



**USAID**  
FROM THE AMERICAN PEOPLE

# TECHNICAL ASSISTANCE AND CAPACITY BUILDING FOR THE WEST AFRICAN POWER POOL (WAPP)

330 kV VOLTA – MOME HAGOU – SAKETE  
TRANSMISSION LINE

RESETTLEMENT ACTION PLAN  
GHANA SIDE RAP

**August 2006**

This publication was produced for review by the United States Agency for International Development. It was prepared by CEDA under the direction of Nexant, Inc. under **Contract No. 624-C-00-05-00024-00**

# TECHNICAL ASSISTANCE AND CAPACITY BUILDING FOR THE WEST AFRICAN POWER POOL (WAPP)

330 kV VOLTA – MOME HAGOU – SAKETE  
TRANSMISSION LINE

RESETTLEMENT ACTION PLAN  
GHANA SIDE RAP

## **August 2006**

This publication was produced for review by the United States Agency for International Development, under CONTRACT No. 624-C-00-05-00024-00. It was prepared by CEDA under the direction of Nexant, Inc. Nexant Contract Number 00777.000.001 Nexant Document Number 00777.000.001.0006

## **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

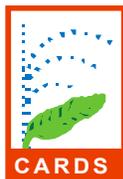


**WEST AFRICAN POWER POOL  
330 kV VOLTA - MOME HAGOU - SAKETE TRANSMISSION LINE**

**RESETTLEMENT ACTION PLAN**



**GHANA SIDE RAP**



CARDS  
P.O. Box CO 268, Tema  
Tel/Fax: 233 21 400628/402322  
E-mail: [cards@ghana.com](mailto:cards@ghana.com)

August 2006

## LIST OF ACRONYMS

CEB	Communaute Electricite du Benin
CHRAG	Commission for Human Rights and Administrative Justice
CDO	Community Development Officer
DA	District Assembly
DBO	District Budget Officer
DCD	District Coordinating Director
DCE	District Chief Executive
DDCD	Deputy District Coordinating Director
DDPO	District Development Planning Officer
EC	Energy Commission
ECOWAS	Economic Commission for West African States
ECG	Electricity Company of Ghana
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESSD	Environment & Sustainable Development Department of VRA
LI	Legislative Instrument
LVB	Lands Valuation Board
MCD	Municipal Coordinating Director
MCE	Municipal Chief Executive
MDPO	Municipal Development Planning Officer
NGO	Non Government Organisation
PAP	Project Affected Person
PET	Project Environmental Team
PHC	Population and Housing Census
RAP	Resettlement Action Plan

RoW	Right of Way
SEST	Socio-Economic Studies Team
STD	Sexually Transmitted Disease
TL	Team Leader
TMA	Tema Municipal Assembly
TOR	Terms of Reference
VALCO	Volta Aluminum Company
VRA	Volta River Authority
VRA/RE	VRA Real Estate
WAPP	West African Power Pool

## EXECUTIVE SUMMARY

The Volta River Authority (VRA) and Communauté Electrique du Bénin (CEB) in Togo - Benin presently operate a 128 km double-circuit high-voltage (161 kV) interconnection between Akosombo (Ghana) and Lomé (Togo) in the southern parts of the Countries, and a 60 km single circuit 161kV line (presently energised at 34.5 kV) from Bawku to Cincase and Dapaong (Togo) in the Northern parts of the Countries. The interconnection line in the south was commissioned in 1971 whilst the one in the north was commissioned in 1992. The interconnections have enabled CEB to meet a significant proportion of its energy and power requirements with imports from VRA.

Although the interconnection has performed adequately and met the supply requirements in the past, it is now operating at its limit and cannot meet the forecast demand because;

- The maximum power transfer capability is close to being exceeded
- The transmission losses have increased
- The security of supply has reduced
- The line is used to supply the Volta Region in Ghana whose demand is also growing

With the implementation of the West African Power Pool (WAPP), which is expected to foster power exchanges among the countries in the West African sub-region, particularly power exchanges between Ghana, La Côte d'Ivoire and Nigeria, a high capacity transmission interconnection from La Côte d'Ivoire through Ghana to Togo/Bénin shall be required.

The proposed line is therefore designed to be another supply route to facilitate power exchanges between the listed countries.

In the course of the baseline studies for the Environmental and Social Management Plan and Resettlement Action Plan it was observed that the proposed line route had to be adjusted in order to avoid scattered housing around Tema, Dawhenya, Sege, Akatsi and Dodze. This new re-routing had been inadvertently designed to traverse Aveyime Rice Project in the North Tongu district. It also traverses shrines in Ahorlikope and Adonokope in the Akatsi district.

### **Objectives of the Compensation Action Plan**

As a good corporate citizen striving to encourage development and reduce poverty, VRA subscribes as a matter of policy and practice to the following resettlement objectives:

- To conceive of and execute resettlement activities in a socially responsible manner as sustainable development programmes, providing sufficient resources to enable persons displaced by the project to share in project benefits;
- To consider involuntary resettlement as an integral part of project design, and deal with resettlement issues from the earliest stages of project preparation;
- To avoid land acquisition and involuntary resettlement wherever feasible, and to minimize land acquisition and involuntary resettlement wherever such is unavoidable;
- 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 programmes;
- 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, which 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

### **Institutional and legal framework**

The relevant statutes on land acquisition and compensation have been given due consideration. These are:

1. The 1992 Fourth Republican Constitution of Ghana (Article 20)
2. Volta River Development Act of 1961 (Act 46)
3. Lands (Statutory) Wayleaves Act of 1963 (Act 186)
4. Volta River Authority (Transmission Line Protection) Regulation of 1967 (LI 542)
5. Ghana Land Policy (1999)
6. World Bank's Operational Policy on Environmental Assessment (OP 4.01)
7. World Bank's Operational Directive on Involuntary Resettlement (OD 4.30)

### **Methodology**

A line route has been chosen based on several factors, the major considerations being the avoidance of environmentally sensitive areas, communities and settlements. The total surface area of land to be affected by the RoW is 1358 acres (554 ha). This includes 108 hectares of farms and land for residential purposes and potential agricultural use.

The project-affected persons were identified after exhaustive site visits and the beating of gong-gong in the small affected communities and consultations with traditional rulers, assembly members and people of the affected communities and District Assemblies.

All affected properties have been surveyed and the acreage of each crop determined. Measurements of affected properties were made in the presence of the project affected persons. To verify the positions of common borders neighbouring property owners were consulted for confirmation.

Designed questionnaires were completed in consultation with and in the presence of the affected persons, except in cases where property owners could not be identified after all efforts have been made including beating of gong-gong, etc for such people to come forward. All questions were posed in English and local language- Ga-Adangme and Ewe. Disputes that arose over ownership of farms between indigenes were settled amicably in the chiefs' palaces.

### **Project affected people**

Project affected persons are persons who will lose assets as a result of the implementation of the project, whatever the extent of the loss. Lost assets may be land rights, structures, crops, or a combination of these three.

A total number of four hundred and twenty-five (425) persons are expected to be directly impacted by the proposed project. These persons have been referred to as Project-affected Persons (PAPs) in this report. However the total number of properties identified to be impacted by the project is five hundred and thirty-five (535) since some of the PAPs have multiple properties along the proposed RoW.

A breakdown of the acreage of various crops and sizes of residential properties to be affected has been given in this report.

#### Number of PAPs by region and type of property

Property type	Greater Accra Region	Volta Region	Total
Field crops	262	163	425
Houses	32	58	90
Plots for building	20	0	20
<b>Total</b>	<b>314</b>	<b>221</b>	<b>535</b>

#### Number of affected community properties by region

Community Property	Greater Accra Region	Volta Region	Total
Shrines	0	5	5
Cemeteries	0	1	1
Primary School	1	1	2
Teachers Bungalow	1	0	1
Church	0	1	1
<b>Total</b>	<b>2</b>	<b>8</b>	<b>10</b>

#### Physically displaced people

Four (4) households who will be affected by the implementation of the project will need to be physically relocated.

It cannot be stated here with any degree of certainty whether the physically displaced people will relocate to other unaffected portions of their land. The final choice of locations for resettlement will rest with them.

#### Vulnerable project-affected people

The vulnerable project-affected people are those above the age of 80 and those who are physically challenged. Their compensation is increased by 25%, of the actual figure determined.

#### VRA's overall policies and procedures for land acquisition and compensation

- (a) Identification of affected area
- (b) Consultation with local communities
- (c) Notification of compulsory acquisition
- (d) Land/Building Valuation Survey and Reporting
- (e) Payment of compensation
- (f) Dispute resolution

#### Estimated cost of compensation

The estimated total compensation amount due the project-affected-persons is three million, six hundred and fifteen thousand, two hundred and ninety-seven United States Dollars (US\$3,615,297.00).

#### VRA's commitment

The Volta River Authority is fully committed to the implementation of this Compensation Plan and agrees to carry out all obligations under this plan.

## Table of contents

EXECUTIVE SUMMARY .....	1
1.0 INTRODUCTION.....	8
1.1 OBJECTIVES .....	9
2.0 PROJECT DESCRIPTION.....	10
2.1 VOLTA – MOME HAGOU – SAKETE TRANSMISSION LINE.....	10
2.1.1 <i>Project's area of influence</i> .....	10
2.2 DESCRIPTION OF PROJECT ACTIVITIES .....	11
2.2.1 <i>Pre-construction phase</i> .....	11
2.2.2 <i>Construction phase</i> .....	11
2.2.3 <i>Operational phase</i> .....	12
3.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS .....	13
3.1 PRE-CONSTRUCTIONAL PHASE.....	13
3.1.1 <i>Loss of buildings and land ownership issues</i> .....	13
3.1.2 <i>Line route survey issues</i> .....	14
3.2 CONSTRUCTIONAL PHASE.....	14
3.2.1 <i>Noise impacts</i> .....	14
3.2.2 <i>Impact on air quality</i> .....	14
3.2.3 <i>Erosion</i> .....	14
3.2.4 <i>Public Safety</i> .....	15
3.2.5 <i>Flora and Fauna</i> .....	15
3.2.6 <i>Occupational safety and health</i> .....	15
3.2.7 <i>Socio-economic/cultural issues</i> .....	15
3.2.7.1 <i>Loss of buildings and land ownership issues</i> .....	15
3.2.7.2 <i>Land-use conflicts</i> .....	16
3.2.7.3 <i>Impacts on cultural and historical/archaeological sites/items</i> .....	16
3.2.7.4 <i>Impacts on population and demography</i> .....	16
3.2.7.5 <i>Employment generation and incomes</i> .....	16
3.2.7.6 <i>Potential impacts on public health</i> .....	16
3.2.8 <i>Visual intrusion</i> .....	17
3.2.9 <i>Traffic impacts</i> .....	17
3.2.10 <i>Potential pollution of water bodies</i> .....	17
3.2.11 <i>Work camps</i> .....	17

3.2.12	<i>Waste generation</i> .....	17
3.3	OPERATIONAL PHASE .....	18
3.3.1	<i>Vegetation clearing</i> .....	18
3.3.2	<i>Effects of rust treatment and painting of towers</i> .....	18
3.3.3	<i>Solid waste generation</i> .....	18
3.3.4	<i>Liquid waste generation</i> .....	18
3.3.5	<i>Occupational safety and health issues</i> .....	18
3.3.6	<i>Public safety</i> .....	18
3.3.7	<i>Electromagnetic field (EMF) effects</i> .....	19
3.3.8	<i>Effects of weed control chemicals</i> .....	19
3.3.9	<i>Socio-economic issues</i> .....	19
3.3.10	<i>Effects on birds</i> .....	19
3.3.11	<i>Fire hazards</i> .....	20
3.3.12	<i>Impact on telecommunications</i> .....	20
4.0	INSTITUTIONAL AND LEGAL FRAMEWORK .....	21
5.0	SOCIO-ECONOMIC BASELINE SURVEY .....	24
5.1	METHODOLOGY.....	24
5.2	GENERAL BACKGROUND .....	25
5.2.1	<i>Administrative boundaries</i> .....	25
5.2.2	<i>Land-use and settlement</i> .....	25
5.3	GENERAL DEMOGRAPHICAL INFORMATION ON PROJECT AFFECTED PEOPLE .....	25
5.3.1	<i>Average household</i> .....	25
5.3.2	<i>Gender distribution</i> .....	25
5.3.3	<i>Ethnicity and religion</i> .....	26
5.3.4	<i>Land holdings</i> .....	27
5.3.5	<i>Occupations</i> .....	27
5.3.6	<i>Affected Community Properties</i> .....	27
5.3.7	<i>Community Participation</i> .....	27
5.4	COMMUNITY CONCERNS.....	28
5.5	EXPECTATIONS OF AFFECTED COMMUNITIES .....	28
5.6	COMMENTS ON THE COMPENSATION ISSUES .....	29
6.0	COMPENSATION .....	30
6.1	CENSUS OF AFFECTED PERSONS .....	30

6.2	ELIGIBILITY FOR COMPENSATION.....	30
7.0	LAND REQUIREMENTS.....	31
7.1	RIGHT-OF-WAY (ROW).....	31
8.0	IMPACT OF THE PROJECT ON LAND AND RESIDENCES.....	32
8.1	SURFACE AREA AFFECTED.....	32
8.2	PROJECT AFFECTED PEOPLE .....	32
8.2.1	<i>Physically-Challenged Affected Persons</i> .....	33
8.2.2	<i>Vulnerable people</i> .....	33
9.0	MITIGATION OF IMPACTS ON CROPS, LAND AND STRUCTURES .....	34
9.1	COMPENSATION AND RESETTLEMENT PACKAGES.....	34
9.1.1	<i>Crops</i> .....	34
9.1.2	<i>Land</i> .....	34
9.1.3	<i>Structures</i> .....	34
9.1.4	<i>Identification of Alternative sites and Selection of Resettlement sites</i> .....	35
9.1.5	<i>Site preparation and Relocation</i> .....	35
9.1.6	<i>Infrastructure and Social Services</i> .....	35
9.1.7	<i>Environmental Protection</i> .....	35
9.2	CONSULTATIONS WITH PAPs ON COMPENSATION OPTIONS.....	35
9.2.1	<i>Community level</i> .....	35
9.2.2	<i>Individual level</i> .....	36
9.2.3	<i>VRA's overall policies and procedures for land acquisition and compensation</i> 36	
9.3	PAYMENT OF COMPENSATION TO PAPs .....	38
10.0	MANAGEMENT OF ARCHAEOLOGICAL AND CULTURAL PROPERTY.....	39
10.1	AFFECTED CULTURAL PROPERTIES .....	39
10.2	MITIGATION.....	39
10.3	ARCHAEOLOGICAL AND CULTURAL CHANCE FINDS .....	39
11.0	PAYMENT PROCEDURE.....	40
12.0	ORGANISATIONAL FRAMEWORK .....	41
12.1	VRA STAFF.....	41
12.2	WITNESS NGO .....	42

12.2.1	<i>The role of the NGO</i> .....	42
12.2.2	<i>Terms of reference of the witness NGO</i> .....	42
13.0	GRIEVANCE PROCEDURES .....	43
13.1	VRA DISPUTE RESOLUTION PROCEDURES .....	43
14.0	ASSISTANCE TO VULNERABLE PEOPLE .....	45
15.0	EVALUATION AND MONITORING .....	46
15.1	GENERAL OBJECTIVES OF EVALUATION AND MONITORING .....	46
15.2	EVALUATION .....	46
15.2.1	<i>Evaluation objectives</i> .....	46
15.2.2	<i>Evaluation indicator</i> .....	46
15.2.3	<i>Evaluation methodology</i> .....	46
15.3	MONITORING .....	47
16.0	IMPLEMENTATION BUDGET .....	48
16.1	VRA'S COMMITMENT .....	48

#### **Table of figures**

Figure 1	Location of transmission line .....	8
Figure 2	Conceptual diagram of the 330 kV line in Ghana .....	10
Figure 3	Gender distribution of project-affected people .....	26
Figure 4	Religious distribution of project-affected people .....	26

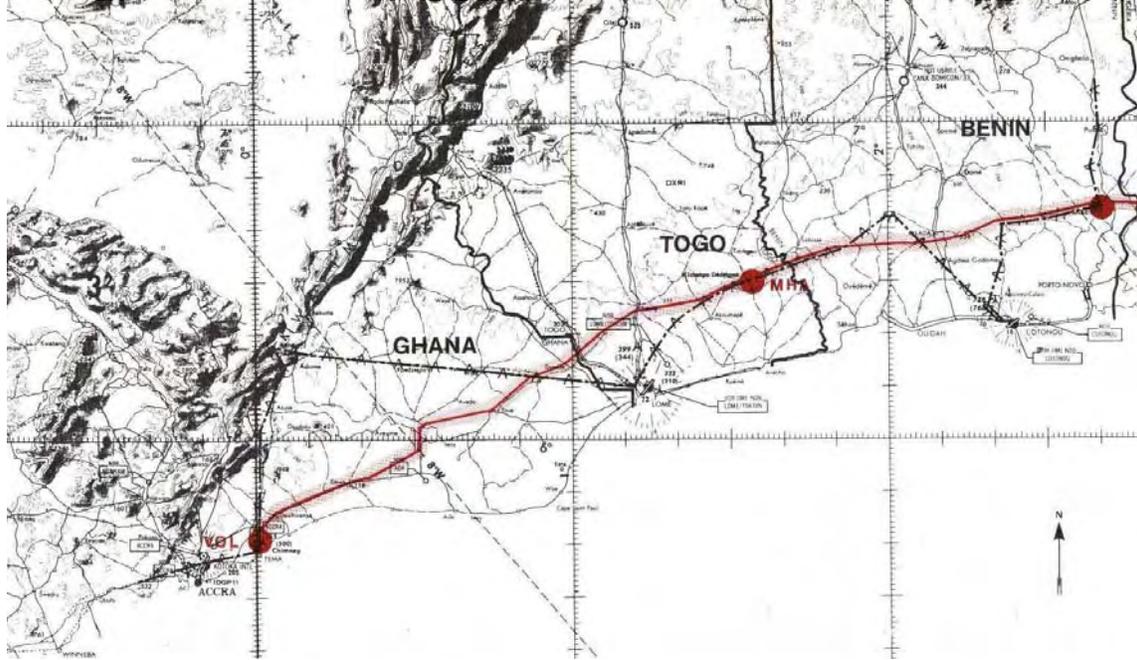
#### **List of appendices**

Appendix 1	Copy of Scoping notice to be pasted on public notice boards .....	49
Appendix 2	List of project-affected persons and proposed compensation figures .....	50

## 1.0 INTRODUCTION

The project refers to a 330 kV Volta – Mome Hagou - Sakete transmission line in the framework of the West African Power Pool. The Resettlement Action Plan for the Ghana section is the main subject of this report. Figure 1 presents the general location of the project.

**Figure 1 Location of transmission line**



The Volta River Authority (VRA) and Communauté Electrique du Bénin (CEB) in Togo - Benin presently operate a 128 km double-circuit high-voltage (161 kV) interconnection between Akosombo (Ghana) and Lomé (Togo) in the southern parts of the Countries, and a 60 km single circuit 161kV line (presently energised at 34.5 kV) from Bawku to Cincase and Dapaong (Togo) in the northern parts of the Countries. The interconnection line in the south was commissioned in 1971 whilst the one in the north was commissioned in 1992. The interconnections have enabled CEB to meet a significant proportion of its energy and power requirements with imports from VRA.

Although the interconnection has performed adequately and met the supply requirements in the past, it is now operating at its limit and cannot meet the forecast demand because;

- The maximum power transfer capability is close to being exceeded
- The transmission losses have increased
- The security of supply has reduced
- The line is used to supply the Volta Region in Ghana whose demand is also growing

With the implementation of the West African Power Pool (WAPP), which is expected to foster power exchanges among the countries in the West African sub-region, particularly power exchanges between Ghana, La Côte d'Ivoire and Nigeria, a high capacity transmission interconnection from La Côte d'Ivoire through Ghana to Togo/Bénin shall be required.

With the present rate of load growth and the implementation of the National Electrification Scheme, the total load is expected to increase. This continuous growth in load will, in the coming years, cause voltage regulation difficulties during normal system operations.

The proposed line is therefore designed to be a second supply route to the east and to provide a more reliable and secure transmission system to and from the east.

In the course of the baseline studies for the Environmental and Social Management Plan and Resettlement Action Plan it was observed that the proposed line route had to be adjusted in order to avoid scattered housing around Tema, Dawhenya, Sege, Akatsi and Dodze. This new re-routing had been inadvertently designed to traverse Aveyime Rice Project in the North Tongu district. It also traverses shrines in Ahorlikope, Adonokope and Adetsewui in the Akatsi district.

Thus, apart from the improvement in the continuity of supply to the whole of Ghana, other benefits that are likely to accrue to the nation with the construction and operation of the proposed project will be:

- **Maintenance:** With the coming into operation of the Volta – Mome Hagou – Sakete line, maintenance activities on the Akosombo – Lome line can be carried out without interrupting power supply to the east.
- **Improved voltage control and reduced losses:** This Volta –Mome Hagou line to the east will reduce the transfer impedance, thereby reducing voltage drop and consumption of reactive power.
- **Increased fault levels:** With the Volta – Mome Hagou line in place there will be an increased fault level hence improving power transfer capability to the listed countries.

### 1.1 Objectives

As a good corporate citizen striving to foment development and reduce poverty, VRA subscribes as a matter of policy and practice to the following resettlement objectives:

- To conceive of and execute resettlement activities in a socially responsible manner as sustainable development programmes, providing sufficient resources to enable persons displaced by the project to share in project benefits;
- To consider involuntary resettlement as an integral part of project design, and deal with resettlement issues from the earliest stages of project preparation;
- To avoid land acquisition and involuntary resettlement wherever feasible, and to minimize land acquisition and involuntary resettlement wherever such is unavoidable;
- 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 programmes;
- 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, which 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

**2.0 PROJECT DESCRIPTION**

**2.1 Volta – Mome Hagou – Sakete Transmission Line**

This project refers to a 330 kV Volta – Mome Hagou -Sakete transmission line in the framework of the West African Power Pool. Figure 1 presents the general location of the project.

The proposed project will comprise the construction of a 330 KV transmission line from the Tema substation in the Greater Accra Region to the Togo border (135km). The line will in the process traverse three administrative districts in the Greater Accra Region and four in the Volta Region.

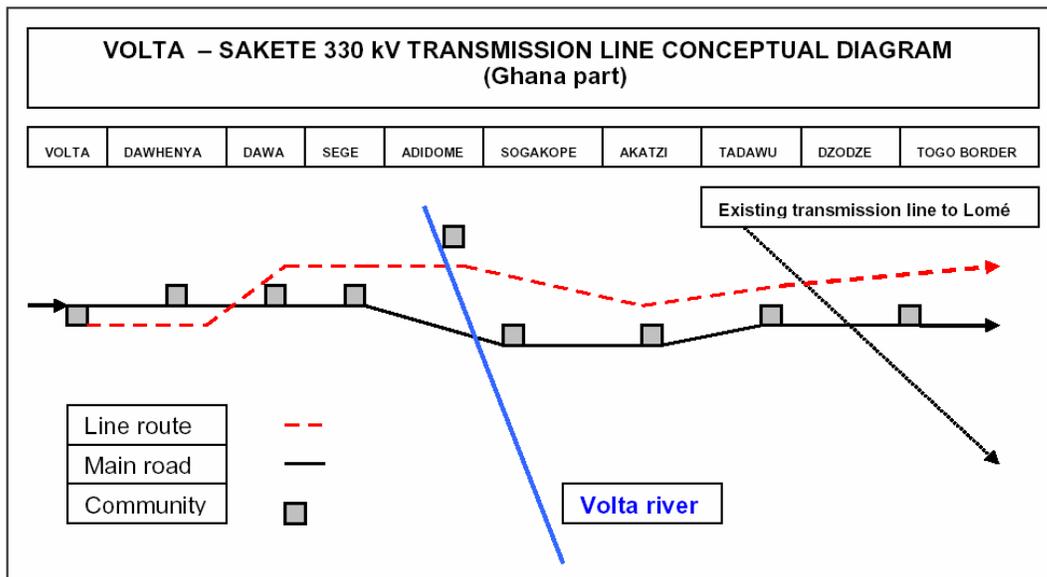
The project will involve the delivery to site of equipment and materials, erection of towers, stringing of lines, testing and commissioning of a 135 kilometre 330 KV transmission line. The line will be fitted with an optic fibre conductor (OPGW), which will be used for power system protection, control and communication purposes.

Due to the heavily built nature of the city of Tema, Dawhenya, Sege, Akatsi, Tadawu and Dodze to avoid the destruction of properties leading to involuntary resettlement and high compensation payments, the line route was diverted in these places.

In accordance with current practice, the proposed project will 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 7.5 – 8 m clearance between the lines and open ground and 8 m clearance for roads. Typically, as with the existing system, the towers will be about 35 – 40 m high.

**2.1.1 Project’s area of influence**

The line will traverse seven districts in the Greater Accra and Volta regions. The seven districts are Tema, West Dangme, East Dangme, North Tongu, South Tongu, Akatsi and Ketu.



**Figure 2 Conceptual diagram of the 330 kV line in Ghana**

The project affected communities that cover from Tema to Tomu on the Ghana –Togo border are as follows;

Kpone, Dawhenya, Bundase, Lakpleku, Some, Sagremi, Dawa/Tesakpo, Sege, Koluedor, Asigbekope, Sesakope, Asigbekope, Dogobom, Kpotame/Kasangblekpo, Kpordiwlor, Kebenu, Forkpo, New Bakpa, Yorkutikpo, Awuyakope, Atsiave, Tordzinu, Adonorkope, Ahorlikope, Bedzokope, Kpoyiadzi, Tsievi, Kalekope, Torgbokope, Agbalekope, Dagbakope,

Two main vegetation types are to be traversed by the line route corridor. The Coastal Savanna Grassland from Tema through Sege, Vume to Yorkutikpo consists of grassland with isolated scrubland. Trees are mostly clusters of short neem trees with short grass grazed by cattle.

It is followed by the Guinea Savanna Woodland from just after Yorkutikpo on the eastern side of the Volta river through Akatsi to Dzodze and Tomu consisting of tall grassland with isolated acacia, baobab and eucalyptus trees interspersed with mango, palm oil and coconut trees, bamboo clumps and cassava and maize farms.

## **2.2 Description of project activities**

### **2.2.1 Pre-construction phase**

The activities to be undertaken during this phase of the proposed project include:

- Project planning and design
- Line route survey
 

This activity was carried out by Survey Consultants contracted by the ECOWAS to carry out the survey of routes, establish land profiles and select the best route from several different options taking several factors into consideration. Some of the factors taken into consideration in the choice of the line route included overall route distance and the avoidance of settlements, forest reserves, sacred groves, cemeteries, and other potentially sensitive areas.
- Consultations
 

During the survey exercises, some traditional authorities, communities, District Assemblies were consulted. This was to enable the survey team and the ECOWAS gain access to the proposed routes since they had to clear vegetation and crops to make way for the survey.
- Collection of baseline data such as flora and fauna survey, socio-economic and other baseline data for the preparation of the EIA.
- Preparation and submission of an Environmental Impacts Assessment.
- Acquisition of the right-of-way (RoW)
- Sourcing of funds and award of contracts

### **2.2.2 Construction phase**

The constructional phase of the project will involve activities such as:

- Construction of access and tower corridor tracks
- Clearing and excavation of tower base areas
- Clearing of tower base buffer and RoW
- Cutting of trees considered too close to RoW
- Transportation of equipment and materials
- Erection of towers and stringing of transmission lines

The average span between towers will be about 300 m giving a total number of towers of about 450. 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.

**2.2.3 Operational phase**

The operational phase of the project will involve the commissioning of the line and maintenance of the RoW, the power lines and the towers.

### 3.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The proposed transmission line project has the potential to impact significantly on the environment and the socio-economic conditions of the population. These potential impacts require proper management in order to minimise or eliminate the negative impacts and, if possible, maximise the beneficial ones to ensure the sustainability of the environment and the people.

The potential impacts have been identified and assessed under the three main phases of the project. These are:

- Pre-constructional
- Constructional and
- Operational phases

#### 3.1 Pre-constructional phase

The activities to be undertaken during this phase of the proposed project include:

- Project planning and design
- Assessment of alternative routes
- Line route survey
- Consultations
- Acquisition of the right-of-way (RoW)
- Sourcing of funds and contractors
- Collection of baseline data such as flora and fauna survey, socio-economic and other baseline data for the preparation of the EIA report.
- Preparation and submission of an Environmental Impacts Assessment report.
- Acquisition of Project Environmental Permit

Most of these activities are expected to have negligible impacts on the environment and will therefore require no mitigation measures.

However, the acquisition of the right-of-way (RoW) and line route survey will have potential effects on land ownership, land-use characteristics, flora and fauna within the project environment.

##### 3.1.1 Loss of buildings and land ownership issues

The proposed project is a linear one. The land-take required by the RoW will be 5,400,000m<sup>2</sup>, 99,000 m<sup>2</sup> estimated for 22 access tracks and 41,472 m<sup>2</sup> for the towers (pylons). This gives a total land requirement of 5,540,472 m<sup>2</sup> (554 ha).

The acquisition of the RoW and access tracks has the potential to adversely affect land ownership and land-use characteristics, as land will have to be acquired from some individuals, communities and/or stools. The land to be affected by the implementation of the proposed project has the following categories of land-uses:

- Agricultural lands
- Potential agricultural lands (or fallow agricultural lands)
- Residential lands (affecting buildings and residential plots) and

The Volta River Authority (Transmission Line Protection) Regulations, 1967 LI 542 prohibits activities such as mining, construction of buildings, crops cultivation and farming in the RoW.

This potential adverse effect on land ownership and land-use requires mitigation measures to minimize the impact on individuals, communities and stools.

### 3.1.2 Line route survey issues

Prior to the acquisition of the RoW and the start of constructional activities the proponent had to undertake a line route survey to determine the most suitable alignment for the transmission line. Impacts on flora and fauna during the line route survey were not considered to be significant since only a narrow path (about 1.0 - 1.5m) was cleared for the survey work.

### 3.2 Constructional phase

The constructional phase of the project will involve activities such as construction of access and tower corridor tracks, clearing and excavation of tower base areas, clearing of tower base buffer and RoW, cutting of trees considered too close to the RoW, transportation of equipment and materials and the erection of towers and stringing of transmission lines.

These activities have the potential to impact significantly on the physical, biological and socio-cultural/socio-economic environments within the project's area of environmental influence. The key potential issues relating to this phase of the proposed project have been identified through field visits and surveys, literature study and consultations with stakeholders. The significant potential impacts have been assessed below.

#### 3.2.1 Noise impacts

Noise due to construction machinery during clearing and grading of access and tower corridor tracks, clearing and excavation of tower base areas, clearing of tower base buffer and RoW, cutting of trees, transportation of equipment and materials and the conversational shouts of construction workers could increase ambient noise levels in the immediate vicinity of the project area. This potential rise in noise level could have impacts on some local communities, fauna along the RoW, and on the construction crew.

Some of the local communities likely to be affected by ambient noise increases are Tema, Dawhenya, Dawa, Sege, Adidome, Sogakope, Akatsi, Tadamu, Dzodze, etc.

It is however expected that impacts on fauna will be temporary and will not be significant. In addition, fauna that will be scared away during this phase of the project will quickly return to the vicinity of the RoW once construction ceases. No further mitigation is proposed for potential noise impacts on fauna.

Mitigation measures have been proposed for the management of potential noise impacts on some local communities along the RoW and the construction crew.

#### 3.2.2 Impact on air quality

Constructional activities, including vegetation clearing, excavation, grading and haulage of construction equipment and materials could cause the release of particulate matter into the air resulting in potential adverse impacts on air quality in the immediate environs of the proposed project. Air quality can also be affected by soot in exhaust fumes of the construction machinery. Although this potential impact will be short-lived or temporary – limited only to the constructional phase- mitigation measures have been proposed to minimize the impact, especially on local communities.

#### 3.2.3 Erosion

Clearing and grading of access and tower corridor tracks, excavation of tower base areas and the construction of access tracks during the constructional phase will expose the disturbed ground surface, which will at least be temporarily unprotected, to the agents of soil erosion such as heat, wind and rain. This potential impact requires mitigation measures to

ensure that impacts such as soil loss, pollution of near-by streams and siltation of natural waterways are minimized.

### **3.2.4 Public Safety**

The transportation of heavy plant and equipment through settlements and the presence of unprotected tower base excavations could pose potential safety problems for the local populace. Mitigation measures have been proposed for this potential impact.

### **3.2.5 Flora and Fauna**

During construction, the removal of vegetation for access tracks, the tower corridor track and the tower base areas will result in permanent loss of vegetation in these areas and lead to potential faunal displacement.

Other sections of the RoW outside the tower corridor track will also be partially cleared of vegetation up to a height of about 1.25 m. In addition, trees, which are located just outside the RoW and are considered to threaten the safety of towers and transmission lines, will be felled. As stated earlier, this action of vegetation clearing could have potential adverse impacts on flora and fauna. As stated in section 3.1.1, the proposed line route traversed agricultural lands, potential agricultural lands (or fallow agricultural lands) and residential lands.

Measures will, however, be put in place to mitigate the potential impact on flora and fauna.

### **3.2.6 Occupational safety and health**

During this phase of the project, there will be the potential for occupational safety and health hazards. The potential for safety and health hazards will be most acute when:

- Technical specifications relevant to safety measures are disregarded in the planning and erection of plant and equipment (e.g. the use of low quality components, inadequate sizing of cables, negligent execution of works, general non-observance of safety rules leading to inherently unsafe systems
- The operating personnel have not received sufficient training and experience in connection with safety measures and their observance
- Improper and insufficient supervision of workers are undertaken.

The key issues of concern here are noise pollution, machine safety, provision of sanitary/welfare facilities, injuries from falling/swinging objects, accidental falls from heights and the possibility of snakebites.

Mitigation measures are proposed to minimize the potential occupational safety and health hazards to safeguard the safety, health and welfare of the construction workers.

### **3.2.7 Socio-economic/cultural issues**

The proposed project has the potential to impact significantly on the socio-economic and socio-cultural life of the local people within the project's sphere of environmental influence.

The relevant socio-economic/cultural issues are discussed in the next section.

#### **3.2.7.1 Loss of buildings and land ownership issues**

As stated earlier, the acquisition of the RoW and access track areas has the potential to adversely affect land ownership and land-use characteristics, as land will have to be acquired from some individuals, communities and/or stools. The land to be affected by the implementation of the proposed project has the following categories of land-uses:

- Agricultural lands
- Potential agricultural lands (or fallow agricultural lands)
- Residential lands (affecting buildings/structures and residential plots)

The Volta River Authority (Transmission Line Protection) Regulations, 1967 LI 542 prohibits activities such as mining, construction of buildings, crops cultivation and farming in the RoW.

This potential adverse effect on land ownership and land-use requires mitigation measures to minimize the impact on individuals, communities and stools.

#### **3.2.7.2 Land-use conflicts**

The constructional activities will result in land-use conflicts. The proposed RoW will affect agricultural lands, potential agricultural lands and residential lands. Constructional activities will result in destruction of crops and structures.

Potential land-use conflicts are considered to be significant and therefore require appropriate mitigation measures.

#### **3.2.7.3 Impacts on cultural and historical/archaeological sites/items**

The implementation of the proposed project has the potential to impact significantly on cultural properties and historical sites and items.

Although the constructional activities will not involve much earthmoving, it is possible to make cultural and/or archaeological 'chance finds' during the constructional phase of the project. Such finds may be the following:

- Sites of cultural significance such as sacred woods or trees or rock outcrops which the local residents may have not mentioned at the survey stage
- Archaeological heritage which may have remained unnoticed in the past

Issues regarding cultural properties and the possibility of cultural and/or archaeological 'chance finds' are considered to be significant requiring mitigation.

#### **3.2.7.4 Impacts on population and demography**

Only about 25% of the construction work-force (during the peak of constructional activities), which is expected to be skilled labour, will be recruited from outside the local communities. The skilled workers from outside the local communities will be accommodated at the work camps. Potential impacts on population and demography are therefore not expected to be significant and will not require any mitigation.

#### **3.2.7.5 Employment generation and incomes**

Some employment openings for the local people during this phase of the project are expected to be created. Those local people who will be employed will benefit from the payment of salaries and/or wages. This is expected to lead to improvement in local incomes. On the other hand, there is the potential for loss of income resulting from loss of crops, land and structures. Mitigation for this potential impact is required to minimize the effects on the local people.

#### **3.2.7.6 Potential impacts on public health**

The proponents intend to utilize local manpower as much as possible during this phase of the project. Only about 25% of the construction work-force will be recruited from outside the local communities. The skilled workers from outside the communities will be accommodated at the work camps. Despite this small number of 'outsiders' and the fact that they will be

accommodated at the work camps, the potential danger of the spread of sexually transmitted diseases (STDs) including HIV AIDS still exists. The spread of these diseases by construction workers, truck drivers and prostitutes attracted to the work camp and construction sites could occur. Mitigation measures are required to minimize this potential impact.

### **3.2.8 Visual intrusion**

Constructional activities have the potential to impact on scenic landscape values at the project site. It is expected that the local visual characteristics and expressions of the RoW will be affected by the presence of the transmission towers and lines. Mitigation measures have been proposed to minimize the potential 'tower-glare' effects on people especially in settlements such as Dawhenya, Dawa, Sege, Adidome, Sogakope, Akatsi, Tadau and Dzodze.

### **3.2.9 Traffic impacts**

Transportation of equipment and materials on public roads may result in some road safety problems. The potential hazards include vehicular-vehicular conflicts, vehicular-pedestrian conflicts and falling of improperly secured equipment and materials on roads. The potential for vehicular traffic conflict situations exists especially at the points where access tracks join the main roads. The proposed transmission line route crosses public roads such as the Tema – Aflao, Dawhenya – Prampram, Denu – Dzodze, etc. The stringing of transmission lines across these public roads may cause temporary traffic disruptions. Measures have been proposed to minimize potential traffic impacts.

### **3.2.10 Potential pollution of water bodies**

Clearing and grading of access and tower corridor tracks, excavation of tower base areas and the construction of access tracks during the constructional phase will expose the ground surface to the agents of soil erosion. High sediment loads of run-offs from these areas could be discharged into nearby water bodies such as the Gyrokorgyor, Dawhe, Polupolu, Volta, Tohwi, Tordzie, Etu, rivers. This may cause high turbidity conditions and subsequently possible siltation of these watercourses. The potential for water pollution by oil, lubricants and paints also exists. This potential impact requires mitigation to minimize the possibility of water pollution and also minimize the effects on downstream water usage of these rivers, which is mainly for domestic purposes.

### **3.2.11 Work camps**

Work camps will be established along the RoW during the constructional phase of the proposed project. The contractors will, in addition, exploit the option of renting of properties within the communities for accommodation purposes.

Issues relating to the establishment, location, waste management and decommissioning of the work camps need to be properly addressed.

### **3.2.12 Waste generation**

Solid wastes in the form of vegetative matter, damaged cables and conductors, rags, excavated materials and packaging materials such as paper cartons, wooden crates and empty containers will be generated. Also, the potential for the generation of liquid wastes due to spent oils, water from excavations and accidental spillage of fuel and paint exist. These wastes must be properly handled to avoid or minimise adverse effects on the environment. Measures have therefore been proposed for waste management.

### **3.3 Operational phase**

Some potential impacts have been identified and assessed for the operational phase of the proposed project. These are as follows:

#### **3.3.1 Vegetation clearing**

In wooded areas, the safe operation of the overhead power lines will necessitate the maintenance of unobstructed lanes. Vegetation control measures will therefore have to be applied during the operational phase of the project to manage vegetative growth within the RoW. The method to be used will be physical or mechanical clearing of vegetative growth for the maintenance of the RoW. RoW maintenance could also result in opening-up effects especially the activities of hunters and fuel-wood harvesters. These potential effects are not considered to be significant since much of the area is already extensively farmed and 'opened'. Mitigation measures have however been put in place to minimize the effects of RoW maintenance.

#### **3.3.2 Effects of rust treatment and painting of towers**

Rust treatment and painting of towers, although expected to be infrequent, are likely to cause pollution of nearby rivers and streams such as those mentioned above. This potential impact requires mitigation measures.

#### **3.3.3 Solid waste generation**

Solid wastes in the form of vegetative matter, packaging materials, damaged or broken cables, conductors and insulators will be generated during this phase. Measures have been proposed for the management of these wastes.

#### **3.3.4 Liquid waste generation**

Washing of equipment will constitute liquid waste during this phase of the proposed project. It is, however, not anticipated that liquid wastes from equipment washings will be generated in significant quantities. No mitigation measures have therefore been proposed for this potential impact. Accidental spillage of oil, fuel or paints will however need to be managed.

#### **3.3.5 Occupational safety and health issues**

Some occupational safety and health hazards are expected during the operational phase of the project. These hazards could be from falling and/or swinging objects, potential collapse of towers, electrocution, falling from heights and snakebites. These hazards pose potential threat to the safety and health of the workers. However, collapse of towers is not a common occurrence because during the over 40 years of VRA's transmission line operation and maintenance activities, the VRA has experienced only two tower collapses caused by rain storms and two collapses due to acts of vandalism. Mitigation measures have however been proposed to minimize these potential hazards.

#### **3.3.6 Public safety**

Potential public safety hazards are enhanced for a project such as the proposed transmission line project when the local populace has not been properly educated with regard to the potential hazards. In addition to the hazards posed to the public due to transportation of equipment and materials, other hazards such as potential exposure to Electromagnetic field (EMF) effects, potential collapse of towers and electrocution will exist during this phase of the project.

The falling of a live electrical conductor could cause severe burns of any object on which it falls. An electrical conductor could fall from the towers as a result of either a mechanical failure of an insulator string on the tower or snapping of the conductor itself. The mechanical

failure of an insulator string could be the result of a lightning stroke, rusting of insulator pins or a heavy object falling on the transmission line. The failure of a conductor joint could also cause snapping of the conductor.

These potential hazards require mitigation to ensure the safety of the public.

One other potential impact of the proposed project is the perceived danger of transmission lines. The public does not normally understand issues relating to electromagnetic fields. The misconception that EMFs may cause cancer or harm children could create fear and perhaps panic among the local populace. This issue has been further dealt with below.

### **3.3.7 Electromagnetic field (EMF) effects**

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 0.055 mT for frequencies between 50 and 60 Hz. Hence 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. This potential effect needs to be mitigated.

Mitigation will also be required to address the notions that EMFs may cause cancer or harm children and the resulting fear and possible panic among the local populations.

### **3.3.8 Effects of weed control chemicals**

The improper application or misuse of weed control chemicals could adversely affect the environment and the health of workers handling these chemicals. To avoid these potential problems the VRA will employ only physical or mechanical clearing of weed for the maintenance of the RoW. No further mitigation measure is therefore required for this potential impact.

### **3.3.9 Socio-economic issues**

Potential socio-economic issues such as land ownership, land-use conflicts and compensation issues are expected to persist during this phase of the project. Measures have been proposed to manage the residual effects of these potential issues. Impacts on population and demography are however not expected to be significant and will not require any mitigation.

### **3.3.10 Effects on birds**

The presence of towers and power transmission lines in the RoW has the potential to impact on birds. There is the potential danger of debasement of breeding grounds, electrocution, collision with lines and interference in the navigation of birds. No specific breeding grounds of birds have been identified within the RoW hence the potential danger of debasement of such areas does not exist. Mitigation measures for the other potential effects on birds have therefore been proposed to minimize the effects.

**3.3.11 Fire hazards**

There is the potential for fire hazards as a result of bush fires and electrical faults during this phase of the proposed project. The bush fires could either originate from VRA operations during RoW maintenance or through the activities of farmers, hunters and palm wine tappers. This potential hazard will have to be mitigated to minimize the occurrence of fires.

**3.3.12 Impact on telecommunications**

Consultations with Ghana Telecom indicated that in cases where telephone lines run parallel or close to high-tension lines, subscribers experience interferences as a result of 'induction effect.

It is known also that resonance effect of power frequency fields may also affect telecommunications.

However, this does not occur with the VRA transmission lines as they usually run outside settlements where interferences are likely to occur. In addition the VRA adopts the procedure of "transpositioning" of the conductors (interchanging the individual phases from tower to tower) along the line route, in order to reduce the impedance that causes resonance. The phases are restored to the original at the termination of the lines.

Some mitigation measures have however been proposed for this potential impact.

#### 4.0 INSTITUTIONAL AND LEGAL FRAMEWORK

The relevant statutes on land acquisition and compensation have been given due consideration. These are:

1. The 1992 Fourth Republican Constitution of Ghana (Article 20)
2. Volta River Development Act of 1961 (Act 46)
3. Lands (Statutory) Wayleaves Act of 1963 (Act 186)
4. Volta River Authority (Transmission Line Protection) Regulation of 1967 (LI 542)
5. Ghana Land Policy (1999)
6. World Banks Operational Policy on Environmental Assessment (OP 4.01)
7. World Bank's Operational Directive on Involuntary Resettlement (OD 4.30)

##### ***The 1992 Fourth Republican Constitution of Ghana (Article 20)***

Article 20 of the constitution makes provision for the protection from deprivation of property in the country unless such compulsory acquisition is made in the interest of defense, public safety, public order, public morality, town and country planning or the development or utilisation of property in such a manner as to promote the public benefit. The necessity for such acquisition should be clearly stated and should provide reasonable justification for causing any hardship that may result to any person who has an interest in or right over the property.

Compulsory acquisition of property by the State shall only be made under a law, which makes provision for the prompt payment of fair and adequate compensation.

##### ***The Volta River Development Act, 1961 (Act 46)***

Once the route for the transmission line has been identified, it is the responsibility of VRA to acquire the right-of-way (RoW) in the project area for the smooth implementation and operation of the Volta –Mome Hagou transmission line. Section 12 of The Volta River Development Act, 1961 (Act 46), empowers VRA to acquire land for constructing and operating transmission systems.

##### ***Lands (Statutory Wayleaves) Act, 1963 (Act 186)***

The acquisition of the RoW would be carried out under the provisions of the Lands (Statutory Wayleaves) Act, 1963 (Act 186), which provides for the acquisition of wayleaves and easements. This would be done with due consultations with the District Assemblies and communities within the project's sphere of influence. Both section 12 of Act 46 and Section 6 of Act 186 provide for compensation payments and VRA would be responsible for addressing all matters relating to compensation. In practice, VRA compensates for structures that have to be demolished and crops that would be destroyed at the time of construction.

A major consideration in selecting the proposed route has been the need to minimise resettlement and destruction of property and farms. The line route has been adjusted in numerous places during preliminary survey, in order to minimize the environmental and social impacts of the selected route, especially around Tema, Dawhenya, Sege, Akatsi, and the last section from Tadawu, Dodze to the Togolese border in Tomu.

Some structures are expected to be demolished for the construction of the ECOWAS Volta – Mome Hagou transmission line and the owners of these properties, farms and crops that are likely to be affected by the project have been duly identified.

The Lands (Statutory Wayleaves) Regulations, 1964 (L.I. 334), spell out the regulations covering the acquisition of wayleaves under Act 186. The procedure for applying for compensation is duly outlined in L.I. 334, with a sample form provided for the use of potential applicants. Compensation may be claimed for damages caused by survey works as well as damages arising from actual site works. In addition, L.I. 346, which is an amendment of L.I. 334, outlines the procedure for appealing against compensation awards.

#### ***The Ghana Land Policy, 1999***

The Ghana Land Policy, 1999 provides guidelines and policy actions for the various forms of land use – agricultural, forestry, extractive, human settlement, infrastructure etc. These are aimed at enhancing conservation of environmental quality, preserving options for the present and future generations and securing human sustenance.

Among the key objectives of the Land Policy, which are of relevance to the Volta – Mome Hagou transmission line project are:

- Protection of the rights of landowners
- Ensuring payment, within reasonable time, of fair and adequate compensation for land acquired
- Promoting community participation and public awareness at all levels in sustainable land management.

#### ***Volta River Authority (Transmission Line Protection) Regulations, 1967 (LI 542)***

The Volta River Development Act 1961, (Act 46) section 33, empowers VRA to enact regulations to facilitate its activities. In furtherance to this, The Volta River Authority (Transmission Line Protection) Regulations, 1967 (LI 542) was enacted to provide security for VRA transmission lines and ensure public safety.

#### ***World Bank Operational Policy on Environmental Assessment (OP 4.01)***

Right-Of-Way Alignment

- All new rights-of-way should be aligned taking environmental factors into consideration, in a manner, which will minimise to the extent possible, the need for physical alteration and the impacts on sensitive natural environments, cultural resources, agricultural lands, and residential and commercial areas.
- Land acquisition must be carried out in accordance with World Bank resettlement guidelines, which require identification and quantification of any impacts on land based livelihood, and compensation to land owners and people relying on the land for their livelihood.
- Where rights-of-way are to be established through remote and currently inaccessible environmentally sensitive areas, the potential impacts on the natural environment, indigenous populations, population migration and natural resource exploitation must be assessed and measure adopted to minimise these impacts.

#### ***World Bank Operational Directive on Involuntary Resettlement (OD 4.30)***

The World Bank Group OD 4.30 on Involuntary Resettlement is applicable to this project. The main features of this directive are as follows:

- All viable alternative project designs should be explored to avoid or minimise the need for resettlement and when it cannot be avoided, to minimise the scale and impacts of resettlement
- Resettlement measures are to be conceived and executed as development activities providing sufficient resources to give the persons displaced the opportunity to share in project benefits. Assistance should be given to the community 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 without the project

- Displaced persons should be:
  - Compensated at full replacement cost prior to the actual move
  - Assisted with relocation
  - Assisted and supported during the transitional period
- Particular attention should be given to vulnerable groups
- Communities should be given opportunities to participate in planning, implementing and monitoring their resettlement
- Resettlement should be linked to the main project implementation schedule, so that project-affected people should be resettled and/or compensated before being affected by the construction or other activities
- There should be adequate monitoring and evaluation
- The proponent should be encouraged to offer replacement land. Cash compensation may be appropriate when residual land holdings are economically viable. For households who lose assets/income large enough to make the remainder unviable, compensation should be provided as if entire holdings had been taken

#### **4.1 VRA's Procedures For Acquisition Of RoW and Payment of Compensation**

The 1992 Constitution of Ghana by Article 20 prescribes that fair and adequate compensation should be paid to all persons affected by state acquisitions. The procedures used by VRA to ensure that all persons affected by the transmission line project are catered for are outlined below:

- Referencing of all properties, both crops and buildings, by officers of the Land Valuation Board (LVB) to be monitored by Estate Surveyors from Real Estates Department of VRA.
- Assessment of the compensatable values by the LVB and the valuation advice forwarded to VRA.
- The assessed report would be vetted and corrections effected where necessary to ensure that the amounts are accurate and fair to both claimants and the Authority. These would then be processed for payment.
- Offers would be made to the claimants on the basis of the LVB'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 opinion prepared by private valuers of their choice. The private reports are considered by VRA in conjunction with the LVB to ensure that claimants are treated fairly.
- Where necessary the dissatisfied victims would be invited to negotiate and arrive at acceptable figures.
- Project affected persons may resort to legal action in order to have their grievances addressed.

## **5.0 SOCIO-ECONOMIC BASELINE SURVEY**

### **5.1 Methodology**

In accordance with the Ghana EIA procedures, a Scoping Notice was published in September 2005. The Scoping Notice was also served on the seven District Assemblies within the area of environmental influence of the proposed project. The Districts Assemblies were required to paste the notices on their notice boards and create awareness amongst the Assembly and Unit Committee members of the districts (Appendix 1).

After exhaustive site visits and the beating of gong-gong in the small affected communities and consultations with traditional rulers and people of the affected communities, District Assemblies, project affected persons (PAPs) and institutions a Scoping Report and Terms of Reference for the transmission line Environmental Impact Statement (EIS) was produced in August 2005.

A line route has been chosen based on several factors, the major considerations being the avoidance of environmentally sensitive areas, communities and settlements.

The process involved a preliminary line route survey by a HECLA team in 2005 to determine a proposed route for the line. ECOWAS further engaged two separate contractors, HECLA (RUDAN) and Coyne et Bellier, in the same year to undertake the line route survey.

The line route has been adjusted in numerous places during preliminary survey, in order to minimize the environmental and social impacts of the selected route, especially around Tema, Dawhenya, Sege, Akatsi, and the last section from Tadawu to the Togolese border in Tomu.

The main purpose of the Scoping report was to outline the key issues to be addressed in the EIS in order to eliminate the insignificant issues and focus on those that are significant. In essence, the scoping process provides a preliminary assessment of the:

- Potential impacts of the project
- The parameters that should be included in the study
- Route options and corridor that will minimise environmental impacts
- The availability and usefulness of existing information and the appropriate field survey methods for collecting new information.
- Potential monitoring parameters

The scoping also provides the basis for agreement or otherwise by the Environmental Protection Agency on critical issues of concern that should be addressed by the EIS. The Scoping Report was submitted to the EPA for review and circulation to stakeholders and affected District Assemblies for comment prior to the commencement of the main EIS study.

The main EIS study commenced in August 2006. This Resettlement Action Plan (RAP) is however prepared ahead of the main EIS.

As a result of the fieldwork all affected properties have been surveyed and valued. A socio-economic survey including the identification of affected persons has been carried out. The affected persons have been consulted and informed of the project and its implications for their properties. Their concerns have been well noted and recorded and their expectations noted.

It is noteworthy that the Land Valuation Board's current (year 2006) approved crop compensation rates were used to compute the compensation figures in order to ensure fair and adequate compensation in accordance with the Constitution of Ghana.

## **5.2 General Background**

### **5.2.1 Administrative boundaries**

The transmission line will traverse three administrative districts in the Greater Accra Region and four in the Volta Region. In all, seven districts would be affected by the project namely: Tema, Dangme West, Dangme East, North Tongu, South Tongu Akatsi and Ketu.

The list of project-affected persons and the communities within which they reside is provided in Appendix 2

### **5.2.2 Land-use and settlement**

This section considers the broad land use characteristics and settlement patterns along the proposed line route. The line traverses two distinct land use types, that is, predominantly urban and rural. The Tema and the Dangme West District sections of the line are predominantly urban whilst the rest of the route is predominantly rural.

The major land uses that make up the Tema and Dangme West District sections of the route are residential, commercial, industrial, education, civic and culture and open spaces.

The section within the North Tongu District passes through Aveyime Rice Project. Here a few houses will be affected by the proposed project.

The remaining stretch of the line route traverses predominantly rural areas. The land use here is mostly residential (villages/settlement/towns) and subsistence and commercial farming. Towns and settlements have been avoided as much as possible in the selection of the proposed line route.

The line route however will traverse areas under cultivation of cash and food crops. A full list of all identified properties and project-affected persons has been provided in Appendix 2.

## **5.3 General demographical information on project affected people**

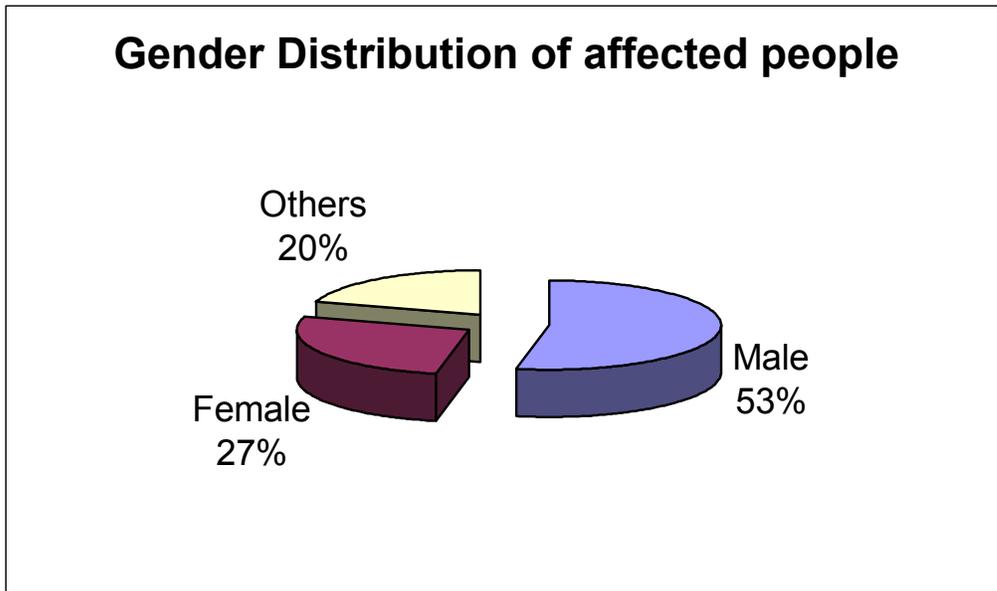
### **5.3.1 Average household**

The survey showed that the average household size of the project affected persons is 8. This is higher than the recorded figure of 5.3 in the Ghana Living Standard Survey of 1992.

### **5.3.2 Gender distribution**

Twenty four percent (27%) i.e. (112 persons) of all affected persons were found to be females with the males making up about 53% (227 persons). The rest (86 persons) are yet to be identified even though all the necessary information for compensation calculation has been collected (see Figure 3).

Figure 3 Gender distribution of project-affected people

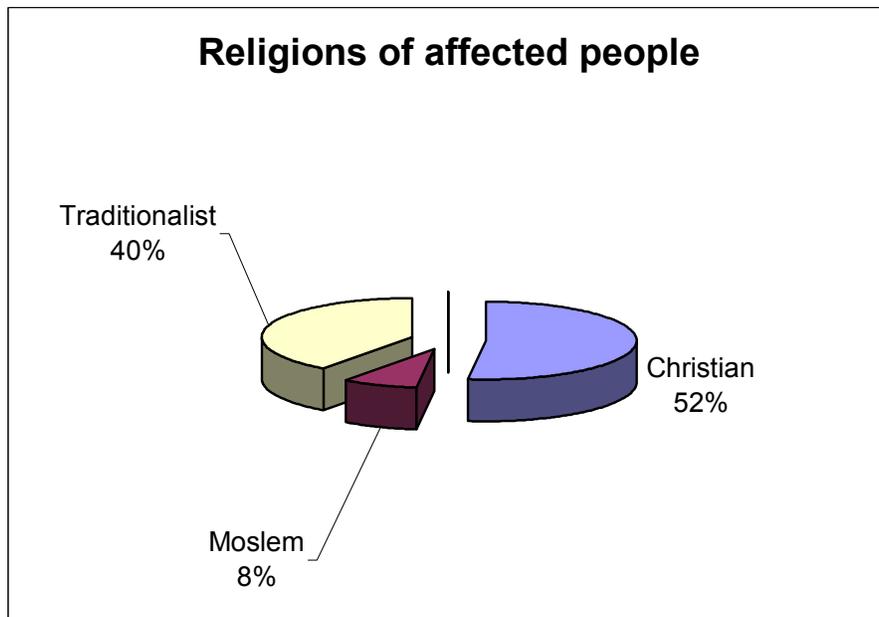


**5.3.3 Ethnicity and religion**

The survey showed that in terms of religion, Christians form the largest percentage of the affected population accounting for 52%, whilst traditionalist account for 40% and the rest is made up of Moslem 8 % (see Figure 4).

The affected persons are highly homogenous with the Ewes and Ga-Adangmes constituting 98%. The Akan group here is mainly found around Tema.

Figure 4 Religious distribution of project-affected people



**Table 1 Ethnic groups of the project-affected people**

<b>Ethnic group</b>	<b>Number</b>	<b>Percentage of total (%)</b>
Akan	9	2
Ga-Adangme	170	40
Ewe	246	58
<b>Total</b>	<b>425</b>	<b>100</b>

#### 5.3.4 Land holdings

Five (5) main land acquisition methods were identified, namely through the:

- Chief
- Family head
- Lease/rent
- Inheritance
- Purchase

The terms of land acquisition for tenant farmers were found to be:

- Share cropping  
Here farm produce is shared according to agreed terms between the farmer (tenant) and the landowner. The terms may vary from crop to crop. Generally the sharecropping systems in use in the affected areas are the 'abunu'- where the tenant takes half of the produce and the 'abusa'- where the tenant takes two-thirds.
- Fixed rent  
Here the tenant pays a fixed sum of money for a specific period for the use of the land
- Free

#### 5.3.5 Occupations

Seventy-eight percent of the affected persons gave their main occupation as farming. Farming is generally at a subsistence level with most farmers engaged in arable farming in crops like cassava, maize, beans, vegetables with oil palm. Here vegetables are the main cash crops. Oil palm, cashew and teak trees are the secondary cash crops grown mainly around Dodze in the project-affected areas.

#### 5.3.6 Affected Community Properties

Community properties to be affected by the project include schools, shrines, cemeteries etc. These include the following;

##### **COMMUNITY**

Sesakope  
Kebenu  
Adonokope  
Ahorlikope  
Adetsewui  
Tadzevu-Kasu

##### **PROPERTY**

Teachers bungalow and School building  
School building and E. P. Church building  
Mud shrine house for Kwadjovi Anyame  
Two mud shrine houses for Wilson Ahorli  
Cemetery  
Two shrines (Vudzu-Dah and Adzima)

#### 5.3.7 Community Participation

During the socio-economic and environmental impact appraisal exercises, some traditional authorities, communities, opinion leaders, District Assemblies were consulted to initiate the sensitization process to the seven District Assemblies (DAs) in order to:

- Introduce the socio-economic and survey teams;

- Introduce the project, in particular, purpose, benefits, likely environmental risks; mitigating issues, etc.;
- Discuss and articulate concerns of DAs and community members;
- Obtain available documentation, information, census and socio-economic data on the districts district/community development/action plans, etc.; and
- Hold discussions with DA officials and, in a participatory manner, identify villages/hamlets not captured on the project map with assistance DA officials.
- Hold discussions with project-affected persons in the communities before measuring their farms, properties and community heritage.
- Hold communities fora to discuss project-affected persons and communities concerns and expectations.

Officials had no objection to the project as it is a national project. Moreover, they believed the advantages of the project outweigh the disadvantages. Loss of land and livelihood and respect for cultural heritage sites were their major concerns amongst others but this could be mitigated through discussions with the District Assemblies in order to facilitate the acquisition of lands and the prompt payment of appropriate compensation for all lost properties to the affected persons.

#### **5.4 Community Concerns**

During the field surveys, the communities raised questions regarding loss of land use and payment/non payment of compensation, expressed many fears and concerns. Some of the concerns are;

- All the communities contacted raised concerns about the loss of crops, loss of income and loss of land use.
- Possibility that affected persons may not be adequately compensated and may worsen their poverty situation.
- The available land for farming will become smaller in size and in some cases the right of way (RoW) will split some farmlands.
- The fear that those who will administer the compensation may not be fair to all affected persons.
- Communities to be educated on health implications of the transmission of power through the communities.
- Lack of consultation with community leaders in the decision to use their land for the project
- The effect of the line on their livestock and sources of water.
- Potential benefits to the communities

#### **5.5 Expectations of Affected Communities**

People in affected communities have expressed the following expectations:

1. Employment opportunities for local people during construction of towers and to be recruited to maintain the right of way (bush clearing etc.)
2. More investors to be attracted to the communities because of the project.
3. Affected communities without electricity to be connected to power.
4. VRA to provide health facilities to affected communities to take care of any eventualities.
5. VRA to provide potable water to communities whose sources of water will be affected.

## 5.6 Comments on the Compensation Issues

VRA pays compensation only for the structures and crops that are destroyed during the implementation of the project and not for the value of the land affected (including future land use). This is the main issue of contention of the affected persons, for example in Lakpleku the owners were expecting to be paid for the land to which they have lost access.

VRA will allow the owners of affected farms to harvest their mature crops before the clearing of the right-of-way will be done. This will minimise the compensation values that VRA would have to pay for crops. Delays in payment of compensation would affect the farmers, as credit facilities for these farmers are non-existent. Most of the project-affected persons would prefer their compensation packages in cash terms. Their major reasons are;

- VRA structures are designed not to their satisfaction (considered as pig styles)
- Replacement buildings taking too long in coming
- Constructing structures of their choice
- The desire to sell the property to VRA

During consultations with project affected persons it was agreed in participatory approach that the following procedures shall be followed;

1. The procedures for compensation payment for project-affected persons would ensure that fair compensation covers loss of future land use to reflect the prevailing market values.
2. Most of the project-affected persons are illiterates therefore district assemblies, unit committees and other community-based organisations shall be involved in the whole process to safeguard their interest.
3. Compensation payments shall be handled promptly to avoid any conflicts with the communities.
4. VRA would abide by the legal arrangements/procedures in acquiring and preserving the RoW for the line.

## **6.0 COMPENSATION**

### **6.1 Census of affected persons**

All affected properties have been surveyed and the acreage of each crop determined. Measurements of affected properties were made in the presence of the project-affected persons. To verify the positions of common borders neighbouring property owners were consulted for confirmation.

Designed questionnaires were completed in consultation with and in the presence of the affected persons, except in cases where property owners could not be identified after all efforts have been made including beating of gong-gong, etc for such people to come forward. All questions were prepared in English and translated into the local language (Dangme, Ewe).

Disputes that arose over ownership of farms between indigenes were settled amicably in the chiefs' palaces.

In the case of buildings and residential plots replacement costs were used as bases for computation of compensation.

### **6.2 Eligibility for compensation**

In the Greater Accra and Volta Regions where the proposed project will be located, all land is vested in stools, family heads and individuals. Compensation will therefore be paid to the respective stools, family heads and individuals for land acquired. Tenant farmers will be compensated for crops. Properties such as residential plots and buildings will be compensated at replacement costs to the owners. Land take of tower bases will be compensated at replacement cost to the owners.

## **7.0 LAND REQUIREMENTS**

### **7.1 Right-of-way (RoW)**

The Volta River Authority (Transmission Line Protection) Regulations, 1967 LI 542 defines 'transmission line right-of-way' to include the area extending for a distance of twenty meters (20m) on each side from the centre line of the transmission towers for a 330 KV transmission line. Within the RoW no buildings and crops taller than 1.25 m are permitted. The VRA allows for the cultivation of annual crops like maize, cassava, tomatoes, etc, within the RoW. Tree crops like oil palm, cashew, mangoes and fodder crops are not permitted.

The RoW is not always enforced especially within the urban areas.

The RoW will be subject to the following encumbrances:

- No mining, construction of buildings and the cultivation of some crops are allowed
- No vegetative growth above 1.25 m is allowed

Owners and occupants of the proposed RoW will be compensated against the loss of value resulting from the encumbrances.

## 8.0 IMPACT OF THE PROJECT ON LAND AND RESIDENCES

The data presented below (on land taken and project-affected people) are derived from the baseline socio-economic survey that was carried out.

### 8.1 Surface area affected

The proposed project is a linear one. The land-take required by the RoW will be 5,400,000m<sup>2</sup>, 99,000 m<sup>2</sup> estimated for 22 access tracks and 41,472 m<sup>2</sup> for the towers (pylons). This gives a total land requirement of 5,540,472 m<sup>2</sup> (554 ha). This includes 108 hectares of farms and land for residential purposes and potential agricultural use. In the case of access roads VRA prefers to upgrade existing tracks or roads for the use of the communities. Where there are no existing roads new access tracks that are created will be for the use of the communities.

The Ghana side substation is already in existence and no land will be further acquired for expansion works.

### 8.2 Project affected people

The list of affected persons is given in Appendix 2. Project affected persons are persons who will lose assets as a result of the implementation of the project, whatever the extent of the loss. Lost assets may be land rights, structures, crops, or a combination of these three.

The tables below show the numbers of people and the types of properties to be affected by the proposed project. A total number of five hundred and thirty-five (535) persons are expected to be directly impacted by the proposed project. These persons, referred to as Project-affected Persons (PAPs) have been categorised in the table below by their regional locations. Some of these people have multiple properties that will be affected by the proposed RoW.

A total of eighty-one (81) houses and twenty (20) residential plots (undeveloped) shall be impacted by the project. Five (5) shrines, one (1) cemetery, one (1) teacher's bungalow and one (1) church building shall be impacted in the Volta Region. In addition, two primary schools, one in each region shall also be impacted by the Right-of-way. These properties belong to communities in both regions.

The identities, locations, area, and the exact compensation amounts and the type of property to be impacted have been indicated in the list attached as Appendix 2 to this Plan.

**Table 2 Number of PAPs by region and type of property**

Property type	Greater Accra Region	Volta Region	Total
Field crops	262	163	425
Houses	31	59	90
Plots for building	20	0	20
<b>Total</b>	<b>313</b>	<b>222</b>	<b>535</b>

**Table 3 Number of affected community properties by region**

Community Property	Greater Accra Region	Volta Region	Total
Shrines	0	5	5
Cemeteries	0	1	1
Primary School	1	1	2

<b>Community Property</b>	<b>Greater Accra Region</b>	<b>Volta Region</b>	<b>Total</b>
Teachers Bungalow	1	0	1
Church	0	1	1
<b>Total</b>	2	8	10

### **8.2.1 Physically-Challenged Affected Persons**

Only 4 households who are physically-challenged will be affected by the implementation of the project will need to be physically relocated.

It cannot be stated here with any degree of certainty whether the physically displaced people will relocate to other unaffected portions of their land. The final choice of locations for resettlement will rest with them. The project-affected persons have indicated that they will prefer compensation to resettlement and there fore new sites will not be identified by the project.

### **8.2.2 Vulnerable people**

The VRA groups vulnerable people as those above the age of 80 and those who are physically challenged. Their compensation is increased by 25%, of the actual figure determined. The conditions for compensation are provided in chapter 13.0

## **9.0 MITIGATION OF IMPACTS ON CROPS, LAND AND STRUCTURES**

### **9.1 Compensation and resettlement packages**

Since the proposed project is linear with little impact on communities, no group settlement will take place. The proposed project will have only a minimal impact on communities in terms of relocation and resettlement since only a few individuals will be affected (see Appendix 2).

#### **9.1.1 Crops**

Cash compensation will be offered for crops that will be affected. This will be based on the August 2006 Land Valuation Board's (LVB) approved new rates for crops compensation, which reflect the economic market prices. The new rates take into consideration the Constitutional provision, which stipulates the payment of fair and adequate compensation to anybody who suffers a loss, as a result of any public undertaking.

As VRA uses realistic rates in computing the actual compensation, if at the time of payment the current LVB rates are found to be uneconomic, the Authority in consultation with all related government agencies would generate fair rates using the 2006 figures as guideline

Current crop compensation rates have the following inbuilt mitigation factors

- Allowance for loss of income for three years on perennial crops
- Reimbursement for abortive expenditure incurred in establishing the farms
- Rental allowance for the land

#### **9.1.2 Land**

The Volta River Authority has made efforts to ensure that the transmission line was aligned in a manner that avoided, to a very large extent, commercial/residential lands.

Adequate provision has been made to cater for compensation for land that will be taken up by the transmission lines. The various land uses have therefore been considered.

Consultations with the chiefs and people in the project affected area indicated that the acquisition of the 40-metre RoW would not have any significant impact on the farming activities of the communities since land of similar agricultural potential and proximity to the respective communities for farming activities is available. The line is passing through two regions where the main cropping activity is arable farming

For residential plots, replacement land will be offered in cases where the remaining land is not suitable for further development. Replacement land will be identified, in consultation with the affected person, in the neighbourhood of the affected household in the very same community wherefrom the affected person originate. No impact on "host communities" is therefore expected since no group relocation will occur.

#### **9.1.3 Structures**

Some houses (completed and uncompleted) were identified within the proposed route. The owners of these structures would be adequately and fairly compensated by adopting the Full Replacement Cost Method of valuation or Open Market Value, whichever would be higher. In cases where the remaining part of the affected plots is suitable, replacement houses will be built on such plots, if the owners so wished.

Some salt ponds were identified within the proposed route however the engineering department has indicated that the height of pylons would be increased in such a way that it

will not affect the production from the ponds. Where the ponds are affected adequate and fair compensation would be paid.

#### **9.1.4 Identification of Alternative sites and Selection of Resettlement sites**

The project is a linear one running through 65 communities with the impact covering only a small area of each community and therefore not concentrated to warrant complete resettlement. Where PAPs are to be relocated they have agreed to relocate with approval from chiefs, head of families etc. They have already indicated that they prefer compensation to resettlement.

#### **9.1.5 Site preparation and Relocation**

There will be no relocation of communities due to the linear nature of the project. Therefore site selection and relocation will not arise. Only 4 households who will be affected by the implementation of the project will need to be physically relocated. They are located in four different communities. It cannot be stated here with any degree of certainty whether the physically displaced people will relocate to other unaffected portions of their land. The final choice of locations for resettlement will rest with the vulnerable households.

#### **9.1.6 Infrastructure and Social Services**

Public infrastructure and social services that are along the line route would be adequately and fairly compensated. These public properties along the line route like schools, churches, shrines will not only be replaced but modernised to include extra facilities like offices, toilets etc.

#### **9.1.7 Environmental Protection**

There will be no relocation of communities and therefore major environmental impacts on the communities would not arise.

### **9.2 Consultations with PAPs on compensation options**

When all parties for compensation of lost assets have reached agreements on options, all parties involved will sign an undertaking.

Payments of all amounts more than ₺1.5m (US\$163) will be made by cheque. Payments up to ₺1.5m (US\$163) will be by cash. A representative of VRA and the PAPs will sign receipt for payment.

#### **9.2.1 Community level**

Prior to compensation payments, durbars will be organised in the affected communities. The principles of compensation for the various types of loss including the acquisition of the RoW will be detailed. The list of affected persons, locations of properties, dimensions, etc will be disclosed at such durbars. A schedule of meeting times for individual affected person will be made known.

At such durbars, the VRA procedure for acquisition of RoW and payment of compensation will be outlined as set out under section 3.0 of this report.

When all parties for compensation of lost assets have reached agreements on options, all parties involved will sign an undertaking.

### 9.2.2 Individual level

Consultations will be held with individual PAP as per the schedule of meetings outlined at the village level durbars. Such meetings would be held either in the chiefs' palace or the affected persons home. PAPs may be assisted by whomever they wish including assembly members, family members or legal counsel,

The proposed compensation for the property will be set out in detail. In order to expedite the process and where appropriate, land compensation will be discussed together with compensation for all other lost assets such as crops and buildings.

### 9.2.3 VRA's overall policies and procedures for land acquisition and compensation

(a) **Identification of affected area** - the areas of land required for such projects are delineated on a map, and an initial route survey undertaken by the VRA to identify affected communities and assess land use.

(b) **Consultation with local communities** – consultation are undertaken with all the communities located within the vicinity of the line to sensitise them to the proposed project, explain the need for acquisition of the land for the RoW and the compensation procedures for land/buildings that will be affected.

(c) **Notification of compulsory acquisition** – a notice of compulsory acquisition is published by the VRA in the national dailies.

(d) **Land/Building Valuation Survey and Reporting** – this involves the following key stages:

The undertaking of a land/building valuation survey and associated reporting by representatives from both the VRA and the Land Valuation Board (LVB).

One or two days before the valuation survey, the Chiefs of the respective communities to be visited are informed so that they can, in turn, inform the farmers in their stool land of the intention to undertake the valuation, the timing of the survey and the requirement for their participation.

For the survey itself, the survey team meets the farmers on their respective farms so that a detailed crop count can be undertaken and the farmer can be photographed on their farmland. The compensation payment has been devised to accommodate for future loss of income and includes an allowance for the age of plants, future potential crop income, and in the instance of permanent loss of land, a factor for the value of the land.

The farmer, the LVB and the VRA agree on the crops/building(s) to be compensated in the field. A written receipt is subsequently provided to the farmer, who in turn has to provide three passport photos that are used for identification when compensation monies are paid.

The LVB is responsible for the initial drafting of the valuation report, which has to be reviewed and approved by the VRA prior to payment of the compensation monies.

(e) **Payment of compensation** - Usually compensation is not paid until the valuation report is finalised, however, with previous projects, this has resulted in considerable delays. VRA new measures are to produce an interim valuation report from which 50% of the estimated compensation payment can be made before the line is operational.

The remaining balance of compensation monies is then paid on finalisation of the LVB/VRA valuation report. Compensation is paid via a Bankers Draft in the nearest Ghana Commercial Bank.

(f) **Dispute resolution** – Presently, disputes over compensation and resettlement measures may be raised by Property Affected Persons (PAPs) informally with local notables or VRA staff or, failing resolution at the informal community level, formally with the Commission for Human Rights and Administrative Justice (CHRAJ) and, ultimately, the courts.

Most questions have involved questions over the physical inventory counts. Although the field counts are generally accurate, some economic assets may be overlooked during the field inspection. Such oversights are typically brought to the attention of the VRA staff, either the representative from the Real Estate Department or from the project staff, and the VRA representative verifies the validity of the complaint, and corrects the official count accordingly.

Disputes have arisen in other projects, usually when a transmission line crosses a commercial plantation. In such instances, the plantation owner engages an independent Valuer to assess the value of the crops affected and submits the independent assessment to VRA for its consideration. By law, VRA is obligated to reimburse this cost. The majority of such cases centre on the age and cultural quality of the affected crop. Average unit prices are usually acceptable when the plantation is older and yields are declining; these unit prices may be disputed, however, when the plantation is reaching maturity and yields are increasing. VRA, in consultation with the LVB, decides each instance on a case-by-case basis.

To systematize its current informal process of grievance redress, VRA now intends to institute local-level grievance committees that can attempt to resolve the issues, and, if unsuccessful, will forward the grievance to VRA for resolution. The local-level committee will consist of: the village chief, the Unit Committee Member (or Assemblyman), and a representative elected from the PAPs. VRA will provide each committee a grievance registration form in order to standardize the records, and provide a tracking system for dispute resolution. These committees will be in place in time to register any complaints over the final compensation payments. The committees will also be responsible for hearing and, if necessary, forwarding claims for construction damages.

The committees are expected to:

- Record any grievance from PAPs on the prescribed grievance registration form
- Investigate, on the first hand, the grievance of the PAP
- Document effectively, the nature of complaint, plot affected, when affected, nature of damage (whether through access roads, felling of trees, within the main transmission line corridor, etc.) and the nearest tower locations and who such PAPO shares boundaries with
- Forward such complaints to the Project Implementation Staff within a month from the date of the complaint
- Investigate with the aggrieved PAP, the PAPs who share boundaries with such a person to verify the authenticity of such claims. If proven to be true or otherwise, the necessary action is to be taken to ensure that such PAPs are paid within two weeks.

VRA will maintain a log of complaints at headquarters, with a monthly summary of complaints outstanding compiled at month's start (new complaints received, complaints resolved, and complaints not resolved but over three months old). The summary will be provided monthly to VRA management, who will take up the issues raised in old complaints (i.e., those in contention for three months or more).

### **9.3 Payment of compensation to PAPs**

The RoW will be divided into seven (7) segments that will coincide with the seven (7) administrative districts to be traversed by the transmission line route. Compensation will be paid when all transactions are agreed upon for each segment of the line route prior to the actual commencement of the constructional works.

## 10.0 MANAGEMENT OF ARCHAEOLOGICAL AND CULTURAL PROPERTY

The field surveys undertaken by the environmental consultants and consultations with the chiefs and people of the communities within the project-affected area did not identify any sites of archaeological interest along the proposed transmission line route.

### 10.1 Affected cultural properties

The following cultural properties will be affected by the implementation of the project:

- Two shrines at Ahorlikope in the Akatsi district in the Volta region
- A shrine at Adonokope in the Akatsi district of the Volta region
- A cemetery located at Adetsewui in Akatsi district of the Volta region
- Two shrines located at Tadzevu-Kasu in the Ketu district

### 10.2 Mitigation

In our consultations, the chief of Adonokope (Divisional chief of Live) indicated that it is possible to relocate the shrines in Ahorlikope and Adonokope on condition that certain pacification rites are performed. In addition the traditional rulers also indicated the possibility of paying a lump sum of hundred million cedis (¢100 m) (US\$10,870) for Ahorlikope and ten million cedis (¢10 m) (US\$1,087) for Adonokope. A lump sum of thirty million cedis (¢30m) (US\$3,261) must also be paid for the cemetery at Adetsewui. A lump sum of forty million cedis (¢40m) (US\$4,348) must be paid for the shrines in Tadzevu-Kasu.

### 10.3 Archaeological and cultural chance finds

Although the works for the transmission line will not involve much earthmoving, it is possible to make archaeological and cultural chance finds during the constructional phase of the project. Such finds may be the following:

- Archaeological heritage which may have remained unnoticed in the past
- Sites of cultural significance such as sacred woods or trees or rock outcrops which the local residents may have not mentioned at the survey stage

Consultations with the Museums and Monuments Board have been carried out in connection with any historical or archaeological chance finds. The following procedure, which is derived from the National Museum Decree 1969, (NLCD 387), for dealing with all such finds will be followed:

Upon the discovery of any such chance finds:

- i. The Director of the Ghana Museum and Monuments Board shall be notified immediately in writing, stating the exact site or location of the item. The letter shall include adequate photographs of the antiquity.
- ii. VRA shall permit and facilitate such access to, and inspection of the site of discovery as the Director may so require. VRA shall also permit to be affixed or applied thereto, any seal or identification mark of the board.
- iii. VRA 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 immediately necessary for safety or security reasons, the exact location shall be noted and the retrieved artifacts shall be sent to the custody of the Board.

- iv. Through liaising with the Board, the lawful owners of the land shall be duly informed and where necessary, payment shall be made by the Board after due assessment.
- v. Further decisions with respect to site sampling or further excavation shall be under the jurisdiction of the Board.

**11.0 PAYMENT PROCEDURE**

When all parties for compensation of lost assets have reached agreements on options, all parties involved will sign an undertaking.

Payments of all amounts more than ₺1.5m (US\$163) will be made by cheque. Payments up to ₺1.5m will be by cash. A representative of VRA and the PAPs will sign receipt for payment.

## 12.0 ORGANISATIONAL FRAMEWORK

The organisation of the compensation will be based on the framework presented below.

In accord with the Volta River Development Act, 1961, The Volta River Authority is responsible for the acquisition of land, including compensation of landowners, necessary for performance of its mandated activities. In addition, the Land Valuation Board (LVB) is legally responsible for issuing inventories of assets to be taken (the Form F), establishing compensation rates and determining compensation amounts for each PAP. For this reason, VRA collaborates with LVB in the asset inventory and verifies the LVB determination of compensation amounts.

Within VRA, the Engineering Department plans the alignment of the transmission line and surveys the prospective line. About the same time, the Environment Department commissions an Environmental Impact Assessment (EIA) to identify critical environmental and social issues.

Once the topological survey has been completed, the Engineering Department provides the Real Estate department (VRA/RE) a copy of the topographical map. The Real Estate department then conducts a field survey to inventory the plots and structures that will be affected by the proposed alignment and infrastructure. VRA/RE conducts this inventory in collaboration with regional representatives of the Land Valuation Board (LVB) and the affected persons. The VRA/RE and LVB inventories are reconciled, and, in principle, LVB issues to each PAP a legal registry of assets lost (Form F). The assets affected are then valued by both VRA and LVB on the basis of the LVB unit cost list, so that VRA can verify the LVB determinations. Once VRA and LVB agree on compensation amounts, VRA/RE issues an offer of compensation to each affected person. VRA/RE then provides the individual agreements to the VRA Finance Department, which writes the cheques on the corporate account. At scheduled community meetings, VRA/RE distributes the cheques to the PAPs in the presence of local authorities, and collects the Form F from each PAP once compensation has been completed.

VRA/RE works closely with local opinion leaders in the affected communities throughout this process. VRA/RE or its contractors contact local leaders to inform them of the proposed investment, maintain contact with these leaders during the physical asset inventory and valuation, rely on the local leaders for feedback on PAP grievances and unanticipated developments, and involve the leaders in the negotiation and compensation payment process.

In addition, VRA/RE and project construction staff maintains close personal contact with PAPs, listening to concerns, explaining procedures, and recording grievances, among other matters.

### 12.1 VRA staff

The VRA will have a dedicated RAP team under the Director, Real Estate Department located at Pegasus House in Accra. This team is currently in charge of the compensation aspects of all Transmission Line Projects and has therefore gathered some relevant on-field experience regarding compensation.

The team will include an experienced and qualified legal officer, valuation expert and field officers.

**12.2 Witness NGO**

The objective of appointing a Ghana-based witness NGO is to have an independent observer to witness the whole compensation process throughout the duration of the implementation process so as to verify the compliance of the RAP implementation.

The witness NGO should have respectable credentials and be acceptable to the proponent, lenders and the project-affected persons. In addition it should have experience in development projects, especially in rural areas.

**12.2.1 The role of the NGO**

The main role of the witness NGO will be to witness the compliance of the implementation of the Resettlement Action Plan and the commitments made by the VRA in the publicly available Environmental Impacts Statement.

**12.2.2 Terms of reference of the witness NGO**

- Witnessing on the compliance of individual compensation packages agreed upon and commitment to the Resettlement Action Plan
- Witnessing on the actual availability to project-affected persons of in-kind compensations (land, building materials) and their compliance with agreed upon compensation packages
- Contributing in identification of vulnerable project-affected persons
- Witnessing on the on-going consultation process
- Participating as witnesses/observers to significant Resettlement Action Plan activities such as public information meetings, disputes settlement meetings, etc

### 13.0 GRIEVANCE PROCEDURES

Grievance procedures have been put in place with the sole objective of minimizing disputes that may arise in relation to the compensation payments. The mechanisms for dispute reduction are the following:

- Measurements of affected properties were made in the presence of the project-affected persons.
- To verify the positions of common borders neighbouring property owners were consulted for confirmation
- A witness NGO will witness the fairness of the compensation
- Ownership status of farms were settled amicably by the chief during the baseline socio-economic survey stage

#### 13.1 VRA Dispute Resolution Procedures

Presently, Property-Affected Persons (PAPs) may raise disputes over compensation and resettlement measures informally with local notables or VRA staff or, failing resolution at the informal community level, formally with the Commission for Human Rights and Administrative Justice (CHRAJ) and, ultimately, the courts.

Most questions have involved questions over the physical inventory counts. Although the field counts are generally accurate, some economic assets may be overlooked during the field inspection. Such oversights are typically brought to the attention of the VRA staff, either the representative from the Real Estate Department or from the project staff, and the VRA representative verifies the validity of the complaint, and corrects the official count accordingly.

Disputes have arisen in other projects, usually when a transmission line crosses a commercial plantation. In such instances, the plantation owner engages an independent valuer to assess the value of the crops affected and submits the independent assessment to VRA for its consideration. By law, VRA is obliged to reimburse this cost. The majority of such cases centre on the age and cultural quality of the affected crop. Average unit prices are usually acceptable when the plantation is older and yields are declining; these unit prices may be disputed, however, when the plantation is reaching maturity and yields are increasing. VRA, in consultation with the LVB, decides each instance on a case-by-case basis.

To systematize its current informal process of informal redress, VRA now intends to institute local-level grievance committees that can attempt to resolve the issues, and, if unsuccessful, will forward the grievance to VRA for resolution. The local-level committee will consist of: the village chief, the Unit Committee Member (or assemblyman), and a representative elected from the PAPs. VRA will provide each committee a grievance registration form in order to standardize the records, and provide a tracking system for dispute resolution. These committees will be in place in time to register any complaints over the final compensation payments. The committees will also be responsible for hearing and, if necessary, forwarding claims for construction damages.

The committees are expected to:

- Record any grievance from PAPs on the prescribed grievance registration form
- Investigate, on the first hand, the grievance of the PAP
- Document effectively, the nature of the complaint, plot affected, when affected, nature of damage (whether through access roads, felling of trees, within the main

transmission line corridor, etc.) and the nearest tower locations and who such PAP shares boundaries with

- Forward such complaints to the Project Implementation Staff within a month from the date of the complaint
- Investigate with the aggrieved PAP, the PAPs who share boundaries with such a person to verify the authenticity of such claims. If proven to be true or otherwise, the necessary action is to be taken to ensure that such PAPs are paid within two weeks.

VRA will maintain a log of complaints at headquarters, with a monthly summary of complaints outstanding compiled at month's start (new complaints received, complaints resolved, and complaints not resolved but over three months old). The summary will be provided monthly to VRA management, who will take up the issues raised in old complaints (i.e., those in contention for three months or more).

#### 14.0 ASSISTANCE TO VULNERABLE PEOPLE

The field survey did come up with some project-affected people and their dependants who are vulnerable. These were found to be the aged, orphans, widows etc. VRA will further ensure that all such people who may be identified during the construction stage of the project cycle will be specially catered for since it is very possible to miss out on such people during the survey as most of them do not naturally take part in community meetings and so their vulnerability may remain unknown.

For our purposes, people who may be classified as vulnerable are the physically challenged or people suffering from serious illness, the elderly, orphans and widows. They were identified through the household heads.

Measures that will be put in place to ensure that vulnerable people are not marginalized and that the requisite assistance are given will include, but not limited to:

- The identification of all such people at the construction stage of the project
- Identification of the required assistance to each of such project-affected person
- Their compensation is increased by 25%, of the actual figure determined.

As part of the VRA's social responsibility, the type of assistance that will be offered will depend on the level of vulnerability and the special requests by the vulnerable people. Some of the assistance to be made available will include, but not limited to:

- Provision of vehicles for moving, in cases where the vulnerable person will have to move due to the loss of residential accommodation.
- Rural Banks close to the communities in which such vulnerable people are ordinarily resident will be used as conduits for compensation payments instead of the normal commercial banks, which are normally located only in big towns and cities. All such vulnerable people will be aided to open current accounts and will be assisted to cash such cheques at the rural banks
- Assistance in building; providing materials, workforce or building houses

## **15.0 EVALUATION AND MONITORING**

### **15.1 General objectives of evaluation and monitoring**

Evaluation and monitoring are important components of this Resettlement Action Plan. The monitoring and evaluation procedures will have the following general objectives:

- Evaluation of the compliance of the actual implementation with objectives and methods as set out in this document
- Monitoring of specific situations of socio-economic/socio-cultural difficulties arising from the implementation process of the Resettlement Action Plan.

### **15.2 Evaluation**

#### **15.2.1 Evaluation objectives**

The reference documents for the evaluation exercise will be:

- The 1992 Fourth Republican Constitution of Ghana (Article 20)
- World Bank's Operational Policy on Environmental Assessment (OP 4.01)
- World Bank's Operational Directive on Involuntary Resettlement (OD 4.30)
- This Compensation Action Plan
- Volta River Development Act of 1961 (Act 46)
- Lands (Statutory) Wayleaves Act of 1963 (Act 186)
- Volta River Authority (Transmission Line Protection) Regulation of 1967 (LI 542)
- Ghana Land Policy (1999)

The following are the specific objectives of the evaluation exercise:

- Compliance with recommendations and objectives of the compensation action plan
- Compliance with the stated laws, regulations and safeguard policies set out in the action plan
- Assessment of fair, adequate and prompt compensation and the procedures adopted for the process as they have been implemented
- Impact of the project on incomes and standard of living with focus on the 'not worse-off if not better-off' requirements
- Identification of mitigative actions to take to reverse negative impacts and improve on positive ones

#### **15.2.2 Evaluation indicator**

The survey carried for the environmental assessment provided comprehensive information on incomes accruing from the project-affected farms and standard of living, among others, of the project-affected persons. This survey took place in the 3rd quarter of the year 2006.

Even though some overestimation of incomes of project-affected persons may have occurred, with the expectation of bigger compensation amounts, other objective indicators have been included in the questionnaire such as the possession of television and/or radio sets, bicycles, cars and expenditure patterns and eating habits. This would allow for crosschecking of data about standards of living of the project-affected people.

#### **15.2.3 Evaluation methodology**

The following methodology will be adopted for the evaluation exercise:

- Sampling of project-affected persons. This will take into account a representative cross-section of all categories of PAPs.
- At least 10% of the total number of PAPs will be sampled
- A questionnaire will be developed and administered. The same parameters used for the baseline study in the previous socio-economic survey will be used
- The circumstances of vulnerable project-affected persons will be assessed

- The evaluation procedure will include consultation with independent parties such as the witness NGO, District Assemblies, Assembly and Unit Committee members

The first evaluation will take place within six months after completion of the implementation of the project. The last evaluation will then take place eighteen months after completion of the implementation of the project using the same methodologies and indicators.

### **15.3 Monitoring**

Internal Monitoring and Evaluation is the responsibility of project proponents and has to be arranged on regular basis. A monitoring exercise will be carried out to identify affected persons who might get into unforeseen difficulties as a result of the compensation process. It will also provide a safety mechanism and appropriate responses to any such occurrence.

The Real Estate Department of the VRA will be responsible for all issues that will crop up after the implementation of this Resettlement Action Plan. They shall respond to all situations that may be presented to them in relation to the project.

## 16.0 IMPLEMENTATION BUDGET

The estimated total compensation amount due the project-affected-persons is three million, six hundred and fifteen thousand, two hundred and ninety-seven United States Dollars (US\$3,615,297.00).

Financial provision has been made to ensure that mitigation commitments (including compensation), monitoring and training programmes could be effectively implemented. The proponent should make the necessary budgetary provisions to cover all the commitments. In assessing compensation, the open market values were used.

VRA would pay full replacement cost for compensatable assets. Approved estimates by the proponent are provided below:

**Table 4 Estimated cost of compensation**

N°	ITEM	US \$
1	CROPS COMPENSATION	72,786.00
	Estimated constructional damages @ 25%	18,196.50
	Permanent land for towers	173,378.00
	Add-on amounts for vulnerable project-affected persons	12,000.00
2	BUILDINGS/STRUCTURES	2,393,513.00
3	UNDEVELOPED PLOTS FOR RESIDENTIAL PURPOSES	43,478.00
4	ACCESS TRACKS	87,000.00
5	PURIFICATION RITES	14,700.00
6	Contingency allowance of 25% to cater for the effect of probable increases in property values.	634,672.50
7	Professional fees, reimbursement for permits, etc	165,573.00
<b>TOTAL ESTIMATES FOR COMPENSATION</b>		<b>3,615,297.00</b>

### 16.1 VRA's commitment

The Volta River Authority is fully committed to the implementation of this Compensation Plan and agrees to carry out all obligations under this plan.

## Appendix 1 Copy of Scoping notice to be pasted on public notice boards

## SCOPING NOTICE

The Volta River Authority proposes to undertake a project known as the 330 KV Volta – Mome-Hagou (Togo) – Sakete (Benin) Transmission Project (Ghana Side), which consists of the construction of a 330 KV Transmission Line from the Volta Substation at Tema to Lome, Togo. The transmission line, which forms part of the West African Power Pool, will traverse the Tema, Dangbe West, Dangbe East, North Tongu, Akasti, Ketu Districts in the Greater Accra and Volta Regions.

Notice of the proposed 330 KV Volta – Mome-Hagou (Togo) – Sakete (Benin) Transmission Project is hereby served for public information, as required under the procedures for the conduct of EIA in accordance with Regulation 15(1) of LI. 1652.

Any person(s) who have an interest, concern, or special knowledge relating to potential environmental effects of the proposed undertaking may contact or submit such concerns, etc, to:

<p>The Chief Executive Volta River Authority P. O. Box MB 77 Accra Tel No: 021 – 666037 Fax No: 021 - 664705</p>	<p>or</p>	<p>The Executive Director Environmental Protection Agency P. O. Box M 326 Accra Tel No: 664697/8, 708175-9 Fax No: 662690</p>
--	-----------	---

**not later than 30<sup>th</sup> November, 2005.**

**Appendix 2 List of project-affected persons and proposed compensation figures**

**WEST AFRICA POWER POOL PROJECT  
330 KV VOLTA - MOME HAGOU - SAKETE TRANSMISSION LINE**

**COMPENSATION FOR VARIOUS BUILDINGS ON THE CORRIDOR (GHANA PART)**

Item	Name	Area (m2)	Value (¢)	Comments
<b>Tema</b>				
1	Eastern Alloy Co. Ltd	2888	2,382,611,272	Metal frame
2	Arabi car park	465	161,750,000	Unplastered wall
3	Mancell Ware House	510	207,100,000	Plastered wall
4	John Chou	669	323,195,000	Plastered and painted wall
<b>KPONE</b>				
5	Doku	344.72	362,339,454	Sandcrete Block building completed to roofing level, Burglar proofing, Plastering.
6	Stephen Arko	264.15	282,320,283	- ditto -
7	William Nortey	509.60	707,145,236	Sandcrete Block building completed, ceiling, painting, windows/locks
8	Unknown	247.39	51,716,916	Sandcrete Block building at foundation.
9	Adwoa Maahyabi	243.81	51,257,938	Sandcrete Block building at foundation.
10	Harry Afful-Nyann	239.76	280,544,045	Sandcrete Block building almost completed (95%), ceiling, plastering
11	Unknown	263.20	66,473,376	Sandcrete Block building at foundation level, 2 partially erected rooms below lintel
12	Emmanuel Offei Ayisi	72.80	83,005,156	2-Storey Sandcrete Block building, Blockwork for first completed, ceiling, plastering
13	Mrs. Margaret Ahoto	314.36	335,176,565	10 Rooms partially completed blockwork, 4 rooms roofed, 6 not roofed, 4 with windows/doors
14	Florence Narteh	250.90	221,033,525	Sandcrete Block building, blockwork completed to roofing level, 5 rooms. No doors/windows
15	Mrs. Bookie	655.20	136,845,180	Sandcrete Block building at foundation.
16	Agnes Okine	251.10	292,867,074	Blockwork, plywood ceiling, plastering burglar proofing
17	Kwadwo/Kojo Mensah	32.00	45,639,987	2-Roofed conc. structure 4x4
18	Bro Kweku	334.40	118,217,288	Sandcrete Block building at foundation.
19	Martey Lawrence	46.94	83,293,951	2 Bedroom Sandcrete Block building. Completed and
20	Johnson Maduga	203.74	83,293,951	12 Rooms Chamber & Hall type. Completed and

Item	Name	Area (m2)	Value (¢)	Comments
21	George Batsa (Care taker)	484.00	683,509,905	5-Bedroom House completed and occupied
22	Ghana Medical Association		400,000,000	20 No. Demarcated Plots - Undeveloped
23	Savannah Salt (Yaw Gyasi)	14 No.	6,652,800,000	Developed Salt Ponds
<b>DAWHENYA/PRAMPAM</b>				
24	John Harris Salt Industries Ltd	340.40	274,191,317	6 Rooms completed to Roofing level
<b>CAESARKOPE</b>				
25	Caesar Mensah	214.50	108,913,671	Sandcrete Block building, blockwork to lintel.
26	Kuma Mensah	293.37	152,069,469	Sandcrete Block building, blockwork to lintel. Door and window frames fixed
27	Teacher's Bungalow	46.94	75,293,951	2 Bedroom Sandcrete Block building. Completed and occupied.
28	School Building Caesar Kope	293.37	353,011,542	6 Classroom sandcrete Block. Completed to lintel level.
29	Unknown	17.42	14,380,075	1-bedroom mud house complete
30	Agric Officer	105.30	165,950,000	2-Bedroom Sandcrete Block building. Completed and occupied.
31	Joshua Caesar	64.66	45,509,266	Corn Mill House
<b>KEBENU</b>				
32	School Building Kebenu	380.00	260,188,866	3-Classroom sandcrete block with office and store. Completed to lintel level and
33	E.P. Church	380.00	12,500,000	Thatched Shed
34	2 Bedroom Kebenu	86.27	128,326,569	2 Bedroom Sandcrete Block building with boys' quarters and bathroom
35	2 Bedroom Kebenu	86.27	128,326,569	2 Bedroom Sandcrete Block building with boys' quarters and bathroom
36	2 Bedroom Kebenu	86.27	128,326,569	2 Bedroom Sandcrete Block building with boys' quarters and bathroom
37	2 Bedroom Kebenu	86.27	128,326,569	2 Bedroom Sandcrete Block building with boys' quarters and bathroom
38	3 Bedroom Kebenu	106.91	156,157,569	3 Bedroom Sandcrete Block building with boys' quarters and bathroom
39	3 Bedroom Kebenu	106.91	156,157,569	3 Bedroom Sandcrete Block building with boys' quarters and bathroom
40	Francis Aho	23.04	25,850,262	2 Bedroom Mudhouse. Completed
41	Francis Aho	30.07	30,076,276	3 Bedroom Mudhouse. Completed

Item	Name	Area (m2)	Value (¢)	Comments
42	Midawa Sowlada	48.14	29,629,444	3 Bedroom Mudhouse. Completed
43	Midawa Sowlada	48.14	29,629,444	3 Bedroom Mudhouse. Completed
44	Michael Kwesi Dodo	38.11	25,957,788	3 Bedroom Mudhouse. Completed
45	Michael Kwesi Dodo	22.08	20,086,800	2 Bedroom Mudhouse. At Foundation
46	Christian Dodo	30.98	23,346,425	2 Bedroom Mudhouse with kitchen. Completed
<b>AVEYIME RICE PROJECT</b>				
47	Aveyime Rice	86.27	128,326,569	2 Bedroom sandcrete house with boys' quarters and a bathroom. Completed
48	Aveyime Rice	86.27	128,326,569	2 Bedroom sandcrete house with boys' quarters and a bathroom. Completed
49	Aveyime Rice	86.27	128,326,569	2 Bedroom sandcrete house with boys' quarters and a bathroom. Completed
50	Aveyime Rice	86.27	128,326,569	2 Bedroom sandcrete house with boys' quarters and a bathroom. Completed
51	Aveyime Rice	106.91	156,157,569	3 Bedroom sandcrete house with boys' quarters and a bathroom. Completed
52	Aveyime Rice	106.91	156,157,569	3 Bedroom sandcrete house with boys' quarters and a bathroom. Completed
<b>KOLUEDOR</b>				
53	Doku Kweiyartey	60.22	34,055,575	Mud main house, Kitchen and bathroom all complete
<b>ADONORKOPE</b>				
54	Johnson Kofi Gawu	252	46,000,000	Fence Wall (2100mm high)
55	Yaw Gawu	54.4	196,616,915	6 No.2 Bedroom sandcrete block house unroofed
56	Efu Zidah	38.11	37,915,575	2No. Mud house, thatched roof complete
57	Efu Zidah	54.8	92,200,000	2 Bedroom sandcrete block house complete
58	Efu Zidah	54.8	103,994,549	3 No.2 Bedroom sandcrete block house unroofed
59	Kwajovi Anyanã	9	13,296,250	Mud Shrine house
<b>AHORLIKOPE</b>				

Item	Name	Area (m2)	Value (¢)	Comments
60	Ahorli Awuleshie	38.11	23,957,788	Mud house, thatched roof complete
61	Patience Edo	38.11	37,915,575	2No. Mud house, thatched roof complete
62	Ahorli Huanyawor	38.11	37,915,575	2No. Mud house, thatched roof complete
63	Albert Ahorli	38.11	37,915,575	2No. Mud house, thatched roof complete
64	Emmanuel Ahorli	54.4	41,102,819	2 Bedroom sandcrete block house unroofed
65	Wilson Ahorli	38.11	65,831,150	4No. Mud house, thatched roof complete
66	Stephen Sefodzi	38.11	93,746,725	6No. Mud, thatched roof complete
67	Stephen Sefodzi	54.4	91,600,000	2 Bedroom sandcrete block house complete
68	Francis Ahorli	54.4	336,400,000	4No. 2 Bedroom sandcrete block house complete
69	Eklu Ahorli	54.4	173,200,000	2No. 2 Bedroom sandcrete block house complete
70	Manekpo Ahorli	54.4	91,600,000	2 Bedroom sandcrete block house complete
71	Manekpo Ahorli	38.11	51,873,363	3No. Mud house, thatched roof complete
72	Manekpo Ahorli	38.11	65,831,150	4No. Mud house, thatched roof complete
73	Manekpo Ahorli	54.4	91,600,000	2 Bedroom sandcrete block house complete
74	Wilson Ahorli	9	53,296,250	Mud Shrine house
75	Wilson Ahorli	9	53,296,250	Mud Shrine house
<b>TSIEVI</b>				
76	Leonard Ackumey	54.4	826,000,000	10No. 2 Bedroom sandcrete block house complete
77	Vincent Ackumey	54.4	173,200,000	2No. 2 Bedroom sandcrete block house complete
78	Bishop Anthony Adanuty	84	22,000,000	Fence Wall (2100mm high)
<b>KALEKOFI</b>				
79	Hope Edzifome	38.11	23,957,788	Mud house, thatched roof complete
<b>ADZETSEWUI AKATSI</b>				
80	Dovi Ahamah	83.74	110,714,129	5No. Room (Sandcrete block) not painted
81	Dovi Ahamah	9.00	9,888,750	Mud house, thatched roof complete
82	Stephen Atiango	17.86	7,277,252	To lintel level
83	Agbotadua Amegbletor	17.86	31,166,072	4-Room mud house
84	Prosper Kumator	17.86	18,083,036	2-Room mud house
85	Nyagavi Ahamah	17.86	9,554,504	2-Room mud house at lintel
<b>TADZEWU-KASU</b>				

Item	Name	Area (m2)	Value (¢)	Comments
86	Boko Afonofe	17.86	31,166,072	4-Room mud house
87	Boko Afonofe	9.00	14,888,750	1-kitchen, 2-shrines mud buildings
<b>TADZEWU-AKPADZRAKOPE</b>				
88	Akpadzra Cephase	17.86	31,166,072	4-Room mud house
89	Akpadzra Cephase	9.00	3,296,250	1-Room kitchen
90	Raphel Nanewortor	15	8,190,000	Akpeteshi Distillery Shed
<b>Total Compensation (Cedis) (Volta Substation - Dzodze) 125 km</b>			<b>20,501,673,282</b>	
<b>DZODZE - BORDER (10 KM)</b>				
<b>PRORPORTIONATE ESTIMATE FOR REMAINING UNCLEARED 10 KM OF CORRIDOR</b>			<b>1,518,642,465</b>	
<b>TOTAL ESTIMATED COMPENSATION (CEDIS)</b>			<b>22,020,315,747</b>	
<b>TOTAL ESTIMATED COMPENSATION (DOLLARS)</b>			<b>2,393,513</b>	

**WEST AFRICA POWER POOL PROJECT  
330 KV VOLTA - MOME HAGOU - SAKETE TRANSMISSION LINE**

**COMPENSATION FOR VARIOUS FARMERS ON THE CORRIDOR (GHANA PART)**

AP/WAPP NO.	COMMUNITY	NAME OF FARMER	CROPS	WIDTH (m)	LENGTH (m)	AREA (HA)	VALUE (CEDIS)
19-20	KPONE	Unknown	Okro	40	156.8	0.63	1,254,400
19-20		Regina Teimie Tetteh	Okro	40	39.0	0.16	312,000
19-20		Abloshie	Okro	40	44.5	0.18	356,000
19-20		Unknown	Okro	40	73.4	0.29	587,200
19-20		Unknown	Okro	40	19.7	0.08	157,600
19-20		Maku Kojo	Okro	40	33.0	0.13	264,000
20-21		Unknown	Okro	40	97.1	0.39	776,800
20-21		Unknown	Maize	40	17.5	0.07	315,000
20-21		Unknown	Okro	40	19.0	0.08	152,000
20-21		Unknown	Okro	40	106.0	0.42	848,000
20-21		Jokoo	Okro	40	23.4	0.09	187,200
20-21		Dede Kofikmah	Maize/Okro	40	21.1	0.08	464,200
20-21		George T Ghanaboy	Okro	40	17.2	0.07	137,600
20-21		Unknown	Okro	40	22.0	0.09	176,000
20-21		Unknown	Okro/Maize	40	36.8	0.15	809,600
20-21		Unknown	Okro	40	12.5	0.05	100,000
20-21		Unknown	Okro	40	14.0	0.06	112,000
21-22		Unknown	Okro	40	90.0	0.36	720,000
21-22		Unknown	Okro	40	24.2	0.10	193,600
21-22		Unknown	Okro	40	34.0	0.14	272,000
21-22		Unknown	Okro/Pepper	40	26.0	0.10	312,000
21-22	Unknown	Okro	40	19.0	0.08	152,000	
21-22	Unknown	Okro/Maize	40	13.5	0.05	297,000	
21-22	Gladys Padi	Pepper/Okro	40	33.2	0.13	398,400	
21-22	Kai Tei	Okro	40	49.0	0.20	392,000	
21-22	Kokor Tei	Okro	40	22.7	0.09	181,600	
21-22	Kokor Tei	Okro	40	29.8	0.12	238,400	
21-22	Dede Sackey	Pepper/Okro	40	47.9	0.19	574,800	
21-22	Amoeko Narteh	Okro	40	34.1	0.14	272,800	
22-23	DAWHENYA	Unknown	Okro	40	29.5	0.12	236,000
22-23		Unknown	Okro	40	39.2	0.16	313,600
22-23		Unknown	Okro/Pepper	40	114.0	0.46	1,368,000
22-23		Unknown	Okro	40	39.2	0.16	313,600
22-23		Unknown	Okro	40	107.0	0.43	856,000
22-23		Unknown	Okro	40	129.4	0.52	1,035,200
22-23		Unknown	Okro	40	184.3	0.74	1,474,400
22-23		Unknown	Okro	40	31.5	0.13	252,000
22-23		Unknown	Okro	40	19.0	0.08	152,000
22-23		Unknown	Okro	40	88.0	0.35	704,000
22-23		Unknown	Pepper/Okro	40	39.0	0.16	468,000
23-24		Unknown	SAVANNAH SALT CO. LTI	40			
			Millicent Kofi	Okro	40	54.0	0.22
		Dodo Nartey	Okro/Maize	40	75.0	0.30	1,650,000
		Yaw Gyasi	Savannah Salt	40			
	BUNDASE	Musa Nyemetei	Pepper/Maize	40	330.0	1.32	7,260,000
		Shaibu Sodji	Pepper/Maize	40	160.0	0.64	3,520,000
		Chasu Ayiku	Pepper/Maize	40	140.0	0.56	3,080,000
		Kadili Agborkey	Pepper/Maize	40	120.0	0.48	2,640,000
		Daniel Akutei Kuabla	Pepper/Maize	40	87.0	0.35	1,914,000
		Ebenezer Akutei	Pepper/Maize	40	95.0	0.38	2,090,000
		Dugbatey Ayeta	Pepper/Maize	40	75.0	0.30	1,650,000
		Samuel Akutei	Pepper/Maize	40	65.0	0.26	1,430,000
		Joseph Naah Akutei	Pepper/Maize	40	56.0	0.22	1,232,000
		Korkor Appenteng	Pepper/Maize	40	45.0	0.18	990,000
		Akayoe Akutei	Pepper/Maize	40	65.0	0.26	1,430,000
	Teye Akuteye	Pepper/Maize	40	47.0	0.19	1,034,000	
			40				
53	BUERKO	Akwaley Nagodey	Pep, Tom, Cass	40	244.0	0.98	2,928,000
53		Evans Tetteh	Pepper	40	96.0	0.38	768,000
53		Tetteh Odonkor	Pepper	40	63.0	0.25	504,000
54		Osabutey Welbeck	Pepper, Toma	40	202.0	0.81	2,828,000
54		Kwetsey Badu	Pepper	40	20.0	0.08	160,000
54		John Tei Tawiah	pepper	40	98.0	0.39	784,000
54		Rose Tawiah	Pepper	40	68.0	0.27	544,000
54		Joyce Boafo	pepper	40	88.0	0.35	704,000
55		Joyce Tawiah	Pepper	40	20.0	0.08	160,000
55		Gladys Agbodekah	Pep, Okro, Tom	40	80.0	0.32	1,120,000
60	SAGLEMI	Nane Adjeletse	Pepper	40	8.2	0.03	65,600
60		Marku Adjeletse	Pepper	40	100.0	0.40	800,000
60		Afiyoo Banahene	Pepper, Okro	40	104.0	0.42	1,248,000
60		Daavi Obron	Pepper, Toma	40	127.0	0.51	1,778,000
60		Joeseeph Narh Akutei	Okro, Melon	40	100.0	0.40	1,400,000
60-61		Unknown	Pepper	40	9.0	0.04	72,000
		Unknown	Pepper	40	450.0	1.80	3,600,000
61		David Akutei	Pepper	40	33.3	0.13	266,400
61		Akuyoobi Akutei	Pepper, Toma	40	112.0	0.45	1,344,000
61-62		Unknown	Pepper	40	50.0	0.20	400,000
	Unknown	Pepper	40	70.0	0.28	560,000	
	Unknown	Pepper	40	69.0	0.28	552,000	
62	Teye Akutei	Cassava	40	29.0	0.12	190,820	
63	Daniel Akutei	Pepper	40	155.0	0.62	1,240,000	

API/WAPP NO.	COMMUNITY	NAME OF FARMER	CROPS	WIDTH (m)	LENGTH (m)	AREA (HA)	VALUE (CEDIS)
63-64		Unknown	Cassava	40	73.8	0.30	485,604
64		Shaibu Shodji	Melon,Cas,Okro	40	207.0	0.83	3,063,600
64-65		Unknown	Cassava	40	88.0	0.35	579,040
		Unknown	Cassava	40	78.0	0.31	513,240
65		Kadlii Agborke	Cassava	40	92.0	0.37	605,360
65		Illiasu Ayiku	Melon,Cass	40	100.0	0.40	1,440,000
66		Abdul Ramani Ayiku	Okro,Cassava	40	51.0	0.20	550,800
65-66		Unknown	W. Melon	40	150.0	0.60	1,500,000
67	DAWA	Samuel Auman	Pepper	40	110.0	0.44	880,000
67-68		Unknown	Pepper	40	125.0	0.50	1,000,000
68-69		Unknown	Pepper	40	11.0	0.04	88,000
		Unknown	Cassava	40	32.2	0.13	211,876
68		Nartey Auman	Pepper	40	14.0	0.06	112,000
68		Teyebi Oman	Melon,Maize,toma	40	52.0	0.21	1,248,000
68		C.D. Oman	Melon	40	94.0	0.38	940,000
69		E.T Oman	Cass, Maize,Pepper	40	182.0	0.73	4,076,800
70		Yaro Salifu Ali	Maize	40	32.5	0.13	585,000
70		Doku Kwayarthey	maize,Beans,pep,Toma	40	123.5	0.49	2,865,200
73		King Bobo Ibrahim	Pep,okro,cas	40	153.0	0.61	2,203,200
73		Ohienobi Teye	Maize,cas,pep	40	31.1	0.12	696,640
74		Mamle Ameyaw	cahew,pep,okro	40	150.0	0.60	2,100,000
74		John Ameyaw	Pep,cas,okro	40	100.0	0.40	1,440,000
74		Comfort Aku-Narh	pep,cas	40	57.5	0.23	621,000
75		Larkwei Adamo	Pepper	40	38.0	0.15	304,000
75		Samuel Ametepe	Pep,Toma,cass	40	74.6	0.30	805,680
75		kwei Akorli	Pepper	40	80.0	0.32	640,000
				40			
69-70		Unknown	Maize	40	50.0	0.20	900,000
		Unknown	Cassava Pepper	40	25.0	0.10	270,000
70-71		Unknown	Maize	40	36.0	0.14	648,000
		Unknown	Maize	40	43.0	0.17	774,000
86 - 87	SEGE	Seth Cudjoe	Tomatoes/pepper	40	156.0	0.624	2,184,000
86 - 87		Daniel cudjoe Donu	Tomatoes/pepper	40	75.0	0.3	1,050,000
86 - 87		Agbovi Sakato	Pepper/Okro	40	70.0	0.28	840,000
87 - 88		Dotse Agbovi	Cassava/pepper	40	52.0	0.208	561,600
87 - 88		Apostolic Faith Church	Pepper	40	53.0	0.212	424,000
88 - 89		David Wusah	Pepper	40	36.0	0.144	288,000
94 - 97	KOLUEDOR	Dominic O. Klopka	Tomatoes	40	83.0	0.332	830,000
94 - 97		Unknown	Melon,Cass	40	82.0	0.328	1,180,800
94 - 97		Unknown	Melon	40	20.0	0.08	200,000
94 - 97		Unknown	Cass	40	18.0	0.072	118,440
94 - 97		Jonas Klopka	pep.tomatoes	40	96.7	0.3868	1,353,800
94 - 97		Vivian Agokatse	Tomatoes	40	67.9	0.2716	679,000
94 - 97		Abaa Nii	Cass	40	42.0	0.168	276,360
94 - 97		Robert Klopka	Tomatoes	40	94.7	0.3788	947,000
94 - 97		Mensah Klopka	cass, Tomatoes	40	75.0	0.3	960,000
94 - 97		Yaw Anthony Klopka	Okro, Tomatoes	40	157.3	0.6292	2,013,440
94 - 97		Tepe Klopka	Melon.tomatoes	40	27.0	0.108	345,600
94 - 97		James Amedor	maize.tomatoes	40	50.0	0.2	1,000,000
94 - 97		Israel Baako	Pepper	40	47.0	0.188	376,000
94 - 97		Christian klopka	Tomatoes	40	73.0	0.292	730,000
94 - 97		Rebecca Foketo	pep.tomatoes	40	67.0	0.268	938,000
94 - 97		Comort Agbele	Maize, Tom, cass	40	103.0	0.412	2,266,000
94 - 97		Unknown	W. Melon	40	50.0	0.20	500,000
94 - 97		Unknown	Tomato	40	25.0	0.10	250,000
94 - 97		Unknown	Tomato	40	75.0	0.30	750,000
94 - 97		Unknown	Cassava	40	75.0	0.30	493,500
94 - 97		Unknown	Tomato	40	259.4	1.04	2,594,000
94 - 97		Unknown	Tomato	40	25.0	0.10	250,000
94 - 97		Unknown	Tomato	40	67.5	0.27	675,000
94 - 97		Unknown	Tomato	40	168.0	0.67	1,680,000
94 - 97		Unknown	Tomato	40	49.0	0.20	490,000
94 - 97		Unknown	Tomato	40	65.1	0.26	651,000
97-98	ASIBEYKOPE	Unknown	Pepper	40	15.0	0.06	120,000
		Unknown	Pepper/ Tomato	40	65.0	0.26	910,000
		Unknown	Tomato	40	110.0	0.44	1,100,000
		Unknown	Tomato	40	81.0	0.32	810,000
98-99		Unknown	Tomato	40	104.0	0.42	1,040,000
		Unknown	Tomato/ Pepper	40	211.0	0.84	2,954,000
		Unknown	Cassava	40	35.0	0.14	230,300
		Unknown	Pepper	40	125.0	0.50	1,000,000
99-100	CEASARKOPE	Unknown	Tomato/ Cassava	40	50.0	0.20	640,000
		Unknown	Cassava	40	33.0	0.13	217,140
		Unknown	Tomato	40	17.0	0.07	170,000
		Unknown	Tomato	40	149.5	0.60	1,495,000
		Unknown	Cassava	40	17.0	0.07	111,860
		Unknown	Tomato/ Cassava	40	59.0	0.24	755,200
		Unknown	Tomato/ Cassava	40	50.0	0.20	640,000
		Unknown	Tomato	40	87.4	0.35	874,000
		Unknown	Cassava	40	31.0	0.12	203,980
		Unknown	Cassava	40	63.9	0.26	420,462
100-101		Unknown	Cassava	40	57.0	0.23	375,060
		Unknown	Pepper/ Tomato/ Cassava	40	117.0	0.47	1,404,000
		Unknown	Pepper	40	25.0	0.10	200,000
		Unknown	Cassava	40	45.0	0.18	296,100
		Unknown	Tomato	40	22.5	0.09	225,000
		Unknown	Cashew	40	88.7	0.35	1,447,584
100		James Tugah	cass, Tomatoes	40	86.3	0.35	1,104,640
103		Ofori Amesi -Ameku	pepper	40	77.4	0.31	619,200

API/WAPP NO.	COMMUNITY	NAME OF FARMER	CROPS	WIDTH (m)	LENGTH (m)	AREA (HA)	VALUE (CEDIS)
103		Richard Amesi-Ameku	pepper	40	42.1	0.17	336,800
103		Kaki Ceasar	Toma,Pepper	40	53.7	0.21	751,800
104		Unknown	Toma,Pepper	40	12.6	0.05	176,400
104		Unknown	Cassava	40	12.7	0.05	83,566
104		Unknown	Tomatoes	40	8.0	0.03	80,000
104		Doris tugah	cass, Tomatoes	40	44.5	0.18	569,600
104		Kwasi Aduduaji	cassa, Tomatoe	40	34.0	0.14	435,200
105		Akwafo Ceasar	cassava	40	19.0	0.08	125,020
105		Joley Kubi	Cassava	40	13.5	0.05	88,830
105		Akpeley Kubi	cassava	40	52.7	0.21	346,766
105		Noah Foh	Maize, Toma	40	95.3	0.38	1,219,840
105		Noah Omeku	Cass, tomatoes	40	19.0	0.08	243,200
105		Adjesiwor Ceasar	cass, Tomatoes	40	71.7	0.29	917,760
105		Elisha Okutei	Tomatoes	40	73.7	0.29	737,000
106		Daniel Peseku	Cass, okro	40	61.3	0.25	662,040
106		Ameyor Wutor	cassava	40	34.0	0.14	223,720
106		Noah Ceasar	Toma, maize	40	55.7	0.22	1,114,000
106		Unknown	Toma, maize	40	49.2	0.20	984,000
		Joshua Boye Agbashie	Crops/Livestock	40			500,000
107	ASSIBEYKOPE-DOGOBOM	Abebey Assibey	Tomatoes	40	9.6	0.04	96,000
107		Mutter Aditsre	Pepper	40	52.0	0.21	416,000
107		Daniel Larweh Tei	cass,pepper	40	83.0	0.33	896,400
107		Ernest Larweh Tei	Tomatoes	40	61.5	0.25	615,000
107		Kofi	Cocoba Leaves	40	9.0	0.04	90,000
107		Attei Koley	Tomatoes	40	51.0	0.20	510,000
107		Fati Akplenye Tsuasam	Toma,Pepper	40	48.6	0.19	680,400
107		Nii Taki Thomas	Toma,Pepper	40	57.0	0.23	798,000
107		Agu Yoo Taki	Pepper	40	20.7	0.08	165,600
107		Dafa Taki	pepper	40	28.4	0.11	227,200
107		Agbosi Taki	Pepper, Toma	40	44.2	0.18	618,800
107		Joshua Boi Agbashi	Toma,maize	40	36.8	0.15	736,000
107		Giftu Tsuasam	Toma,maize	40	47.0	0.19	940,000
108		William Tsuasam	Toma,ma,pep	40	181.0	0.72	3,982,000
108		Fausti Tsuasam	Pepper, Toma	40	84.0	0.34	1,176,000
108		Stephen Tsuasam	Cass, Toma	40	23.0	0.09	294,400
108		Ametepe Tsuasam	Crop/Livestock	40			500,000
108		Nii Tachie Thomas	Crop/Livestock	40			500,000
109		Tei Kweitey	Pepper, Toma	40	176.0	0.70	2,464,000
109		Deborah Medzi	Tomatoes	40	16.4	0.07	164,000
109		John Kweitey	pepper	40	14.4	0.06	115,200
109		Emmanuel Senaya	Tomatoes	40	74.0	0.30	740,000
114	KPOTAME/KASANGBLEKPO	Tomothy Egbenya	Pepper/Cassava	40	256.1	1.02	2,765,854
		Ben Egbenya	Cassava/Maize	40	160.1	0.64	3,329,268
		Mansa Amedoadzi	Caessava/Maize	40	160.1	0.64	33,293
		Magaret Dogli Sam	Mai/Gnut/Bea/Cas	40	224.1	0.90	5,019,512
		Ayitey Mensah Sam	Cassava/Maize	40	160.1	0.64	3,329,268
		James Agbee Ademah	Cassava/Pepper	40	192.1	0.77	2,074,390
112		Obroni Gamor	Cassava/Maize	40	192.1	0.77	3,995,122
		Nana Atsu	Cashew/Cassava	40	192.1	0.77	3,902,927
		Mercy Adzrao	Cassava/Maize	40	128.0	0.51	2,663,415
		Alex Agbezemhlor	Cassava/Maize	40	128.0	0.51	2,663,415
		Akune Bosu	Cassava/Mango	40	128.0	0.51	1,002,366
		Akorli Sogblenu	Cassava/Maize	40	256.1	1.02	5,326,829
		Minawa Ferlo	Cassava/Vegetables	40	64.0	0.26	768,293
		Malo Yatuor	Cassava/Gnut	40	192.1	0.77	2,689,024
113		Afi Nutsi	Cassava/Maize	40	128.0	0.51	2,663,415
		Emmanuel Dameh	Okro/Cass/Maize	40	192.1	0.77	4,148,780
		John K Lukutor	Pep/Cas/Maize	40	256.1	1.02	5,736,585
		Olivia Konu	Cas/Pep/Maize	40	256.1	1.02	5,736,585
		Ahebge Adzokatse	Cas/Pep/Maize	40	192.1	0.77	4,302,439
		Vidogo Gamor	Cas/Pep/Maize	40	256.1	1.02	5,736,585
113	KPOTAME/KPORDIWLOR	Ben Konu	Cassava/Maize	40	256.1	1.02	5,326,829
		Paul Konu	Pepper/Maize	40	256.1	1.02	5,634,146
		Agnes Konu	Pepper	40	128.0	0.51	1,024,390
		John Konu	Cassava/Maize	40	192.1	0.77	3,995,122
		David Konu	Pep/Cas/Maize	40	512.2	2.05	11,473,171
		Godfred Konu (Headman)	Pep/Cas/Maize	40	384.1	1.54	8,604,878
		Emmanuel Dosu	Cassava	40	128.0	0.51	842,561
		Albert Konu	Pep/Cas/Maize	40	384.1	1.54	8,604,878
		Dora Nyasezar	Vegetables	40	320.1	1.28	3,841,463
		Comfort Blakpor	Cassava	40	192.1	0.77	1,263,841
		Beauty Konu	Cas/Maize/Beans	40	384.1	1.54	8,604,878
		Horia Konu	Pep/Beans/Maiz	40	256.1	1.02	5,941,463
		Kwadjo Konu	Maize/Cassava	40	256.1	1.02	5,326,829
		Setrina Konu	Maize/Cassava	40	256.1	1.02	5,326,829
		Olivia Konu	Pep/Soy/Ok/Ma/B	40	512.2	2.05	12,292,683
		DianaAhardzi	Pepper/Maize	40	320.1	1.28	7,042,683
		Kwame Konu	Cas/Maize/Okro	40	384.1	1.54	8,297,561
		Lucy Konu	Pep/Ok/Ma/Ca	40	256.1	1.02	5,736,585
		Samuel Konu	Maize/Okro	40	256.1	1.02	5,634,146
		Ato Meshack Zottor	Soy/Okro/Maize	40	448.2	1.79	10,039,024
		Agnes Dzidze	Pep/Soy/Ok/Ma/Ca	40	512.2	2.05	12,292,683
		Grace Sam	Pepper/Beans	40	384.1	1.54	4,609,756
		Mathew Foro Konu	Pep/Cas/Maize	40	256.1	1.02	5,736,585
		Israel Konu	Pep/Cas/Maize	40	320.1	1.28	7,170,732
		Bob Zottor	Pep/Cas/Maize	40	384.1	1.54	8,604,878
		Garle Zottor	Pep/Cas/Maize	40	192.1	0.77	4,302,439
		Isaac Konu	Pep/Cas/Maize	40	448.2	1.79	10,039,024
		Albert Agbomadozi	Pepper/Maize	40	256.1	1.02	5,736,585

API/WAPP NO.	COMMUNITY	NAME OF FARMER	CROPS	WIDTH (m)	LENGTH (m)	AREA (HA)	VALUE (CEDIS)
114	FORKPO	Mlalo Tatuwo	Cassava/Maize	40	186.8	0.75	3,885,440
		Kpollo Afi	Cassava	40	125.0	0.50	822,500
		Wose Adjoa	Cassava	40	130.0	0.52	855,400
		Dziku Atsu Novi	Cassava	40	115.0	0.46	756,700
		Akorli Sogblenu	Cassava	40	105.0	0.42	690,900
WAPP 124 - 125	NEW BAKPA	Daniel Aglebe	Cassava/Maize	40	80.0	0.32	1,760,000
		Peter Kwasi Hadior	Woodlot-Acacia	40	-	-	350,000
		Thomas Azada	Pepper/Tomatoes	40	65.0	0.26	910,000
		Kwami Homadi	Maize/Cassava/1 Mango/3 Orange Trees	40	87.7	0.35	1,824,160
		Napoleon Hadior	Cass/Maize/Pepper	40	84.4	0.34	1,890,560
		Adanya Wozia	Pineapple	40	-	-	250,000
		Linux Azada	Ploughed Plot	40	-	-	300,000
WAPP 125 - 126	YORKUTIKPO	Doe Gbomedoazio	Cass/Maize/Pepper	40	67.0	0.27	1,500,800
		Aku Ayikpa	Cassava/Pepper	40	75.7	0.30	817,560
WAPP 139 - 140	AWUYAKOPE	Awo Amediku	Maize/Cassava	40	67.2	0.27	1,397,760
		Veronica Afetor	Beans/Cass/Oil Palm	40	50.6	0.20	607,200
		Isaac Sogah	Cassava	40	75.5	0.30	496,790
		Mama Norkuawu	Cassava	40	76.8	0.31	505,344
		Dzinadoa Beble	Maize	40	78.5	0.31	1,413,000
		Vida Ahorlu	Maize/Cassava	40	76.8	0.31	1,597,440
		Eugene Tsilenya	Cassava	40	67.6	0.27	444,808
		Clifford Vidza	Cassava	40	65.5	0.26	430,990
		Patience Klukpui	Cass/Pepper/Maize	40	75.7	0.30	1,695,680
		Gabriel Adiei	Cass/Pepper/Maize	40	67.2	0.27	1,505,280
		Adzo Akpalu	Pepper	40	50.6	0.20	404,800
		Francis Avor	Pepper	40	75.5	0.30	604,000
		Mansah Afetor	Cassava/Beans	40	76.8	0.31	1,075,200
		Americana Amediku	Woodlot	40	78.5	0.31	1,318,800
		Victoria Tamakloe	Pepper/Cassava	40	76.8	0.31	829,440
		Dodzi Hoggar	Cassava	40	67.6	0.27	444,808
		Wisdom Gadasu	Maize	40	65.5	0.26	1,179,000
		Samuel Gadasu	Maize	40	75.7	0.30	1,362,600
		Hundzengor Tamakloe	Cassava	40	67.2	0.27	442,176
		Ebenezer Agbomadzi	Pepper	40	50.6	0.20	404,800
Doris Dorgbetor	Pepper	40	75.5	0.30	604,000		
D. C. Azasu	Pepper/Beans	40	76.8	0.31	1,075,200		
Grace Ahorlu	Maize/Cassava	40	78.5	0.31	1,632,800		
WAPP 134 - 135	ATSIABE	John Akumey	Cassava/Maize	40	76.8	0.31	1,597,440
		Patience Nyavio	Cassava/Pepper	40	67.6	0.27	730,080
		Redeemer Danyo	Cassava/Maize	40	65.5	0.26	1,362,400
		Faakor Seth Awuyah	Cassava/Maize	40	75.7	0.30	1,574,560
		Esther Danyo	Cassava/Maize	40	67.2	0.27	1,397,760
		Daniel Ameku	Pepper/Maize	40	50.6	0.20	1,113,200
		Rose Tetteh	Cassava/Pepper	40	75.5	0.30	815,400
		Frederick Awuyah	Cassava/Maize	40	76.8	0.31	1,597,440
		Mathew Awuyah	Cassava/Pepper	40	78.5	0.31	847,800
		WAPP 149 - 150	TORDZINU	David Cofie	Cassava/Pepper	40	65.5
Olivia Lanyoh	Cassava/Pepper			40	75.7	0.30	817,560
Diana Amekufe	Cassava/Pepper			40	67.2	0.27	725,760
Grace Klukpui	Pepper/Maize			40	50.6	0.20	1,113,200
Manavi Gboku	Pepper/Maize			40	75.5	0.30	1,661,000
Agbesi Amegbletor	Pepper/Maize			40	76.8	0.31	1,689,600
Abomyor Ame Lanyoh	Cassava/Maize			40	67.6	0.27	1,406,080
Gabriel Hlordzi	Cassava/Pepper			40	65.5	0.26	707,400
Grace Goglori	Pepper/Maize			40	75.7	0.30	1,665,400
Lydia Galley	Pepper/Maize			40	67.2	0.27	1,478,400
Patience Gadasu	Pepper/Maize			40	50.6	0.20	1,113,200
David Gadasu	Pepper/Maize			40	75.5	0.30	1,661,000
Gladys Gadasu	Pepper/Maize			40	76.8	0.31	1,689,600
Emmanuel Doku	Pepper/Maize			40	67.6	0.27	1,487,200
Dziafa Awukutsey	Pepper/Cassava			40	65.5	0.26	707,400
Francis Atsu Evour	Pepper/Cassava			40	75.7	0.30	817,560
Bright Logometi	Pepper/Cassava			40	67.2	0.27	725,760
WAPP 152 - 153	ADONORKOPE	Gbedzaha Dogbatse	Cassava/Okra	40	76.8	0.31	829,440
		Saviour Adator	Cassava/Tomatoes	40	67.6	0.27	865,280
		Sewornu Meyiza	Sugar Cane	40	65.5	0.26	349,770
		Stella Hedidor	Cassava	40	75.7	0.30	498,106
		Hellen Afeku	Cassava	40	67.2	0.27	442,176
		John Adegebe	Sugar Cane	40	50.6	0.20	270,204
		Kwashie Avorgbedor	Cassava	40	75.5	0.30	496,790
		Afi Ahi	Cassava	40	76.8	0.31	505,344
WAPP 153 - 154	AHORLIKOPE	Ahorga Sodzinyade	Cassava	40	67.6	0.27	444,808
		Kadro Dotse	Pepper	40	37.0	0.15	296,000
		Moses Gablenu Senor	Cassava	40	69.1	0.28	454,678
		Bubu Yaw	Cassava	40	76.8	0.31	505,344
		Hutor Ege	Beans	40	35.0	0.14	322,000
WAPP 153 - 154	AHORLIKOPE	Kwaku Wedzih	Cassava	40	76.8	0.31	505,344
		Ahorli Awuleshie	Plantain	40	90.5	0.36	1,045,456
		Kwaku Ekpore	Cassava	40	67.5	0.27	444,150
WAPP 153 - 154	AHORLIKOPE	Manonyikpo Afi Ahorli	Cassava	40	67.6	0.27	444,808

API/WAPP NO.	COMMUNITY	NAME OF FARMER	CROPS	WIDTH (m)	LENGTH (m)	AREA (HA)	VALUE (CEDIS)
		Stephen Sefordzi	Cassava	40	70.5	0.28	463,890
		Dashie Ahorli	Maize	40	98.3	0.39	1,769,400
		Papa Ahiabli	Cassava	40	76.7	0.31	504,686
<b>WAPP 154 - 155</b>	<b>BEDZOKOPE</b>			40			
		Gbeda Amoah	Beans	40	65.0	0.26	598,000
		Gbeda Bedzo	Cassava	40	37.4	0.15	246,092
		Stephen Dodzi Soda	Cassava	40	34.0	0.14	223,720
		Hufordzi Bedzo Azuwor	Cassava/Beans	40	37.7	0.15	527,800
		Dashi Dordo	Beans/Maize	40	67.0	0.27	1,500,800
		Adzase Bedzo	Cassava	40	53.5	0.21	352,030
		Unknown	Cassava	40	93.3	0.37	613,914
		Emmanuel Bedzo	Oil Palm	40	131.0	0.52	419,200
	<b>KPOYIADZI</b>	Alogbor Esah	Maize/Cassava	40	92.2	0.37	1,917,760
		James Ege	Cassava/Beans	40	17.5	0.07	245,000
<b>WAPP 155 - 156</b>	<b>TSIEVI</b>			40			
		Gabriel Eke	Beans/Cassava	40	40.0	0.16	560,000
		Esther Agbobi	Cassava/Maize	40	35.0	0.14	728,000
		Theresa Ackumey	Cassava	40	51.5	0.21	338,870
		Leonard Ackumey	Oil Palm/Cassava	40	63.8	0.26	612,480
		Fidella Ackumey	Cassava/Tomatoes	40	40.0	0.16	512,000
		Frank Mensah	Oil Palm/Maize	40	35.0	0.14	742,000
		Vincent Akaba	Oil Palm	40	51.5	0.21	164,800
<b>WAPP 156 - 157</b>	<b>KALEKOPE</b>			40			
		Raphel Wede	Oil Palm/Cassava	40	61.5	0.25	590,400
		Raphel Wede	Cassava	40	97.4	0.39	640,892
		Peter Henyo	Oil Palm/Cassava	40	25.0	0.10	240,000
		Kwashi Kaleh	Cassava/Beans	40	45.9	0.18	642,600
<b>WAPP 157 - 158</b>				40			
		Kwashi Kaleh	Oil Palm/Cassava	40	134.0	0.54	1,286,400
		John Adzifome	Cassava/Maize	40	11.5	0.05	239,200
		Nyagah Kpodovu	Cassava/Pepper	40	73.5	0.29	793,800
		Mama Gbete Adowutsi	Cassava/Groundnuts	40	51.7	0.21	723,800
		Grace Dogbe	Cassava	40	35.4	0.14	232,932
		Akpene Kaleh	Cassava/Maize	40	122.9	0.49	2,556,320
		John Kwaku Kaleh	Cassava/Maize	40	143.5	0.57	2,984,800
		Ben Wede	Cassava/maize	40	82.0	0.33	1,705,600
		Kobla Akosumde	Cassava/maize	40	95.3	0.38	1,982,240
		Dzigbodi Edifome	Cassava/maize	40	87.5	0.35	1,820,000
		Soenyeator Logah	Cassava/maize	40	90.8	0.36	1,888,640
<b>WAPP 165 - 168</b>	<b>ADETSEWUI</b>			40			
137		Hufordzi Ahelegbe	Cassava	40	59.9	0.24	394,142
138		Husunu Amenyio	Black Berries(Atitoe)	40	125.0	0.50	7,500,000
139		Adzo Amenyio	Cassava	40	59.9	0.24	394,142
140		Madam Tagbu Adorkawo	Black Berries(Atitoe)	40	125.0	0.50	7,500,000
141		Hushiyor Gbewordi	Cassava	40	59.9	0.24	394,142
142		Samuel Aurlame	Oil Palm	40	145.0	0.58	2,320,000
143		Togbui Adorkanu	Oil Palm	40	160.0	0.64	2,560,000
144		Moses Sonyaglo	Oil Palm	40	150.0	0.60	2,400,000
145		Awuleshi Togbale	Cassava/Maize	40	81.0	0.32	1,684,800
146		Fashi Nomenyo	Oil Palm	40	130.0	0.52	2,080,000
147		Mawunya Ahamah	Maize	40	58.0	0.23	1,044,000
148		Mawunya Ahamah	Cassava	40	65.0	0.26	427,700
149		Shitor Adzodanya	Maize	40	100.0	0.40	1,800,000
150		Amewomuna Dashiah	Cassava	40	70.0	0.28	460,600
151		Adzodeha Husunoo	Cassava/Maize	40	81.0	0.32	1,684,800
152		Sodzinushi Akaglo	Cassava	40	59.9	0.24	394,142
153		Hudzenugor Agbeviade	Cassava	40	59.9	0.24	394,142
154		Lulie Avu	Pepper/Cassava	40	62.0	0.25	669,600
155		Vicent Akagla	Cassava	40	48.0	0.19	315,840
156		Senyo Awleme	Cassava/Maize	40	81.0	0.32	1,684,800
157		Samuel Akaglo	Cassava/Oil Palm	40	73.5	0.29	1,176,000
158		Husunu Adzodenuu	Cassava	40	59.9	0.24	394,142
<b>WAPP 176 -177</b>	<b>TADZEWU-AKPADZRKOPE</b>			40			
165		John Soqah	Cass/Oil Palm/Maize	40	140.0	0.56	2,800,000
166		Nani Amenyadzi	Cassava/Yam	40	150.0	0.60	1,680,000
167		Nanewortor Amuzu	Oil Palm/Potato	40	120.0	0.48	1,920,000
168		Mamavi Ezi	Cassava/Beans	40	41.2	0.16	576,800
169		Torgbui Kutu Agbozo	Oil Palm/Beans	40	88.0	0.35	1,408,000
170		Godwin A. Kunake	Cassava/Maize	40	81.0	0.32	1,684,800
171		Torgbui Agbozo	Cassava/Acacia	40	115.0	0.46	2,760,000
172		Kwashi Gana	Cassava/Yam/Potato	40	95.0	0.38	1,444,000
173		Cephas Akpadzra	Cassava/Maize	40	81.0	0.32	1,684,800
174		Dogbey Afortude	Cassava/Oil Palm	40	73.5	0.29	705,600
175		Dameshie Kporor	Oil Palm	40	131.0	0.52	2,096,000
176		O. Vovomeli	Cassava	40	59.9	0.24	394,142
177		Kofi Gavor	Oil Palm	40	131.0	0.52	2,096,000
180		Abla Noshri	Cassava/Maize	40	81.0	0.32	1,684,800
181	<b>TADZEWU-ASAFOTSI</b>	Agbadzihu H. Abor	Cassava	40	59.9	0.24	394,142
182		Mawuli Dagbah	Cassava	40	59.9	0.24	394,142
183		Ado Dagbah	Cassava/Maize	40	81.0	0.32	1,684,800
184		Conelius Dagbah	Cassava/Potato	40	76.0	0.30	1,033,600
185	<b>TADZEWU-KASU</b>	Bokor Afornorfe	Cassava	40	59.9	0.24	394,142
187	<b>TADZEWU-TARKPO</b>	Torgbui AgbozoKutu III	Woodlot(Acacia)	40	120.0	0.48	2,016,000
188		George Akpobi	Cassava	40	59.9	0.24	394,142
<b>WAPP xxx xxx</b>	<b>DZODZE-KAVE</b>			40			
189		Agbe Kuvor	Oil Palm	40	131.0	0.52	2,096,000
190		Torku Dupey	Maize	40	125.0	0.50	2,250,000

API/WAPP NO.	COMMUNITY	NAME OF FARMER	CROPS	WIDTH (m)	LENGTH (m)	AREA (HA)	VALUE (CEDIS)
191		Torgbui Amado	Oil Palm	40	131.0	0.52	2,096,000
192		Anthony Akpablah	Oil Palm	40	131.0	0.52	2,096,000
193		Kluvi Dupey	Cassava/Oil Palm/Yam	40	140.0	0.56	2,016,000
194		Frank M. Adzogble	Oil Palm	40	131.0	0.52	2,096,000
195		Moses Noshi	Cassava	40	59.9	0.24	394,142
196		Soworda Wormenor	Oil Palm	40	131.0	0.52	2,096,000
197		Doris Amado	Cassava	40	59.9	0.24	394,142
198		Ahiaxornu Kpegba	Oil Palm	40	131.0	0.52	2,096,000
	<b>Total Compensation (Cedis) (Volta Substation - Dzodze) 125 km</b>					<b>160</b>	<b>623,448,966</b>
	<b>DZODZE - BORDER (10 KM)</b>						
	<b>PRORPORTIONATE ESTIMATE FOR REMAINING UNCLEARED OF CORRIDOR</b>						<b>46,181,405</b>
	<b>TOTAL ESTIMATED COMPENSATION (CEDIS)</b>						<b>669,630,371</b>
	<b>GROSS ESTIMATED COMPENSATION (DOLLARS)</b>						<b>72,786</b>

**Appendix 3 Requirements for pacification rites**

A

RELOCATION OF TWO (2) SHRINES IN AHORLIKOPE

An amount of 100 million cedis must be paid

B

RELOCATION OF A SHRINE IN ADONOKOPE

An amount of 10 million cedis must be paid

C

RELOCATION OF A SHRINE IN ADETSEWUI

An amount of 20 million cedis must be paid

D

## CONTACT INFO ON DA/MA OFFICIALS

NO	DISTRICT/MUNIC. ASSEMBLY	NAME of OFFICIAL	POSITION	TEL. CONTACT
1	<b>Tema Municipal (TMA) (Tema)</b>	1. Mr. David Annan 2. Mr. G.K. Scott 3. Mr. Henry Owusu 4. Mr. Francis Esandoh 5. Mr. F. Esandoh 6. Hon. J. Nortey 7. Hon. J. Akpeng	MCE MCD MDPO Asst. MDPO Asst. DDPO AM, Kpone AM, Kpone	0244313624 0244222787 0244734284 0208524068 0208524068 0277535396 0243272919
2	<b>Dangme West (Dodowa)</b>	1. Mr. M.T.A. Nortey 2. Mr. A.K. Agblewornu  3. Mr. Ali Amadu 4. Ms Adelaide Adu 5. Mr. Douglas Animley	DCE DCD  Asst. DDPO CDO CDO (Ningo)	0243685642 0244832126 02121767475 0244270344
3	<b>Dangme East (Ada-Foah)</b>	1. Mr. Israel Baaku  2. Mr. G.H. Dari 3. Mr. Mohamed Yakubu 4. Mr. Francis Abofra 5. Mr. F. Abaka-Quansah 6. Hon. S. Quaye 7. Hon. D. Hormeku	DCE  DCD DDCD DDPO Dist. Engineer AM, Sege AM, North Kasse	0968-22212 0244966286 0244961736 0244771711 0244878279 2044773055
4	<b>South Tongu (Sogakope)</b>	1. Md. Kate Aku Aglah 2. Mr. James Martey  3. Mr. Samuel Kitah 4. Hon. Isaac Akpabi	DCE DCD  DDPO AM, Yorkitikpo	0244889001 0208524068 0277535396 091-91337 0244889598 0243078845
5	<b>North Tongu (Adidome)</b>	1. Moses Mensah Asem 2. Mr. Peter Thompson 3. Mr. Adadevor 4. Mr. C. Kporvi	DCE DCD DDPO Opinion Leader, Kpedzeglo	<b>0244884512</b> 0246225329
6	<b>Akatsi (Akatsi)</b>	1. Mr. Eli Tsikatah 2. Mr. Elom Tibu	DDCD (Ag. DCD) DBO (Ag. DDPO)	(0966)44290-2 0208191781

				0244587111
7	<b>Ketu (Denu)</b>	1. Mr. Justice Kudjo 2. Mr. Divine Ahidzoe 3. Mr. Akpe Afenyo 3. Hon. AMS	DCE DCD DDPO Executive C'ttee	0244646125 0208187288
	<b>RUDAN</b>	1. Mr. Akonor 2. Mr. V. Anim 3. Mr. Gadekor	CEO	0244926068 0244419052 02778515886

## COMPENSATION PAYMENT SCHEDULE

COMPENSATION PAYMENT SCHEDULE				
NO.	ACTIVITY	DETAILS	DATE OF COMMENCEMENT	DATE OF COMPLETION
1	SOCIAL ECONOMIC SURVEY		Aug-05	Sep-06
2	NOTICE OF CONSTRUCTION	a. Publicity b. Notice c. Gazette d. Durbars		Jul-07
3	INVENTORY/ REFERNEICNG OF PROPERTIES	Enumeration of crops (etc) Reconciling of data from the fields Issuance of Form 'F's	Oct-07	Sep-08
4	VALUATION OF PROPERTIES LVB /VRA	a. Valuation of properties to determine values i) Receipt of report from LVB ii) Completion of internal report  b. Seeking approval from management	1ST WEEK IN OCTOBER 2008	SECOND WEEK OF NOVEMBER, 2008
5	OFFER TO CLAIMANTS	a. Writing of offer letters to claimants' b. Preparation of Declaration Forms c. Preparation of vouchers d. Preparation of Bankers Draft	1ST WEEK IN NOVEMBER 2008	FIRST WEEK OF DECEMBER, 2008
6	PAYMENT OF COMPENSATION	a. Publicity informing communities' b. Submitting evidence of destruction c. Issuance of cheques to claimants	1ST WEEK OF DECEMBER 2008	BY THE MIDDLE OF JANUARY TO END OF FEBRUARY, 2009

**U.S. Agency for International Development**

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

**[www.usaid.gov](http://www.usaid.gov)**