scoping exercise and the preparation of the RAP report.

The LEC and the Consultant subsequently engaged in a consultative process with all stakeholders taking the following factors into account:

- Identification of the affected communities along the transmission line right of way.
- Preparation of the description of all stakeholders who are involved in the consultation process.
- Prepared a consultation and participation process with the various stakeholders.
- Agree on the participation mechanisms to facilitate the consultation process focusing on the following indicators;
  - Assessment of project impacts;
  - Resettlement strategy;
  - Compensation rates and eligibility for entitlements;
  - Timing of relocation;
  - Development opportunities and initiatives;
  - Development of procedures for redressing grievances and resolving disputes;
  - Mechanisms for monitoring and evaluation and implementing corrective restoration.
- Workout the grievance redress framework (both informal and formal channels) that will be put in place by the subproject proponent setting out the timeframe and mechanisms for resolution of complaints about resettlement.

The relevant policies and the regulatory conditions that must be considered for the successful implementation of the project were assembled and reviewed as part of the RAP process and appropriate consultations with the relevant agencies have been undertaken. Projects resulting in physical or economic displacement have special consultation responsibilities. It is vital that the affected persons are fully involved in the selection of project sites and areas of influence, livelihood compensation and development options at the earliest possible time. Participation as a generic term usually encompasses two distinct dimensions:

- Dissemination and consultation – involving the exchange of information, and;
- Collaboration or participation – involving varying forms of joint decision making.
Participation is vital because the success of resettlement, like the success of most of the projects that cause it, depends in part upon the responsiveness of those that are affected. Providing early information regarding a development intervention to the affected people allays fears, dispels misconceptions and builds trust, providing a foundation for collaboration between the affected population and project officials and authorities.

Consultations involve joint discussion between the project officials and the affected population. This is meant to serve as a conduit to pass on information from the affected population to the project officials. Consultation also encompasses the sharing of ideas. Public meetings and focused group discussions promote consultations. Household surveys provide an opportunity for direct consultation.

During the RAP preparation process, the emphasis has been to make the consultations exercise thorough to ensure that all the relevant statutory bodies, stakeholders and affected groups have been identified and adequately consulted. All the relevant bodies have been informed of the Project and on the process leading from census to construction and operation. During the actual field surveys, LEC and Environmental Consultant interacted with the residents, briefing them on the various relevant aspects of the proposed project and interviewed them to ascertain their concerns and expectations. Appropriate questionnaire were duly administered.

The first step involved the identification of all interested and affected parties. This process required detailed analysis of the project, its location and the persons who have been potentially impacted upon or whose authority would be required to grant permit.

13.1. **Consultations with Affected Counties**

Series of consultations were done at different times as the project progressed. Each of the affected counties has been contacted. During the consultations, the villages expressed fears and concerns regarding loss of land use and payment/nonpayment of compensation. Some of the common concerns and expectations expressed by the villages are presented below:

- That available land for farming will become smaller in size and in some cases the right-of-way will split some farmlands.
- Possibility that affected persons may not be adequately compensated and may worsen their poverty situation.
- Fear that those who will administer the compensation may not be fair to all affected persons.
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- Employment opportunities during construction of the towers and also local people to be recruited to maintain the right-of-way (bush clearing etc.).
- Affected villages without electricity to be connected to power.

13.1.1. Methodology

The communities predicted to be affected by the proposed project were identified with the help of the relevant County Assemblies, the Survey Consultants and from field work carried out to identify the communities. A summary of the survey methodology is discussed below.

A Team comprising the LEC and the Consultant, the survey and environmenta / compensation consultants carried out very useful initial consultations with the potential project–affected County Assemblies and communities along the proposed RoW. The outcomes of such consultations have been incorporated in this report.

Using maps of the proposed transmission line provided by the surveyors and contractors, a team of Consultants traveled to the various affected counties along the line route corridor to initially explain the aims and objectives of the project. In this light, formal meetings were planned and held with the help of the community elders and the project affected people.

The community elders who usually received the messages prior to the meetings usually request the cooperation of their community members and formally asked the team to explain their mission. The meeting usually begin with a normal traditional greetings and exchanges during which period an interpreter is selected to interpret English to the local dialects.

The survey consultation instruments used were questionnaires, maps, sketches, etc. in order to carefully guide the process. Every member of the survey consultants used note book/pads to take note of what is being discussed for processing and for future records keeping pertinent to the conclusion of the meetings and the concerns of the communities and the affected people.

Majority of the local languages of the project area are verbal and not written; therefore, consultations with project affected people are done in English with an interpreter usually interpreted from English to local dialects. This method of communication is done because majority of the villagers do not understand nor speak English. Also, majority cannot read or write their local languages/dialects; they can only speak these dialects. This makes the public
consultation process difficult. It is therefore recommended that signed communications be used intensively in order for more villagers to understand what is expected of them.

13.1.2. Major Concerns raised

Various stakeholders were consulted during the preparation of the ESIA. These include local communities (men, women, youths, elders and private persons), city authorities, environmental specialists, county authorities and others. Key concerns included compensation issues, employment and the invisible line route that cannot be physically seen.

The project received high degree of acceptability in that implementation of the line will boost local economy due to the availability of electricity hence more exposure and increased benefits as more people would receive power through the line and in a way increase economic opportunities. Communities also indicated that transportation problem will be eased including road safety as the line corridor will facilitate the construction and rehabilitation of road networks.

- Compensation for economic trees
A member of the community asked how economic trees were to be compensated for in case they were to be felled.

It was explained that trees were to be felled only when very necessary. All felled trees were to be compensated for fully using rates that was to comply with rates of the regulatory agency for such exercises. This would be done prior to commencement of construction activities.

- Ownership of economic trees
An important question that arose flowing from the issue above was the question about ownership of the economic trees. This issue had to be stood down for the chief to help in resolving.

At the second meeting the chief explained that if the trees are located on an active farm then the owner is presumed to be the farmer. On the other hand, if they are not located on a farm, then they should be considered community property. Compensation would then have to be paid to the chief.

- Possibility of sale of land to SPC
The chief wanted to know whether the SPC wanted land to buy for the substation.

It was explained that land for the substation had to comply with certain specifications for engineering purposes. The proponent has with the consent of the County Assembly identified a piece of land within the chief’s jurisdiction. With the acquisition of an environmental permit the proponent would come forward and negotiate for that piece of land.

- Social responsibility programmes

A member of the community wanted to know whether the SPC would carry out social responsibility programmes just like what some mines do in some mining communities.

It was explained that the LEC has been implementing many transmission line and substation project. It would therefore be impossible for it to carry out such programmes for each community the lines pass through.

Some of the concerns were however raised, and these include the followings:

- The contractors to employ people around their respective surrounding villages
- The contractors to consider replacing trees which will be destroyed during construction.
- Electricity to be provided at an affordable rate

Data on the community consultations is provided in Appendix 3
13.2. PAPs Verification
The PAPs verification was made from 3rd to 5th of December 2011 at the selected location of the substation site and the village affected by the proposed transmission line as mentioned below:

- Yeweh town
  - County : Grand Bassa
  - Location : Buchanan substation
  - Date : December 3, 2011

- Frank town
  - County : Monserrado
  - Location : Between AP 91 and AP 92
  - Date : December 5, 2011

The representatives of MIA (Ministry of Internal Affairs), MLME (Ministry of Lands, Mines and Energy) and LEC (hereinafter referred to “GoL”) accompanied the KEPCO team. GoL and KEPCO team verified the bellows were appropriate and acceptable

- The procedure of PAPs field investigation carried out by KEPCO with the presence of LEC staff.
- The PAPs list of the above mentioned selected location.

Table 14 List of participants

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIA</td>
<td>E. Ekema A. Witherspoon</td>
<td>Asistant Minister Technical Service Division</td>
</tr>
<tr>
<td>MLME</td>
<td>Jimmy K. Davis</td>
<td>Energy Technologist Department of Energy</td>
</tr>
<tr>
<td>LEC</td>
<td>Joseph Leay</td>
<td>Senior Electrical Engineer Project Manager of Cross Border Project</td>
</tr>
</tbody>
</table>
14. ORGANISATIONAL RESPONSIBILITIES

14.1. General Organization for Implementation

The general organization of the resettlement action plan will be based on inputs from the following institutions:

- The SPC will be entirely responsible for the RAP, and will implement it with its own teams and means;
- Property Valuation Section at county level will participate in the final valuation of the properties on behalf of the Government of Liberia;
- The seven counties Committees will be responsible for the formation of the RoW Selection Committee for the acquisition of the RoW;
- External valuators will assess the process on technical, socio-economical and financial aspects, on request of any PAP, or on SPC’s request.

14.2. Description of the SPC’s Organization for the Resettlement

The SPC will implement and operated the proposed Project also Project Implementation Unit (PIU) should be set up to be broadly responsible for preparing the implementation and operation of the proposed Project until the SPC is formed. The PIU is led by the Project Director and supported by key personnel in SPC as well as external Owner’s Engineers.

Project Implementation Unit (PIU)

The primary mandate of a PIU under this setup initially is under the WAPP, and then under the SPC, to oversee the construction of the proposed Project and ensure compliance with the terms of the construction contract. The PIU setup therefore must cover all the functions and be fully in place when field work is about to commence; ie about six months after contract award.

The set of skills required (by the PIU) to perform its construction oversight mandate is significantly different from the skills required for project preparation, bidding, evaluation and award. Therefore;

- Pre-Award tasks are best assigned to a competent Owners Engineer.
- A representative of the SPC or project sponsors however needs to be assigned to provide the administrative focus, coordination and follow-up necessary for the preparation on schedule of such a complex project. This role could best be performed by the Project Director of the PIU.
To provide the required day-to-day follow-up, coordination and facilitation of the Pre-award activities to be performed by the Owners Engineer and others, the Project Director of the PIU (eg. the Project Director) should be recruited and available during the Pre-Award phase if the project is not to be delayed.

It is recommended that the PIU be headed by a Project Director who has overall responsibility for the proper implementation of the proposed Project as well as the management and functioning of all the other PIU staff and resources. The Director being the head of the PIU is to be stationed at the Head Office. The Director is expected to make quarterly visits to the project site or field offices.

**Environment & Community Relations Unit (ECRU)**

It is necessary to set up the Environment & Community Relations Unit (ECRU) as a substructure of PIU to deal with environmental and social aspects of the proposed Project.

The ECRU will be responsible for the following:

- Ensuring project’s compliance with all relevant social, health and safety regulations
- Liaising with all relevant regulatory bodies and organizations - EPA, Ministry of Land Mines and Energy and the National Social Security and Welfare Corporation (NASSCORPS)
- Formulation and review of environmental and social policies and practices associated with projects
- Liaising with relevant LEC Departments on all health, environmental, safety and social matters connected to the proposed Project
- Assisting in the education and training of project staff in environmental, social and safety awareness
- Making budgetary provisions for projects’ environmental programs
- Undertaking environmental and social monitoring activities for projects

**Owner’s Engineer**

The Owners Engineer shall have full technical responsibility for the Pre-Award tasks; ie. preparation, issuance and clarification of bidding documents; as well as serve as the technical expert for the Evaluation of Bids, Negotiation and Award of construction contracts. They need to be made responsible, by contractual arrangement for the adequate implementation of the ESMP of the proposed Project.
The role of the Owner's Engineer shall however change after the award of contracts to become one of providing technical support to the PIU for the construction phase. Accordingly, the Owners Engineer is expected, during the construction phase, to:

- Undertake the review and approval of detailed designs by experts at its Home Office while supporting with occasional site advisory visits as needed.
- Provide a Resident Team in the field (eg. comprising Project Engineer and one other expert) to provide technical direction for works supervision.
- Reviewing and approving and monitoring of Implementation of the Contractor’s EMP (CEMP)
- Requesting the Contractor Traffic Control Plan and specific Method of Statement for complex environmental management aspects if necessary, reviewing it
- Day to Day supervision and surveillance of environmental and social activities in the field
- Reporting the monitoring results to PIU regularly
14.3. Main participants in the Resettlement Action Plan and their roles

- **SPC**
  - Take full responsibility for the implementation of the compensation/ resettlement plan and implement it with its own teams
  - Consult with, sensitise and inform the Project Affected People
  - Undertake valuation and other resettlement requirements
  - Pay for compensation
  - Coordinate with other institutions involved
  - Organise and implement monitoring and assistance to vulnerable people

- **County Development Committee**
  - Organize the RoW Steering Committee
  - Participate in the monitoring and in the external evaluation

- **Property Valuation Section (Ministry of Finance)**
  - Participate in the process of land acquisition and transfer of titles as the final owner of land to be acquired
  - Witness the whole process of compensation and resettlement
  - Participate in the monitoring and in the external audits

- **Liberian Commercial Bank**
  - Provide banking services for the payment of compensation to PAPs

14.4. Capacity building

As there have been no recent construction of a transmission system in Liberia, the SPC (Special Purpose Company) will be set up to implement and operate the project. The SPC will need to be endowed with satisfactory environmental and social safeguards. The SPCs will need to have a special Environment & Community Relations Unit (ECRU) which will be responsible for implementing the RAP.

In order for these units to do work effectively proper capacity building will be needed. There are two aspects to the Capacity building- ‘Institutional Strengthening’ for SPCs, the governmental agencies, and ‘Community Awareness’ to publicize the project.

For the successful implementation of Environmental management and monitoring program, it is essential for a range of training to start as soon as possible. Figure 7 shows the proposed capacity building program strategy.
14.4.1. Capacity building of the Project Implementation Unit (PIU) in SPC

In general, training can be composed of workshops, in-service training & technical assistance, in-service formal courses, and to a certain degree, awarding of scholarship for university degree and certificate studies.

Considering the efficiency, In-service Training & Technical Assistance will facilitate adequate on-the-job training and technology transfer, enabling the ECRU in the SPC to undertake their monitoring activities during the Construction and Operation Phases of the propose Project.

14.4.2. Capacity building of Other Federal and Regional Level Agencies

Several government agencies at both Regional and Federal levels will be responsible for ongoing monitoring of construction and operational conditions and activities. All stakeholders involved in the project must receive support through capacity building programs. This capacity building needs to be designed for the different target groups by specific institutes, universities or consultancy companies specialized in environment, training, human resources management and change management.

It is recommended that further detail assessment of involved agencies for developing the customized training in line with the current status in Liberia, Guinea and Sierra Leone, Cote d’Ivoire.
Figure 7: Strategy of Capacity Building Program

**Institutional strengthening**

**Objective**
- Institutional strengthening to prevent and to cope with possible environmental and socio-economic changes.
- Give government officials tools for decision making and community awareness activities concerning short, medium and long term environmental changes.

**Contents of Training**
- ESMP awareness, conflict resolution skills, resettlement and compensation issues.

**Other Federal and Regional Level Agencies**

**Objective**
- To help and support communities be aware of short, medium and long term environmental and social changes due to the project.
- Create a communication channels for members of the community with grievances.

**Contents**
- Community awareness activities such as public sensitization, vulnerable people support program.

**Environment and Community Relation Unit (ECRU)**

**Objective**
- Coordinate ECRU and other stakeholders for implementation of ESMP.
- To strengthen ECRU’s capability in the areas of ESMP, monitoring and communication.

**Contents of Training**
- ESMP, Environmental Law and regulations, Environmental and Social Monitoring, Mitigation measures, Communication, Human Resources management.

**Communities**

**Objective**
- To help and support communities be aware of short, medium and long term environmental and social changes due to the project.
- Create a communication channels for members of the community with grievances.

**Contents**
- Community awareness activities such as public sensitization, vulnerable people support program.
15. IMPLEMENTATION SCHEDULE

Implementation of the RAP shall commence following the financial close for the project with funding agencies. It is programmed that compensation payments would be completed prior to commencement of physical construction. An organization of the proposed Project Implementation Unit (PIU) is provided in Chapter 14.2 and Figure 6.

The month of financial close will be chosen as a reference for the implementation schedule, as will be shown in the implementation program. The implementation phase is planned over a period of one year. The program makes allowance for building owners to have sufficient time to construct their houses before they are demolished. Monitoring and assistance will continue with less staff for another two-year period. The stated duration would allow the SPC to monitor the impacts during construction and address them. Also, residual issues that may be encountered would be considered and addressed within the period.
16. COSTS AND BUDGET

To ensure that the project is perfectly managed to its logical conclusion, the Consultant has made the necessary budgetary provisions to ensure that mitigation commitments stated in the ESMP (including compensation) and monitoring programs, can be implemented effectively as assessed, with a provisional estimate of USD 1,298,867 for compensation issues as outlined in the Table below. The estimates would however be adjusted for any downward/upward review at the time of payment if property values go up or down. The details of the budget are provided below.

Table 15 Cost for Implementation of Resettlement Action Plan

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>No</th>
<th>ITEM</th>
<th>Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation</td>
<td>1</td>
<td>Compensation for lands</td>
<td>80,000</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Compensation for trees</td>
<td>586,263</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Compensation for food crops</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Huts / Houses / Buildings</td>
<td>158,800</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Constructional damage for plants outside of the ROW, inside access road (=2+3)*10%</td>
<td>58,642</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Compensation for loss of income ((1+2+4)*10%)</td>
<td>41,253</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>Add-on amounts for vulnerable project affected persons (=1+2+3+4)*5%</td>
<td>41,261</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Professional fees, reimbursement for permits etc (=1+2+3+4)*10%</td>
<td>82,522</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Contingency allowances to cater for the effect of probable increases in property values (=1+2+3+4)*10%</td>
<td>82,522</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>1,131,424</strong></td>
</tr>
<tr>
<td>Activities for RAP</td>
<td>10</td>
<td>Social action plan, community support</td>
<td>57,659</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Livelihood restoration program</td>
<td>19,701</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Community infrastructure Program (=1+2+3+4)*5%</td>
<td>41,261</td>
</tr>
<tr>
<td></td>
<td>13</td>
<td>External monitoring and Evaluation</td>
<td>26,600</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>Purification rites / ceremonies</td>
<td>7,000</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>Indirect cost=(10+11+12+13+14)*10%</td>
<td>15,222</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Subtotal</strong></td>
<td><strong>167,443</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total RAP Cost</strong></td>
<td><strong>1,298,867</strong></td>
</tr>
</tbody>
</table>

* Trees include rubber, Cocoa, Coffee and Oil Plam
* Corps include Rice, Cassava, eddoes, Plaintain
* Building include Churches, Mosques, Palava huts

16.1. Details of Budget
**Item No.1, 2, 3 Compensation for lands, trees, crops**
This is the cost for acquiring the substation sites, tower base and compensation for trees and crops to be affected by the Project.

**Item No.4. Buildings / Structures / Houses**
This is the replacement cost for building new structures/buildings to replace the original structures with new houses. The consultant investigated market price of material, labour, and other miscellaneous necessary to build equivalent or improved buildings. This cost is subject to further verification of Ministry of Finance prior to the commencement of compensation.

**Item No.5. Constructional damage for plants outside of the ROW, inside access road**
An additional 10% allowance of compensation cost for trees and food crops (2+3) has been suggested for damages of crops and trees outside of the RoW or for access road. It will cover unexpected expenditure for leasing storage yard or cutting trees located outside RoW but might threaten the line route and compensation for crops and trees inside access road.

**Item No.6. Loss of income**
It will cover the loss of income due to the implementation of Project. It was estimated 10% of sum of compensation for land, trees, buildings / structure / houses.

**Item No.7. Add-on amount for vulnerable PAP**
5% of net compensation cost (1+2+3+4) has been suggested for taking care of vulnerable PAP.

**Item No.8. Professional Fees and Permits:**
Acquiring bodies are responsible for the payment of legal and surveyors fees incurred by PAP's when their properties are compulsorily acquired. The fee charged is normally 10% of the assessed value of the property. Therefore 10% of net compensation cost (1+2+3+4) has been suggested.

**Item No.9. Contingency**
Contingency allowances to cater for the effect of probable increases in property values was calculated 10% of total current value of affected properties

**Item No.10. Social action plan, Community support**
This cost item covers the arrangements required for the Social Action Plan information
campaign and implementation and community management of resettlement-related activities. It includes awareness raising and information dissemination campaigns and costs for consultation meetings, as well as the costs of the live safety campaign. 8,237 USD (It was quoted from the Consultant's previous Ghana-Mali Interconnection project) per district will be allocated. It gives the total amount of 57,659 USD for affected seven Districts.

**Item No.11. Livelihood restoration program**
The purposes and budget of this program are specified in Section 9.7

**Item No.12. Community Infrastructure program**
Currently, the LEC does not have any specific plan to support community Infrastructure program. However, in order to share benefits from the implementation and operation of the Project with PAP and affected communities, it is necessary for the SPC to support the community infrastructure program to enhance the quality of life of affected communities. It will include small road rehabilitation, water pump, community school, installation of VIP toilet or concrete dry floor. 5% of net compensation cost (1+2+3+4) has been proposed for that program.

**Item No.13. External Monitoring and Evaluation**
External monitoring will be carried out by concerned stakeholders such as MEWR/NPA, EPA and it will be coordinated through the SPC to ensure that effective monitoring is carried out according to the Environmental and Social Management Plan. Based on the Consultant’s previous project, unit cost of 50 USD per transmission line length (km) was proposed. It gives the total 26,600 USD as the line length in Liberia Leone is 532km.

**Item No.14. Purification Rites / Ceremonies**
Provisions should be made to cover purification rites / ceremonies. Unit cost of 1,000 USD per county was adopted and 7,000 USD would be necessary.

**Item No.15. Indirect Cost**
Indirect cost for will cover the necessary expenditure to be incurred during the implementation of the Resettlement Action Plan for the Project. It was estimated 10% of sum of item 10~14 (10+11+12+14)

16.2. Costs of Compensation for Assets and Livelihoods
**Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)**

The direct costs of compensation for trees, land and structures are the responsibility of SPC. The compensation cost incurred due to the loss of trees, land and structures will be covered by project cost and the funds need to be made available in the project account.

The majority of tree/crop plant losses concern rubber trees, most of which have grown, spreading into the RoW from existing farms. A few cassava farms have spread into the RoW and a few bananas, plantain, kola nut and other fruit trees are found. The following Table 16 lists the compensation price for trees and crops.

**Table 16 Compensation costs of trees and crops**

<table>
<thead>
<tr>
<th>Tree / Crop/Plant</th>
<th>Unit</th>
<th>MATURE (RATE US$)</th>
<th>IMMATURE (RATE US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Cocoa</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Coffee</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Oil Palm</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Kola</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Bread Fruit</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Orange</td>
<td>Tree</td>
<td>3.00</td>
<td>2.50</td>
</tr>
<tr>
<td>Plantain</td>
<td>Group</td>
<td>3.00</td>
<td>2.50</td>
</tr>
<tr>
<td>Banana</td>
<td>Group</td>
<td>3.00</td>
<td>2.50</td>
</tr>
<tr>
<td>Lemon</td>
<td>Tree</td>
<td>3.00</td>
<td>2.50</td>
</tr>
<tr>
<td>Lime</td>
<td>Tree</td>
<td>2.50</td>
<td>1.50</td>
</tr>
<tr>
<td>Mango</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Coconut</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Pawpaw</td>
<td>Tree</td>
<td>3.00</td>
<td>2.50</td>
</tr>
<tr>
<td>Cassava</td>
<td>Acre</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>Acre</td>
<td>6.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Pineapple</td>
<td>Head</td>
<td>2.50</td>
<td>1.50</td>
</tr>
<tr>
<td>Avocado</td>
<td>Tree</td>
<td>6.00</td>
<td>3.00</td>
</tr>
</tbody>
</table>

- Source: Permanent Claims Commission, 2004 (MOA)

The total number of trees 97,883 and total size of crops is 15 acers. Seven counties are affected by the line corridor and therefore careful intervention is required.

**16.3. Allowances**
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

The time spent in the county headquarters or villages for negotiating the compensation/donation and cost of travel to prove compensation is an added loss to the landowner. Allowances will be paid for travelling and time spent in re-registering land and negotiation will be paid on the conclusion of relocation. Travel costs for affected persons to participate in land acquisition processes will be provided.

Allowances for household and business goods or materials transport will also be provided with additional provision if the relocation site is over 5km from the original.

16.4. Social Action Plan and Community support costs
This cost item covers the arrangements required for the Social Action Plan information campaign and implementation and community management of resettlement-related activities. It includes awareness raising and information dissemination campaigns and costs for consultation meetings, as well as the costs of the live safety campaign.

16.5. Community Infrastructure Program
This program is to be designed properly. This includes the provision of new market buildings, latrine construction, water pump and community school structures that need relocation and rebuilding if appropriate.

16.6. External Monitoring and Evaluation
Joint monitoring of projects and the use of independent monitors will be coordinated through SPC to ensure that effective monitoring and evaluation is carried out according to the Social Monitoring Plan. An NGO(s) will be hired and trained if necessary to undertake the monitoring.

16.7. Total Compensation Costs
The total estimated cost of sporadic resettlement, including compensation for the loss of trees, structures, land, livelihood restoration program and deed transfer, and community infrastructure is provided in Table 17.

Table 17 Summary of PAPs’ affected properties

<table>
<thead>
<tr>
<th>County</th>
<th>Trees</th>
<th>FoodCrops</th>
<th>Houses</th>
<th>Huts</th>
<th>Buildings</th>
<th>Lands</th>
<th>Total Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count</td>
<td>Cost</td>
<td>Area(ac)</td>
<td>Count</td>
<td>Cost</td>
<td>Area(m2)</td>
<td></td>
</tr>
<tr>
<td>Nimba</td>
<td>30,681</td>
<td>183,996</td>
<td>7.6</td>
<td>-</td>
<td>119</td>
<td>-</td>
<td>40,000 20,000 205,215</td>
</tr>
<tr>
<td>Margibi</td>
<td>38,217</td>
<td>229,302</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

WAPP/LEC/KEPCO-CEDA Consult 160
### Table 18 List of PAPs and type of properties – Nimba County

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity (No/Acres)</th>
<th>Unit Cost (USD)</th>
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<td>X: 540426  Y: 814097</td>
<td>0.30</td>
<td>6</td>
<td>5</td>
<td>Crop</td>
</tr>
</tbody>
</table>

| Sub-total | Tree       | 30,681 | 183,996 |
|           | Crop       | 7.60   | 119     |
| Total     |            | 30,689 | 184,115 |

- **Houses / Huts / Buildings**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity (No)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
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<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Coordinate Y</th>
<th>Quantity (No)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yah Boyee</td>
<td>Topeh</td>
<td>050NC</td>
<td>Hut</td>
<td>485775</td>
<td>764162</td>
<td>1</td>
<td>1,100</td>
<td>1,100</td>
<td>Hut</td>
</tr>
</tbody>
</table>

#### Sub-total

|        | Houses  | - | - | 1 | 1,100 | - | - |
|        | Huts    | - | - | 1 | 1,100 | - | - |
|        | Buildings | - | - | - | - | - | - |
|        | Total   | - | - | 1 | 1,100 | - | - |

### Land

<table>
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<tr>
<th>No.</th>
<th>Name</th>
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<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Coordinate Y</th>
<th>Quantity (m2)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wilson Tokpah</td>
<td>Sehnkepa</td>
<td>019NC</td>
<td>Landfors substation</td>
<td>538609</td>
<td>817656</td>
<td>40,000</td>
<td>0.50</td>
<td>20,000</td>
<td>Yekepa substation</td>
</tr>
</tbody>
</table>

#### Sub-total

|        | Land     | - | - | 40,000 | 20,000 | - | - |

**Table 19 List of PAPs and type of properties – Margibi County**

### Trees / Crops

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Coordinate Y</th>
<th>Quantity (No/Acre s)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Firestone</td>
<td>Harbel</td>
<td>MG2</td>
<td>Rubber</td>
<td>38,217</td>
<td>38,217</td>
<td>6</td>
<td>6</td>
<td>229,302</td>
<td>Tree</td>
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</tbody>
</table>

#### Sub-total

|        | Tree    | 38,217 | 229,302 | - | - | - | - |
|        | Crop    | - | - | - | - | - | - |
|        | Total   | 38,217 | 229,302 | - | - | - | - |
### Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

#### Table 20 List of PAPs and type of properties – Bomi County

- **Trees / Crops**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Quantity (No/Acre s)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gbelly Larjeh</td>
<td>Kpomak or Farm</td>
<td>BM 001</td>
<td>Rubber</td>
<td>291951 73861 3</td>
<td>1,000</td>
<td>6</td>
<td>6,000</td>
<td>Tree</td>
</tr>
<tr>
<td>2</td>
<td>George Folley</td>
<td>Taar village</td>
<td>BM 002</td>
<td>Kola</td>
<td>292351 73870 5</td>
<td>6</td>
<td>6</td>
<td>36</td>
<td>Tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mango</td>
<td>292351 73870 5</td>
<td>3</td>
<td>6</td>
<td>18</td>
<td>Tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pear</td>
<td>292351 73870 5</td>
<td>2</td>
<td>6</td>
<td>12</td>
<td>Tree</td>
</tr>
<tr>
<td>Sub-total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,011</td>
<td>6,066</td>
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- **Houses / Huts / Buildings**

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<thead>
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<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Quantity (No)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Temas Orphanage Home</td>
<td>Taar Village</td>
<td>BM003</td>
<td>Building</td>
<td>292699 738797</td>
<td>1</td>
<td>35,000</td>
<td>35,000</td>
<td>Building</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Huts</td>
<td>292699 738797</td>
<td>3</td>
<td>1,100</td>
<td>3,300</td>
<td>Hut</td>
</tr>
<tr>
<td>2</td>
<td>George Folley</td>
<td>Taar Village</td>
<td>BM002</td>
<td>House</td>
<td>292351 738705</td>
<td>1</td>
<td>4,850</td>
<td>4,850</td>
<td>House</td>
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<td>1</td>
<td>4,850</td>
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<td></td>
</tr>
</tbody>
</table>

|     |                  |                       |      |          |               | 3               | 3,300           |                  |         |
|     |                  |                       |      |          |               | 1               | 35,000          |                  |         |
|     |                  |                       |      |          |               | 5               | 43,150          |                  |         |

#### Table 21 List of PAPs and type of properties – Bong County

- **Trees / Crops**

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Quantity (No)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>William Tarpeh</td>
<td>Tarpeh Town</td>
<td>B005</td>
<td>Rubber</td>
<td>469400 743109</td>
<td>2,048</td>
<td>6</td>
<td>12,288</td>
<td>Tree</td>
</tr>
<tr>
<td>2</td>
<td>George Tarpeh</td>
<td>Tarpeh Town</td>
<td>B006</td>
<td>Rubber</td>
<td>468890 742722</td>
<td>1,844</td>
<td>6</td>
<td>11,064</td>
<td>Tree</td>
</tr>
<tr>
<td>3</td>
<td>Samuel Kлемbiah</td>
<td>Tarpeh Town</td>
<td>B007</td>
<td>Rubber</td>
<td>468783 742644</td>
<td>708</td>
<td>6</td>
<td>4,248</td>
<td>Tree</td>
</tr>
<tr>
<td>4</td>
<td>Philip P. Harris</td>
<td>Gbar Town</td>
<td>B008</td>
<td>Rubber</td>
<td>466811 741047</td>
<td>503</td>
<td>6</td>
<td>3,018</td>
<td>Tree</td>
</tr>
<tr>
<td>5</td>
<td>Mary K. Pearson</td>
<td>Pearson Farm</td>
<td>B002</td>
<td>Rubber</td>
<td>484630 761401</td>
<td>2,000</td>
<td>6</td>
<td>12,000</td>
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</tr>
<tr>
<td>6</td>
<td>Duanah Soko</td>
<td>Lorta</td>
<td>B004</td>
<td>Rubber</td>
<td>476172 748776</td>
<td>2,500</td>
<td>6</td>
<td>15,000</td>
<td>Tree</td>
</tr>
</tbody>
</table>
Table 22 List of PAPs and type of properties – Grand Bassa

- Trees / Crops

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Coordinate Y</th>
<th>Quantity (No/Acre)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clarence Onumah</td>
<td>Duwin</td>
<td>BS001</td>
<td>Rubber</td>
<td>4227767</td>
<td>696460</td>
<td>1,633</td>
<td>6</td>
<td>9,798</td>
<td>Tree</td>
</tr>
<tr>
<td>2</td>
<td>Sam G. Bonwin</td>
<td>Bonwin farm</td>
<td>BS004</td>
<td>Rubber</td>
<td>397315</td>
<td>660191</td>
<td>2,100</td>
<td>6</td>
<td>12,600</td>
<td>Tree</td>
</tr>
<tr>
<td>3</td>
<td>Morris Tommey</td>
<td>Garmond eh</td>
<td>BS003</td>
<td>Rubber</td>
<td>409935</td>
<td>677466</td>
<td>1,200</td>
<td>6</td>
<td>7,200</td>
<td>Tree</td>
</tr>
<tr>
<td>4</td>
<td>Reubin Garway</td>
<td>Garmond eh</td>
<td>BS002</td>
<td>Rubber</td>
<td>410029</td>
<td>677458</td>
<td>500</td>
<td>6</td>
<td>3,000</td>
<td>Tree</td>
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<td>5</td>
<td>Alexander Zikel</td>
<td>Corporal Village</td>
<td>BS13</td>
<td>Rubber</td>
<td>402505</td>
<td>666612</td>
<td>150</td>
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<td>900</td>
<td>Tree</td>
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<td></td>
<td></td>
<td></td>
<td>Cocoa</td>
<td>402505</td>
<td>666612</td>
<td>100</td>
<td>6</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Reubin G. Hill</td>
<td>Hill fram</td>
<td>BS011</td>
<td>Rubber</td>
<td>390327</td>
<td>655379</td>
<td>200</td>
<td>6</td>
<td>1,200</td>
<td>Tree</td>
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<tr>
<td>7</td>
<td>Saturday Whea</td>
<td>Diahbah Village</td>
<td>BS19</td>
<td>Kola</td>
<td>422484</td>
<td>689598</td>
<td>8</td>
<td>6</td>
<td>48</td>
<td>Tree</td>
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<td></td>
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<td></td>
<td>Banana</td>
<td>422484</td>
<td>689598</td>
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<td></td>
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<td></td>
<td></td>
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<td>422484</td>
<td>689598</td>
<td>6</td>
<td>6</td>
<td>36</td>
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<td></td>
<td></td>
<td>Plantain</td>
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<td>689598</td>
<td>48</td>
<td>3</td>
<td>144</td>
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<td>8</td>
<td>Raymond Corporal</td>
<td>Corporal Village</td>
<td>BS12</td>
<td>Rubber</td>
<td>402460</td>
<td>66665668</td>
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<td>6</td>
<td>1,200</td>
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<td>Cocoa</td>
<td>402460</td>
<td>66665668</td>
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<td>6</td>
<td>900</td>
<td>Tree</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Kola</td>
<td>402460</td>
<td>66665668</td>
<td>15</td>
<td>6</td>
<td>90</td>
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<td>402460</td>
<td>66665668</td>
<td>5</td>
<td>3</td>
<td>15</td>
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<td>Daniel Beon</td>
<td>Doewein Village</td>
<td>BS010</td>
<td>Rubber</td>
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<td></td>
<td>25</td>
<td>6</td>
<td>150</td>
<td>Tree</td>
</tr>
<tr>
<td>10</td>
<td>Joe, Joe Chenoway</td>
<td>Eye to Eye Village</td>
<td>BS005</td>
<td>Rubber</td>
<td>358490</td>
<td>689664</td>
<td>1,000</td>
<td>6</td>
<td>6,000</td>
<td>Tree</td>
</tr>
<tr>
<td>11</td>
<td>Nathaniel Gbar</td>
<td>Dorwein Village</td>
<td>BS008</td>
<td>Rubber</td>
<td>359116</td>
<td>688288</td>
<td>400</td>
<td>6</td>
<td>2,400</td>
<td>Tree</td>
</tr>
<tr>
<td>12</td>
<td>Romangar Cooper</td>
<td>Doewein Village</td>
<td>BS009</td>
<td>Rubber</td>
<td>361892</td>
<td>682164</td>
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<td>6</td>
<td>9,000</td>
<td>Tree</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cocoa</td>
<td>361892</td>
<td>682164</td>
<td>150</td>
<td>6</td>
<td>900</td>
<td>Tree</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>682164</td>
<td>3</td>
<td>6</td>
<td>18</td>
<td>Tree</td>
</tr>
<tr>
<td>13</td>
<td>John Mongar</td>
<td>Dorwein Village</td>
<td>BS007</td>
<td>Rubber</td>
<td>358754</td>
<td>689089</td>
<td>450</td>
<td>6</td>
<td>2,700</td>
<td>Tree</td>
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### Côte d'Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

#### Properties

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Coordinate Y</th>
<th>Quantity (No/Acre s)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>James Wright</td>
<td>Eye to Eye Village</td>
<td>BS006</td>
<td>Rubber</td>
<td>358399</td>
<td>689823</td>
<td>800</td>
<td>6</td>
<td>4,800</td>
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<td>Moedema Peters</td>
<td>Dingwall Village</td>
<td>BS011</td>
<td>Rubber</td>
<td>402194</td>
<td>666237</td>
<td>300</td>
<td>6</td>
<td>1,800</td>
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<tr>
<td>16</td>
<td>Charpee Boy</td>
<td>Compounded #1</td>
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<td>678315</td>
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<td>678746</td>
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**Sub-total**

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**Crop**

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<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

### Houses / Huts / Buildings

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of PAP</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate X</th>
<th>Coordinate Y</th>
<th>Quantity (No)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sam G. Bonwin</td>
<td>Bonwin farm</td>
<td>BS004</td>
<td>Hut</td>
<td>397315</td>
<td>660191</td>
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<td>1,100</td>
<td>8,800</td>
<td>Hut</td>
</tr>
<tr>
<td>2</td>
<td>Clarence Onunah</td>
<td>Duwin</td>
<td>BS001</td>
<td>Hut</td>
<td>427565</td>
<td>696525</td>
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<td>10,000</td>
<td>Building</td>
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<td></td>
<td>Rubber Reserve Structures</td>
<td>427565</td>
<td>696525</td>
<td>1</td>
<td>10,000</td>
<td>10,000</td>
<td>Building</td>
</tr>
<tr>
<td>3</td>
<td>Reubin G. Hill</td>
<td>Hill Farm</td>
<td>BS011-A</td>
<td>Hut</td>
<td>390327</td>
<td>655379</td>
<td>1</td>
<td>1,100</td>
<td>1,100</td>
<td>Hut</td>
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<tr>
<td>4</td>
<td>Rachel Weha</td>
<td>Giabah</td>
<td>BS17</td>
<td>Hut</td>
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<td>689586</td>
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<td>1,100</td>
<td>1,100</td>
<td>Hut</td>
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<tr>
<td>5</td>
<td>Andrew Weha</td>
<td>Giabah</td>
<td>BS16</td>
<td>Hut</td>
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<td>689582</td>
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<td>1,100</td>
<td>1,100</td>
<td>Hut</td>
</tr>
<tr>
<td>6</td>
<td>Ma Gomie Weha</td>
<td>Giabah</td>
<td>BS18</td>
<td>Hut</td>
<td>422478</td>
<td>689585</td>
<td>1</td>
<td>1,100</td>
<td>1,100</td>
<td>Hut</td>
</tr>
<tr>
<td>7</td>
<td>Alfred Borbor</td>
<td>Sammie Tokpah</td>
<td>BS 15</td>
<td>House</td>
<td>412004</td>
<td>680982</td>
<td>1</td>
<td>4,850</td>
<td>4,850</td>
<td>House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kitchens</td>
<td>412004</td>
<td>680982</td>
<td>2</td>
<td>500</td>
<td>1,000</td>
<td>Hut</td>
</tr>
<tr>
<td>8</td>
<td>Moses Bewee</td>
<td>Sammie Tokph</td>
<td>BS14</td>
<td>House</td>
<td>411975</td>
<td>680922</td>
<td>1</td>
<td>4,850</td>
<td>4,850</td>
<td>House</td>
</tr>
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</table>

**Sub-total**

<table>
<thead>
<tr>
<th>Type</th>
<th>Quantity</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houses</td>
<td>2</td>
<td>9,700</td>
</tr>
<tr>
<td>Hut</td>
<td>14</td>
<td>14,200</td>
</tr>
<tr>
<td>Buildings</td>
<td>2</td>
<td>20,000</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>43,900</td>
</tr>
</tbody>
</table>
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

- Land

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity (m2)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reubin G. Hill</td>
<td>Buchanan</td>
<td>BS011-A</td>
<td>Landfor substation</td>
<td>390327</td>
<td>655379</td>
<td>40,000</td>
<td>0.5</td>
<td>20,000 (Buchanan substation)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sub-total</strong></td>
<td><strong>Land</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40,000</td>
<td></td>
<td>20,000</td>
</tr>
</tbody>
</table>

Table 23 List of PAPs and type of properties – Montserrado County

- Trees / Crops

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity (No/Acre)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Garmeh Tokpah</td>
<td>Bensonville</td>
<td>MS007</td>
<td>Mango</td>
<td>322359</td>
<td>712921</td>
<td>5</td>
<td>6</td>
<td>30 (Tree)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Orange</td>
<td>322359</td>
<td>712921</td>
<td>3</td>
<td>3</td>
<td>9 (Tree)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kola</td>
<td>322359</td>
<td>712921</td>
<td>1</td>
<td>6</td>
<td>6 (Tree)</td>
</tr>
<tr>
<td>2</td>
<td>Ben Garnett</td>
<td>Careybury City</td>
<td>MS001</td>
<td>Rubber</td>
<td>330637</td>
<td>708353</td>
<td>3,000</td>
<td>6</td>
<td>18,000 (Tree)</td>
</tr>
<tr>
<td>3</td>
<td>Garjay Davis</td>
<td>Cortor Town</td>
<td>MS008</td>
<td>Rubber</td>
<td>324354</td>
<td>711657</td>
<td>150</td>
<td>6</td>
<td>900 (Tree)</td>
</tr>
<tr>
<td>4</td>
<td>MA Noah</td>
<td>Harrisburg</td>
<td>MS005</td>
<td>Cassava</td>
<td>316807</td>
<td>717367</td>
<td>2</td>
<td>6</td>
<td>12 (Crop)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plantain</td>
<td>316807</td>
<td>717367</td>
<td>48</td>
<td>3</td>
<td>144 (Tree)</td>
</tr>
<tr>
<td>5</td>
<td>Terren Tucker</td>
<td>Harrisburg</td>
<td>MS002</td>
<td>Sugarcane</td>
<td>327372</td>
<td>709539</td>
<td>5</td>
<td>6</td>
<td>30 (Crop)</td>
</tr>
<tr>
<td></td>
<td><strong>Sub-total</strong></td>
<td><strong>Tree</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,207</td>
<td></td>
<td>19,089</td>
</tr>
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<td></td>
<td></td>
<td><strong>Crop</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td>42</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>3,214</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>19,131</td>
</tr>
</tbody>
</table>

- Houses / Huts / Buildings

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity (No)</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lutheran Church</td>
<td>Harrisburg</td>
<td>MS006</td>
<td>House</td>
<td>316900</td>
<td>7173111</td>
<td>1</td>
<td>4,850</td>
<td>4,850 (House)</td>
</tr>
<tr>
<td>2</td>
<td>NEC Office</td>
<td>Bensonville</td>
<td>MS001</td>
<td>Building</td>
<td>322375</td>
<td>712898</td>
<td>1</td>
<td>40,000</td>
<td>40,000 (Building)</td>
</tr>
<tr>
<td>3</td>
<td>Bensonville City</td>
<td>Bensonville</td>
<td>MS009</td>
<td>Old dilapidated building</td>
<td>322250</td>
<td>713010</td>
<td>1</td>
<td>15,000</td>
<td>15,000 (Building)</td>
</tr>
<tr>
<td>4</td>
<td>Garmeh Tokpah</td>
<td>Bensonville</td>
<td>MS007</td>
<td>House</td>
<td>322359</td>
<td>712921</td>
<td>1</td>
<td>4,850</td>
<td>4,850 (House)</td>
</tr>
<tr>
<td>5</td>
<td>James Tokpah</td>
<td>Miller Hill</td>
<td>MS003</td>
<td>Hut</td>
<td>332659</td>
<td>708135</td>
<td>1</td>
<td>1,100</td>
<td>1,100 (Hut)</td>
</tr>
</tbody>
</table>

WAPP/LEC/KEPCO-CEDA Consult 168
## Côte d'Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Esther Dickson</td>
<td>Miller Hill</td>
<td>MS004</td>
<td>House</td>
<td>332655 708151</td>
<td>1</td>
<td>4,850</td>
<td>4,850</td>
<td>House</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td></td>
<td></td>
<td>Houses</td>
<td></td>
<td>3</td>
<td></td>
<td>14,550</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Huts</td>
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<td>1</td>
<td></td>
<td>1,100</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Buildings</td>
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<td>2</td>
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<td>55,000</td>
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<td></td>
<td></td>
<td>Total</td>
<td></td>
<td>6</td>
<td></td>
<td>70,650</td>
<td></td>
</tr>
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</table>

### Table 24 List of PAPs and type of properties – Grand Cape Mount

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gopor Kaimukai</td>
<td>Sanjana ma</td>
<td>GC003</td>
<td>Rubber</td>
<td>263346 746762</td>
<td>350</td>
<td>6</td>
<td>2,100</td>
<td>Tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Palm</td>
<td>263346 746762</td>
<td>2</td>
<td>6</td>
<td>12</td>
<td>Tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mango</td>
<td>263346 746762</td>
<td>3</td>
<td>6</td>
<td>18</td>
<td>Tree</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pear</td>
<td>263346 746762</td>
<td>5</td>
<td>6</td>
<td>30</td>
<td>Tree</td>
</tr>
<tr>
<td>2</td>
<td>Morris Kollon</td>
<td>Vohnzua hn</td>
<td>GC006</td>
<td>Palm</td>
<td>262802 749371</td>
<td>150</td>
<td>6</td>
<td>900</td>
<td>Tree</td>
</tr>
<tr>
<td>3</td>
<td>Mambu Sonii</td>
<td>Vohnzua hn</td>
<td>GC005</td>
<td>Rubber</td>
<td>262854 749036</td>
<td>800</td>
<td>6</td>
<td>4,800</td>
<td>Tree</td>
</tr>
<tr>
<td>4</td>
<td>Musa Kaizulu</td>
<td>Sanjana ma</td>
<td>GC002</td>
<td>Rubber</td>
<td>263369 746745</td>
<td>500</td>
<td>6</td>
<td>3,000</td>
<td>Tree</td>
</tr>
<tr>
<td>5</td>
<td>Sando Kaimukai</td>
<td>Sanjana ma</td>
<td>GC001</td>
<td>Rubber</td>
<td>263561 746939</td>
<td>200</td>
<td>6</td>
<td>1,200</td>
<td>Tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pineapple</td>
<td>263561 746939</td>
<td>150</td>
<td>3</td>
<td>375</td>
<td>Tree</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Palm</td>
<td>263561 746939</td>
<td>75</td>
<td>6</td>
<td>450</td>
<td>Tree</td>
</tr>
<tr>
<td>6</td>
<td>Zina Kaidii</td>
<td>Vohnzua hn</td>
<td>GC004</td>
<td>Rubber</td>
<td>262909 748564</td>
<td>400</td>
<td>6</td>
<td>2,400</td>
<td>Tree</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td></td>
<td></td>
<td>Tree</td>
<td></td>
<td></td>
<td>2,635</td>
<td>15,285</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Crop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>2,635</td>
<td>15,285</td>
<td></td>
</tr>
</tbody>
</table>

### Land

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Town/ Village</th>
<th>No.</th>
<th>Property</th>
<th>Coordinate</th>
<th>Quantity</th>
<th>Unit Cost (USD)</th>
<th>Total Cost (USD)</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LEC</td>
<td>Mt. coffee</td>
<td>MS011</td>
<td>Land for substation</td>
<td>317283 718271</td>
<td>40,000</td>
<td>0.5</td>
<td>20,000</td>
<td>Monrovia substation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sub-total</td>
<td></td>
<td></td>
<td>Land</td>
<td></td>
<td>40,000</td>
<td></td>
<td>20,000</td>
<td></td>
</tr>
</tbody>
</table>

---

**WAPP/LEC/KEPCO-CEDA Consult 169**
16.8. Basis of Proposed Huts/Houses for Compensation

Adjustments on the unit price will not be made in Liberia. Proposed average unit price of US$800 per housing unit is based on the rates of the Administrative Regulation No.7. 2000-1/MOF/R/17 September 2009 by the Ministry of Finance.

16.8.1. Huts

Approximately 90% of the dwelling structures to be removed and subsequently replaced are considered “huts” and not houses in the Liberian context. A “hut” is made of locally produced materials such as sticks, muds, thatches planks, earth floor sometimes with plank doors and windows.

At present, the market value for a three room hut could be:

<table>
<thead>
<tr>
<th>Description (US $)</th>
<th>Unit cost (USD)</th>
<th>Total cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sticks</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Mud</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Thatch</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Planks</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Workmanship and others</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Total Cost</td>
<td></td>
<td>1,100</td>
</tr>
</tbody>
</table>
Photo 1: Mixture of huts with thatch roof & others with corrugated sheet roof

Photo 2: Huts with purely thatch roof
16.8.2. Substitution for the affected house

With reference to the World Bank compensation policy on affected persons who are to be resettled should received an improved shelter better than the previous ones in which he or she lived. In this light, the below type of structure is being proposed (Sun-dried-brick house) which is more durable than a "hut".

Photo 4: Sun dried bricks house under construction
Photo 5: In the background sun dried bricks house under construction
(using mud as cement with corrugated sheet roof)

Table 26 Cost estimation of three (3) bed room Sun-dried-brick house

<table>
<thead>
<tr>
<th>Description (Item)</th>
<th>Quantity</th>
<th>Unit cost at marketvalue(USD)</th>
<th>Total Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mud 3 bricks for LD $10</td>
<td>5,000</td>
<td>0.143</td>
<td>715</td>
</tr>
<tr>
<td>corrugated sheet/zinc( bundles)</td>
<td>4</td>
<td>75</td>
<td>300</td>
</tr>
<tr>
<td>Cement (bags)</td>
<td>50</td>
<td>10</td>
<td>500</td>
</tr>
<tr>
<td>Nail (packs)</td>
<td>40</td>
<td>0.5</td>
<td>20</td>
</tr>
<tr>
<td>Doors</td>
<td>5</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td>Windows</td>
<td>6</td>
<td>20</td>
<td>120</td>
</tr>
<tr>
<td>Door Frames</td>
<td>5</td>
<td>25</td>
<td>125</td>
</tr>
<tr>
<td>Window Frame</td>
<td>6</td>
<td>20</td>
<td>120</td>
</tr>
<tr>
<td>Ceiling</td>
<td>100</td>
<td>7</td>
<td>700</td>
</tr>
<tr>
<td>Floor plastering (cement)</td>
<td>50</td>
<td>10</td>
<td>500</td>
</tr>
<tr>
<td>Workmanship</td>
<td></td>
<td></td>
<td>700</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>Land (Town lot)</td>
<td>0.5</td>
<td>800</td>
<td>400</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>4,850</td>
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</tbody>
</table>
Côte d’Ivoire - Liberia - Sierra Leone - Guinea Interconnection Project (Liberia RAP)

Table 27 Cost Estimation for Buildings

<table>
<thead>
<tr>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>It varies according to the size and other conditions and the amount for compensation of each building will be verified by Ministry of Finance</td>
<td></td>
</tr>
</tbody>
</table>

Table 28 Proposed Cost Estimation for Huts / Houses / Buildings

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Total Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houses</td>
<td>6</td>
<td>29,100</td>
</tr>
<tr>
<td>Huts</td>
<td>19</td>
<td>19,700</td>
</tr>
<tr>
<td>Buildings</td>
<td>5</td>
<td>110,000</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
<td>158,800</td>
</tr>
</tbody>
</table>

16.9. Basis of Land Compensation Cost

Tower Spot. For the transmission line route, only tower spots will be acquired permanently. Even though dimensions and locations of each tower has not fixed yet, the Consultant identified that most of the RoW passes communally land. Therefore, the compensation of land to be taken for the each tower spot is not necessary. However, the provisional budget shall be allocated as a contingency in case of building a tower in private area.

Substations: Four substations will be built in Liberia and the land for all of them will be purchased from the private owners based on market value in Liberia. There is no fixed price for land in Liberia. Government does not have much control over the various prices of land both in urban and rural areas.

All four (4) substations will cover approximately 160,000 square meters which is 40,000 square meters per substation. See below for the cost of land of each substation and the land area:

Table 29 Cost Estimate for Land Take (SUBSTATIONS)

<table>
<thead>
<tr>
<th>Substation</th>
<th>Area (m2)</th>
<th>Area (acres)</th>
<th>Area (lots)</th>
<th>Unit Cost per Lot (USD)</th>
<th>Total Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buchana (Bassa)</td>
<td>40,000</td>
<td>10</td>
<td>40</td>
<td>500</td>
<td>20,000</td>
</tr>
<tr>
<td>Mt.Coffee (Montserrado)</td>
<td>40,000</td>
<td>10</td>
<td>40</td>
<td>500</td>
<td>20,000</td>
</tr>
<tr>
<td>Yekepa (Nimba)</td>
<td>40,000</td>
<td>10</td>
<td>40</td>
<td>500</td>
<td>20,000</td>
</tr>
<tr>
<td>Momo Town (Cape Mount)</td>
<td>40,000</td>
<td>10</td>
<td>40</td>
<td>500</td>
<td>20,000</td>
</tr>
<tr>
<td>Total</td>
<td>160,000</td>
<td>40</td>
<td>160</td>
<td></td>
<td>80,000</td>
</tr>
</tbody>
</table>
In Monrovia and its environs, one lot ranges from US$1,000 to US$3,000 depending on the location of the land. In rural Liberia the cost of a lot ranges from US$600 to US$1000. The average cost of one town lot is approximately US$ 500.00.

16.10. Basis of Compensation for Trees and Crops

Landowners who cultivate the crops within the RoW of the proposed Project before the official announcement of the cut-off day are entitled to receive compensation for the entire crops or economic trees whether or not the their plantations are cleared as far as they are registered in PAP inventory list. However, In general, farming method in the project area is slash and burn shifting cultivation carrying out petty trading of surplus crops and small businesses to provide monetary income, there is a possibility that cultivation is changed after the Consultant complete the PAP investigation. Therefore, joint site visit with the EPA, the LEC, Ministry of Finance and other responsible agencies should be made to verify the draft PAP inventory list along with their ownership and compensation cost in the field before issuing the Environmental Permit. Based on the site survey draft PAP list will be updated accordingly.

As shown in Section 16.7, compensation for trees and crops to be affected will be 586,263 USD and 161 USD respectively. Also, provisional budget shall be provided as a contingency in case of damages on trees or crops might be happened outside of RoW during the construction.
17. MONITORING AND EVALUATION

17.1. General Objectives for Monitoring & Evaluation

Arrangements for monitoring implementation of resettlement and evaluating its use are developed during project preparation and used during supervision. Appropriate monitoring criteria are established to verify the predicted impacts of the project and adjust the mitigation measures where necessary. Monitoring and evaluation units should be adequately funded and staffed by specialists in resettlement. In-house monitoring by the implementing agency may need to be supplemented by independent monitors to ensure complete, objective resettlement.

Monitoring and evaluation are key components of the Resettlement Action Plan, and as such are part of the whole program under the SPC’s responsibility/obligations. The SPC will be operating the transmission facility after commissioning which allows for various evaluations and monitoring actions to be undertaken over a sufficient period of time.

The general objectives for the monitoring and evaluation procedures are:

- Monitoring of specific situations of economic/social difficulties arising from the Compensation/Resettlement process;
- Evaluation of the compliance of the actual implementation with objectives and methods as set in this document, and of the impact of the Compensation/Resettlement program on incomes and standard of living.

17.2. Monitoring

Monitoring allows for a warning system for project managers and a channel for the resettlers to make known their needs and their reactions to resettlement implementation. The objectives of the monitoring are therefore the following:

- To identify affected persons who might get into specific difficulties as a result of the Compensation/Resettlement process;
- To provide a safety mechanism and appropriate responses addressing these situations.

Projects with relatively limited resettlement impacts commonly institute an in-house monitoring system within the project agency. The SPC will maintain a complete set of administrative records on asset inventories, payment receipts, and complaints. The SPC representatives hear complaints on an informal basis and report administratively on project
District Land Valuation Committees and SPC maintains the file for the legal agreements on physical assets to be taken

For this project, the Project Environmental Coordinator and other members of the SPC and WAPP shall ensure that monitoring programs are instituted and carried out and relevant records are kept to ensure compliance with sound environmental and social practices recommended in this report. Comprehensive record keeping and documentation shall be maintained.

Parameters to be monitored shall include:

- Clearing of vegetation cover at tower tracks, construction accesses, and Right-of-Way shall be monitored under the following activities:
  - Clearing of farms lands;
  - Clearing of Right-of-Way (vegetation cut only to 1.25m height);
  - Clearing of tower corridor track (graded width 2.5m-3m);
  - Clearing access roads (graded width 3.5 - 5 m);
- Socio-Economic/Cultural Issues
  - Traditional and religious Shrines;
  - Archaeological chance finds;
  - Identifying all affected persons;
  - Assessment of compensation;
  - Payment of compensation (adequate amounts, timely payments);
  - Employment and job creation.

17.3. Evaluation

The objectives for the evaluation of the resettlement program are;

- General assessment of the compliance of the implementation of the Resettlement Action Plan with objectives and methods as set in this document;
- Assessment of the compliance of the implementation of the Resettlement Action Plan with laws, regulations and safeguard policies as stated in this document;
- Assessment of the consultation procedures that took place at individual and community levels, together with the Central Government and Local Government levels;
- Assessment of fair, adequate and prompt compensation and resettlement procedures as they have been implemented;
- Evaluation of the impact of the Compensation/resettlement program on incomes and
standard of living, with focus on the "no worse-off if not better-off" requirement;

- Identification of actions to take as part of the on-going monitoring to improve the positive impacts of the program and mitigate its possible negative impacts if any.

Reference documentation for the evaluation will be the following:

- This Resettlement Action Plan, including possible amendments required as a result of the final consultation process;
- The WB Safeguard Policies, including OP4.12 "Involuntary Resettlement".
- AfDB, EIB, KfW or other funding agencies’ guidelines.

17.3.1. Evaluation Indicators

As part of the preparation of this program, the consultant has set up a comprehensive database of all Project Affected People, based on the census and the socio-economic survey. The socio-economic survey has addressed all aspects of the standard of living of affected people. It has included direct questions about monetary incomes and this allows for a first set of indicators to be defined, in relation to monetary incomes, including both agricultural and non-agricultural sources.

During the socio-economic survey carried out for this RAP, the direct questions on monetary incomes may have led to overestimated answers motivated by expected increases in compensation. But other objective indicators have been included in the questionnaire such as the possession of radios or transport equipments, together with indicators of the pattern of expenditures and eating habits. The aggregation of quantitative indicators originating from direct questions on monetary incomes and indirect welfare indicators will allow for cross-checking of data about standards of living.

17.3.2. Evaluation methodology

Evaluation of the resettlement program is usually done by mission teams of the various funding agencies, in collaboration with members of the PIU. Evaluation is done on as-required basis and not as part of a formal project implementation requirement.

The evaluation methodology for this project shall follow the same format as previous projects and shall consist of the following:

- Identification of a sample of Project Affected Persons, designed to take into account all situations, including the following categories, with appropriate criteria crossing and sample significance tests:
Physically Displaced People resettled under this RAP;
Affected People not physically displaced;
Both female and male heads of households;
Households of various sizes, with various tenure forms, various size of land holding and various levels of impact;
Vulnerable people;
➢ As a rule of thumb, this sample should be about 10% of the total of affected households. It will be extracted from the above-mentioned database;
➢ Enumerators will survey the sampled households for socio-economic purpose. A questionnaire will be developed with, among others, the very same indicators as were used in the initial socio-economic survey. Satisfactory indicators will be developed as well;
➢ Questionnaire treatment will aim at evaluating satisfaction indicators and income/standard of living indicators;
➢ Situations of specific vulnerability will be put into specific focus, and the methods for addressing them will be assessed;
➢ Consultation with independent parties will also be part of the evaluation procedures; these parties will include the Local Governments at all levels, and relevant departments of the Central Government.
17.4. Scheduling & reporting

The monitoring programme shall include a documented monitoring plan, which shall detail all data handling, storage and analyses requirements. The SPC shall identify the location where all data is to be held, staff responsibilities for data handling and analysis and appropriate reporting lines for ensuring management are aware of the current status of site operations. This is particularly important with respect to resettlement negotiation, compensation payment and monitoring of implementation of these activities. Compensation schemes can suffer post construction claims from unsatisfied project-affected persons and detailed records keeping of all actions are essential to try to resolve any such issues.

Table 30 Project reporting schedule

<table>
<thead>
<tr>
<th>Activities in Mitigation Measure</th>
<th>1st Year</th>
<th>2nd Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1 Q2 Q3 Q4</td>
<td>Q1 Q2 Q3 Q4</td>
</tr>
<tr>
<td><strong>Pre-construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Line route survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Acquisition of right of way</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Line Route Survey Report/ EIA Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Access tracks</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Transportation of Machinery</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Full grading of tower tracks</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Clearing of RoW</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Erection of towers</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Erection of conductors, Shield wires</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- and accessories</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Modification works at substations</td>
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<td></td>
</tr>
<tr>
<td>- Acquisition of right of way</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Compensation</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Project Monthly Progress Reports</td>
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</tr>
<tr>
<td><strong>Operation</strong></td>
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</tr>
<tr>
<td>- Dropping of conductor</td>
<td>x x x x</td>
<td></td>
</tr>
<tr>
<td>- Shattering of insulator units</td>
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</tr>
<tr>
<td>- Project Monthly Progress Reports</td>
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<td>x</td>
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<tr>
<td><strong>Maintenance Phase</strong></td>
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</tr>
<tr>
<td>- Control of vegetation re-growth</td>
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<tr>
<td>- Rust treatment</td>
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</tr>
<tr>
<td>- Replacing faulty components</td>
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</tr>
<tr>
<td>- Quarterly Reports</td>
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<tr>
<td><strong>Construction – Maintenance Phases</strong></td>
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<td>- Management of liquid and solid waste</td>
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<td>- HIV/AIDS Outreach programme</td>
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<td>Activities in Environmental Monitoring</td>
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<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
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<tr>
<td><strong>Pre-construction</strong></td>
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<tr>
<td>- Line route survey</td>
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<td>- Public information</td>
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<td>- Project Monthly Progress Reports</td>
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<tr>
<td><strong>Construction</strong></td>
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<tr>
<td>- Transportation of Machinery</td>
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<tr>
<td>- Civil Works</td>
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<td>- Vegetation clearing</td>
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<tr>
<td>- Waste Management</td>
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<tr>
<td>- Socio-economic/Cultural issues</td>
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<td>- Compensation</td>
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<td>- Project Monthly Progress Reports</td>
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<tr>
<td><strong>Operation - Maintenance</strong></td>
<td></td>
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<tr>
<td>- Dropping of conductor</td>
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<tr>
<td>- EMF Levels</td>
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<tr>
<td>- Quarterly Reports</td>
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<td></td>
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<tr>
<td><strong>Institutional strengthening</strong></td>
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<tr>
<td>- LEC</td>
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</tr>
<tr>
<td>- Contractor</td>
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<tr>
<td>- PIU</td>
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<tr>
<td>- EPA</td>
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<tr>
<td>- Dept. of Museum</td>
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<td>- Land Valuation Board</td>
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<td>- District Councils</td>
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<td>- Project Monthly Progress Reports</td>
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<td><strong>Training</strong></td>
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<td>- Resolution, etc.</td>
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<td>- Environmental Processes, Methods &amp;</td>
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</tr>
<tr>
<td>Equipment</td>
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