

**REPUBLIC OF LIBERIA** MINISTRY OF LANDS, MINES AND ENERGY



### **ANNUAL REPORT**

# nuary 1 - December 31, 2009

Hon. Eugene H. Shannon, PhD

MINISTER

Developing the Land, Mineral, Energy and Water Resources of Liberia



**REPUBLIC OF LIBERIA** MINISTRY OF LANDS, MINES AND ENERGY



P.O. BOX 10-9024 1000 MONROVIA 10, LIBERIA, WEST AFRICA Tel: (231) 027214009, Fax: (231) 7780999

Office of the Minister

December 31, 2009

Her Excellency Mrs. Ellen Johnson Sirleaf **PRESIDENT** Republic of Liberia Monrovia, Liberia

Excellency:

We present our compliments and are pleased to forward to you the Annual Report of the Ministry of Lands, Mines and Energy, covering the period January 1 to December 31, 2009.

The activities of the Ministry were geared towards the achievement of the goals and objectives of Liberia's Poverty Reduction Strategy (PRS) in the land, mineral, energy, environment and water & sanitation subsectors which are components of Pillars 2 and 4.

We continued to make steady progress in the restoration of the mining sector to its pre-war status. Most of the mineral exploration companies are reporting interesting results which could lead to the establishment of productive mines. The alluvial gold and diamond mining sectors are also showing signs of re-emergence.

In the land sector, the reform process is continuing. In 2009, the Ministry resolved several land disputes and demarcated land parcels for markets and other public uses. The Land Commission has been formulated and the commissioners appointed by the President. The Commissioners have since begun their tasks.

*Her Excellency Mrs. Ellen Johnson Sirleaf PRESIDENT* 

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Excellency, in fulfillment of your campaign pledge to deliver modern, affordable, reliable and sustainable energy services to all parts of Liberia, we are pleased to report the expansion of electricity to some additional parts of Monrovia under the EPP 2 Program. Negotiations with the Buchanan Renewable (Monrovia) Power Inc. for the provision of 35MW of electrical power from rubber wood-fired power plants have been concluded; and the payment of a portion of Liberia's contribution to the West African Power Pool for its Cross-border Project which will connect 18 Liberian cities, towns and villages by the end of 2010 was made.

Progress has also been made in the water & sanitation sub-sectors with the expansion of pipe-borne water supply to many areas in Monrovia and the construction of water wells in many parts of Rural Liberia. A nine city rehabilitation of pipe-borne water will be undertaken soon with funds provided by the African Development Bank.

Excellency, we owe our motivation to accomplish these activities to you for the exemplary efforts to lift Liberia and the guidance you have provided the Ministry of Lands, Mines and Energy during the period covering this report.

Thanks Madam President for the opportunity given me and the entire staff to make this contribution towards the socio-economic development of Liberia and its people.

With sentiments of our unflinching loyalty and devotion to you as you steer the ship of state, we remain.

Kind regards,

Respectfully yours, MINISTER

#### EXECUTIVE SUMMARY

#### **1.0 INTRODUCTION**

This summary contains the overview of the activities of the Ministry of Lands, Mines and Energy in the Land, Mineral, Energy and Water Sub-sectors and spans two Pillars of Liberia's Poverty Reduction Strategy, namely: Pillar II, Economic Revitalization and Pillar IV, Rehabilitating Infrastructure and Delivering Basic Services.

#### 2.0 MINERAL SECTOR

#### • Western Cluster

The Western Cluster Iron Ore Deposit underwent a second re-tendering process during the year 2009. After evaluation of four (4) bid proposals from interested applicants, only three (3) out of the four (4) provided supporting documents specified in the Request for Proposals (RFP).

The Inter-Ministerial Mineral Technical Committee (IMTC) evaluated the bid documents of the three (3) applicants and provided its findings to the Inter-Ministerial Concessions Commission (IMCC). All three (3) applicants did not meet the threshold passing mark.

The IMCC advised that the threshold for passing be lowered and all bidders asked to submit clarifications on those criteria that were not fully presented. A two weeks deadline was given and resumption of bid evaluation began once again at the end of November 2009.

#### • BHP Billiton - Kitoma and Goe Fantro

BHP Billiton was engaged by the IMCC in Mineral Development Agreement (MDA) negotiations during the beginning of the year. These discussions had to be postponed because of conflict due to parallel negotiations on the Western Cluster and Putu Iron Ore Deposits. However, these negotiations have continued and expected to be completed shortly.

#### • (PIOM) Putu Iron Ore Deposits

Discussions leading to a Mineral Development Agreement (MDA) for the Putu Iron Ore Deposits have been successfully concluded between the IMCC and Putu Iron Ore Mining (PIOM). A draft MDA is presently being prepared for approval by the Executive and ratification by the Legislature.

#### • AmLib United Minerals

MDA negotiations with AmLib United Minerals were successfully finalized. Mineral Development Agreements for KleKle, Cestos and Zwedru were approved by the Executive and are presently with the Legislature awaiting final ratification.

#### • Mineral Cadastre Information Management System

- The Building hosting the Mineral Cadastre Information Management System (MCIMS) has been completed, furniture and equipment have been procured and installed, software has been successfully tested and the staff has been fully trained. Commissioning of MCIMS is scheduled for late January 2010. A major funding gap remains for the payment of staff to man the system.
- The Model Mineral Development Agreement, the Draft Mineral Policy and the Mineral Exploration Regulations have all been finalized and presented to Cabinet for approval.

#### **3.0 GOLD AND DIAMOND EXPORTS**

With recent events in the Global economy, the precious mineral industry in Liberia experienced a noticeable degree of decline in our export revenue and carat weight. However, the recent recovery of notable larger stones confirmed the indication that Liberia has a fairly good potential in this category of rough diamonds. Hence, our export revenue shows signs of favorable recovery during the second half of the year.

For the period under review, the Government Diamond Office (GDO) processed fifty one KP Certificates with cumulative weight and dollar value at 19,092.64 carats and US\$ 7,420,270.31 respectively. This amounts to US\$ 222,608.11 in revenue. Our records indicate a drop in export volume of over fifty percent (50%) while our export diamond value and the corresponding revenue registered only a decline of eight percent (8%). This is due to high value stones recoveries in the second quarter of the calendar year indicating that Liberia has a comfortable internal control system in place to capture high value diamonds that once escaped the local market.

Gold export for 2009 remains stable. Up to date, the gold export records show a total of fifty nine (59) shipments with corresponding weight and export value of 13,593.74 ounces of unrefined gold and US\$ 9,551,962.18 respectively. Accrued revenue to GoL from the export of gold for the reporting period is US\$ 191,314.22, representing 2% of the sales.

The total revenue realized from the precious mineral export market is currently over four hundred thousand dollars and will exceed half a million for 2009

#### 4.0 ENERGY SECTOR

In the wake of Government's effort to provide/restore Electricity to Monrovia and its environs and the rest of the country, the Liberia Energy Assistance Program (LEAP) funded by USAID and implemented by the International Resources Group (IRG) was launched in October 2006, with focus on the longterm delivery of energy services to low income urban and rural communities.

At the end of February 28, 2009, LEAP pilot project which comprised the installation of several solar equipment, i.e. solar street lights, Solar Home Systems, Solar Power System, Solar Refrigerators and Solar Lanterns in Bomi, Gbarpolu, Bong, Nimba, Margibi, Grand Cape Mount, and Lofa counties were handed over to the Government of Liberia (GOL) through the Ministry of Lands, Mines and Energy. The remaining solar powered installations in Maryland, Sinoe, Grand Gedeh and Rivercess Counties will be assessed during the dry season.

Other endeavors have been undertaken to supply power outside the Monrovia area and to the rest of the country. The Cote d'Ivoire –Liberia-Sierra Leone – Guinea (CLSG) Interconnection Project being undertaken by the West African Power Pool (WAPP) is one of such endeavors. The objective is to establish a more secured, reliable transmission corridor for transfer of low cost energy to post conflict countries such as Liberia and Sierra Leone. The project will result in the construction of approximately 1,100 Km of high voltage transmission line.

The CLSG Interconnection project is part of the Cote d'Ivoire –Liberia-Sierra Leone –Guinea System Redevelopment sub-program of the WAPP, with funding from the European Union (EU) African Infrastructure Trust Fund, for which the European Investment Bank and the Kredietanstalt for Wrederaufbau (KFW) are acting as agents.

Because of the importance which Liberia attaches to this project, two meetings have been held in Monrovia to continue discussion on institutional arrangements, cooperation between WAPP and Arcelor Mittal, and review the second line route feasibility study report.

The National Energy Policy (NEP) was approved by the cabinet in June 2009. The NEP proposes the establishment of a Rural Renewable Energy Agency (RREA) to fast –track the economic transformation of rural Liberia by promoting commercial development and supply of modern products and services through the private sector and community initiatives. The policy also calls for the establishment of a Rural Energy Fund (REFUND) which will manage all funds received through domestic and international financial resources. REFUND will be managed by RREA.

An Executive order to establish RREA has been issued by the President, since the process will require a number of consultations at different levels of Government in order to move quickly beyond interim arrangements and bring our policy and institutional implementation arrangements to materialization. The program, **"catalyzing New Renewable Energy in Rural Liberia"** under the initial operation of RREA, has received funding of over three million united states from the World Bank to carry out Renovation and furnishing of building provided by LEC, staffing and implementation of pilot projects, in various aspects of renewable energy and capacity building. In the upstream petroleum sector, the GOL through the Ministry of Lands, Mines & Energy and the National Oil Company of Liberia in August 2009 announced the opening of the third bid round for five (5) of the seventeen (17) offshore blocks.

The Government of Liberia in 2009 concluded productions sharing contracts (PSC) with Anadarko Liberia, and Hong Kong Tongtai Petroleum International.

The Ministry has embarked on plans to update previous Feasibility studies on the country's river basins potential for suitable micro/mini hydro sites. The Ministry has requested the West African Power Pool (WAPP) to assist with the study. Terms of Reference (TOR) was prepared by WAPP with input from LEC. Efforts are underway to finalize the documents to allow for the study to start.

The Ministry on behalf of the Government of Liberia has entered into an agreement with the Royal Government of Norway through their Agency for Water Resources and Energy Directorate (NVE) for institutional and capacity building cooperation. NVE will work with the Ministry to strengthen the energy and water sectors of Liberia. Programs Document is been prepared by a consultant Firm (NORPLAN) from Norway. NORPLAN will finalize the document following a week-long meetings/discussions with various stakeholders in the energy and water sectors.

#### 5.0 LAND SECTOR

The Ministry of Lands, Mines and Energy chairs the Technical Working Group (TWG) on the National Land Reforms in the Land Sector. This Group has modified the registration of Land Surveyors through the MLM&E Surveyor licensing Board.

The issuance of survey notice was also adjusted to five (5) consecutive days and the granting of survey permit by the Ministry of Lands, Mines and Energy was abolished.

From the court came forty-six (61) requests for the Chairman of the Board of Arbitration for investigations in the land disputes, with forty-nine (49) complaints of land related matters for administrative investigation, while twelve (12) complaints were filed against Surveyors.

The Department of Lands, Surveys and Cartography was actively involved in the Cadastral and Topographic Mapping of several parts of the Country at small, medium and large sector. The department also participated in the redemarcation of the Ducor Project and the relocation of the squatters to Wolako, Paynesville City-Monrovia.

#### 6.0 THE WATER SECTOR

The Liberian Hydrological Service (LHS) Bureau was established through an Act of Legislature in 1972 as a research oriented bureau of the Department of Mineral Exploration and Environmental Research (D'MER) within the Ministry of Lands, Mines and Energy. The 1972 Act mandated the LHS to assess, monitor, evaluate and protect the national water resources of Liberia. The major sectional activities of the Bureau encompassed Meteorological Monitoring, Surface Water Evaluation, Ground Water monitoring and water Quality monitoring and Control all supported by a maintenance section.

The LHS actively worked in collaboration with JICA, NCL, the Later-Days Saint Charity, (a religious Organization; including other International Organizations.

The Integrated Water Resources Management (IWRM) Policy was presented to the Cabinet and subsequently approved in 2009.

Additionally, the Water Supply and Sanitation Policy which underwent validation by stakeholders in 2008 through seminars/workshops was presented to the Cabinet for approval in November 2009.

LHS also carry out water quality monitoring and Control in collaboration with Later-Days Saint Charity (LDSC), Population Services International (PSI), China Hinna International Company (CHICO), Netus Engineering Consultancy Limited (NCL) and **Forest Cry Liberia, Inc.** the analyses of water samples for physical chemical and bacteriological parameters resulted in 100 analyses.

#### 7.0 REVENUE INTAKE

Sources of revenue deposited at the Central Bank of Liberia through the Ministry of Finance included mineral exploration licenses, Surface Rental Fees, gold and diamond artisanal mining licenses, royalty on gold and diamond exports and mineral trading licenses. The total revenue intake for 2009 is approximately 1,964,567.28 a decrease of about 4 million from last year. The decrease is a result of the global economic crisis of 2009 which saw the decrease in investment dollars for mineral exploration programs in the country. Many exploration companies had to scale down their exploration activities thus resulting in a decrease in expenditure for geological and mineral related activities. Figures 11a and 11b show the revenue intake per month for the year under review.

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#### **1.0 INTRODUCTION**

The Ministry of Lands, Mines and Energy has statutory oversight for the land, mineral, water and the energy sectors. The Ministry continues to collaborate with other relevant Government Ministries and agencies in achieving this mandate.

This document presents a concise report of the activities of the Ministry in the sectors of Lands, Mines and Energy from January to December 2009. The activities were focused on field assessment, the formulation of land, mineral, energy and water policies, as well as the granting of licenses and assessment on mineral exports.

#### 2.0 ADMINISTRATION

The Department of Administration and Management which comprises the Bureaus of Finance and Budget, Procurement, Personnel and Central Office is responsible for the overall administrative activities of the Ministry. It is the supporting arm of the other five departments and the Government Diamond Office.

#### 2.1 Bureau of Personnel Services

The Ministry has a work force of 546 employees as at November 30, 2009 of which 13 employees were dismissed and replaced.

Mr. Walter McCarthy was appointed Assistant Minister of Mines in March 2009 to replace Hon. James K. Zawolo and Mr. Carlton S. Miller also appointed Assistant Minister for Mineral Exploration and Environmental Research to replace Hon. Albert C. Chie who were dismissed. Mr. T. Felix Morlu was appointed Assistant Minister for Planning and Development in September 2009.

Meanwhile, the Ministry continues to sponsor 153 scholarship students at the University of Liberia and other Institutions of higher learning in various disciplines. Of the 153 sponsor scholarship students 35 of them are on the Ministry's payroll as Technical Students.

Five (5) of our sponsored students graduated from the University of Liberia, Stella Maria and A.M.E. University in 2009 and have joined the Ministry in various capacities.

Below is the roster of the Ministry's senior staff

#### No. **STAFF** POSITION 1. Dr. Eugene H. Shannon Minister Hon. John C. Nylander 2. **Deputy Minister for Administration** 3. Hon. Ernest C.B. Jones, Jr. **Deputy Minister for Operations** Deputy Minister for Planning & Dev. 4. Hon. A. Kpandel Fayia 5. Hon. T. Felix Morlu Assistant Minister for Planning & Dev. 6. Hon. Walter S. McCarthy Asst. Minister for Mines 7. Hon. George Y. Miller Asst Minister for Land Surveys & Cartogr. 8. Hon. Carlton S. Miller Asst. Minister for DMER 9. Hon. Saye H. Gwaikolo Tech. Asst. to the Minister 10. Hon. E. Murana Sheriff Tech. Asst. /Land Matters Mr. Jenkins K. Dorbor Geochemist/Sr. Res. Officer 11. 12. Mr. Samuel E. Taylor` Sr. Research Officer Mr. Saymel Ignatius Sr. Project Officer 13. Mr. Willie S. Wilson 14. Personnel Director 15. Mr. John S. Kolee **Director of Finance** 16. Ms. Hawa J. Pelima **Procurement Director** Mr. R. Matenokay Tingban **Director of Mines** 17. 18. Mr. Morris Z. Balakai **Director/Economic Forecast** 19. Mr. Josephus Burgess **Director of Lands & Surveys** 20. Mr. Moses Tehswen Director of Training & Land Information Director of Lib. Cartographic Service 21. Mr. Maxwell C. Gwee 22. Mr. Emmanuel O. Sherman Director/Liberian Geological Survey 23. Mr. Jefferson W. Wylie Director/Liberian Hydrological Service 24. Mr. Sylvester M. Massaquoi **Director Alternative Energy** 25. Mr. Rufus M. Tarnue Director of Hydrocarbon 26. Mr. J. Amos Kollie Director of Training & Manpower Dev. 27. Mr. George Duokenel Director of Planning 28. Mr. Moses M. Thomas Asst. Director/Personnel 29. Mr. William W. Sickey Asst. Director/Finance 30. Mr. Peter Blamo Asst. Director/Training & Information Asst. Director/Mines 31. Mr. Nathaniel Johnson 32. Mr. Nathaniel N. Cisco Asst. Director/LCS Asst. Director/LGS 33. Mr. Rexford Sartuah 34. Mr. Anthony D. Kpadeh Asst. Director/LHS Mr. Fred Johnson Asst. Director/Economic Forecast 35. 36. Mr. George Kaibiar Coordinator General/Lands & Surveys Mr. Prince Mambu 37. **Inspector General Chief Mining Engineer**

38. Mr. James K. Smith

2

40. Mr. George A. Wreh

41. Mr. Wilmort S. James

Chief Mines Surveyor Chief of Survey (RL)

During the period under review, Twenty one (21) employees were pensioned and four (4) four employees died. The employees who went from labor to rest are:

| No. | Names              | Position            | Date of Death     |  |
|-----|--------------------|---------------------|-------------------|--|
| 1   | Philip Murana      | Chainman            | February 28, 2009 |  |
| 2   | Jonathan G. Monger | Asst. Director      | April 28, 2009    |  |
| 3   | Alfred Sesay       | Rodman              | June 13, 2009     |  |
| 4   | Moses G. Dweh      | Voucher Payroll Off | June 30, 2009     |  |

#### 2.2 Bureau of Finance and Budget

The Ministry annual report commences from January – December 2009 while the fiscal period begins July1, 2009 – June 30, 2010.Hence, the report encompasses two fiscal periods-January-June -2009 and July-November 2009.

The budget amount as per the cash plan was, January-June 2009 US\$1,474,643, July-September 2009 US\$785,350 and October-November 2009 US\$1,235,748 but US\$1,333,320, US\$785,098 and US\$1,137,250 respectively were allotted by the Ministry of Finance. Additionally, expenditures for the periods are US\$805,643, US\$483,664 and US\$171,028.32 respectively.

During the period under review, the bureau opened ledger accounts in the amount of US\$213,448.97 representing Mine Survey US\$60,410.50, Interministerial Technical Committee 50,000, Ministry of Youth and Sports survey Project US\$350, Schieffelin Survey project US\$ 2,000, Operational Fund US\$14,122.28, construction of the Ministry's Annex US\$1,000, the second biding of the Western Cluster US\$70,000, International Colloquium/Women US\$200, Contractual fees for painting the Ministry US\$1,800, LRRRC/UNCHR survey Project US\$11,340.69, and UNICEF rural Water Project US\$2,225.50. Meanwhile, a new account at the Central Bank of Liberia for the amount of LD 361,200.00 representing Entertainment was opened in November 2009, when the Ministry of Finance initiated a new policy to pay same in Liberian Dollars.

#### 3.0 DIVISION OF OPERATION

#### 3.1 Department Lands, Surveys and Cartography

During the period under review the Department of Lands, Surveys and Cartography and Land Information and Training (DLSC&LIT) was actively involved in the cadastral and topographic mapping of several parts of the country at small, medium and large scales. Additionally, the Department actively participated in the re-demarcation of the Ducor Project using GPS technology. Furthermore, the exercise was extended to the relocation project at Wolako, Paynesville City for the Ducor Palace squatters. To date, the Department is working with its development partners in order to source additional funding for the implementation of its deliverables under the Poverty Reduction strategy, (PRS).

The Department participated in the West Africa Border Conference held in Ouagadougou, Burkina Faso in April 2009. The meeting urged West African States to use less costly procedures in demarcating their borders. In this respect, the meeting encouraged the exchange of experiences. It also noted, with interest, the experiences of some member states concerning the utilization and joint exploration of resources in cross-border areas, which have enabled them to overcome difficulties in areas that await delimitation and demarcation.

During the reporting period, the Department of Lands, Surveys and Cartography along with the Norwegian Refugee Council (NRC) conducted a twelve (12) days Surveying and Mapping Training program for its Resident County Surveyors. The training was conducted between November 23, and December 5, 2009; at the Stella Maris Polytechny.

The training covered the below listed topic:

- 1 Surveying with GPS
- 2 Map Reading (plotting UTM coordinates from GPS)
- 3 The Land Commission: Emerging Issues in Land Law, Policies and Institutions in Liberia
- 4 Geo-informatics Technologies: Introduction to Using Digital Field Notes
- 5 Land Law in Liberia
- 6 Professional Ethics for Surveyors
- 7 Using Survey Control Points
- 8 Developing Uniform Land Survey Procedure

- 9 Institutional Competence, Structure, Records Management (appraisal of records, indexing access control, life-cycle of records)
- 10 Communication and Mediation Skills

The surveying of 100 acres of land at Wolako, Paynesville city pertaining to the relocation of squatters on the Ducor property took place during the period under review. The site plan was prepared and given to the General Services Agency (GSA), the requesting agency.

The investigation of titles (deeds) for the Government of Liberia and the general public in the adjudicated areas of Monrovia as well as request originating from the courts did form part of the activities of the Department during the period under review.

#### 3.1.1 Bureau of Lands and Surveys

The Bureau of Lands and Surveys is the agency of government with the statutory responsibility to conduct survey of Public land and investigate land disputes emanating from the general public.

### **ACTIVITIES**

During the period under review, the Bureau of Lands and Surveys was involved in the below listed activities:

- 1. Served as Chairman of the Board of Arbitration for forty-six (46) land dispute cases arising from the court, with an additional forty-nine (49) cases settled outside of the court.
- 2. Participated in the Strategic Planning Workshop of the Ministry of Lands, Mines and Energy for the "Three Years and Five Years Work Plan" of the Department of Lands and Surveys in the Port City of Buchanan, Grand Bassa County, from April 17-19, 2009.
- 3. Participated in two international conferences on Africa Union Border Program at Maputo Mozambique in December, 2008, and Ouagadougou, Burkina Faso, in April, 2009; gear towards strategizing and drawing up workable plans for the physical demarcations of international boundaries of African Countries
- 4. Participated in the meetings of the Technical Working Committee for property registration. Findings from these meetings led to the abolition of the Permit System which authorized Surveyors each time survey is to be done; thereby resulting to the issuance of licenses to qualified surveyors.

The name of each qualified surveyor was published. This certification scheme ranks Liberia high on the World Bank Doing Business Index.

To effectively and efficiently obtained first-hand information on the existence and working conditions of Resident County Surveyors in the counties, the Bureau under the auspices of the Department of Lands, Surveys and Cartography, made a tour of the fifteen (15) political sub-divisions of the country within twenty-one (21) days, June 3-23, 2009. The result of this tour shows that four (4) counties have full survey team, six have Resident County Surveyors but no staff or are under staff, and five (5) have no Resident County Surveyor at all.

During the tour, the county authorities and the Resident County Surveyors were educated to the ad-hoc policies on the Land Tenure System of the Republic of Liberia where the existing ones were re-enforced until the setting up of the Land Commission. They were enlightened to note that:

#### I. <u>For farm/rural land, the followings must be observed</u>:

- a. Only tribal authorities such as, the Town Chief, Elders, Unification Town Chief (U.T.C.), clan and Paramount Chiefs and District Commissioners are to sign Tribal Certificate.
- b. The names of the Land Commissioner and Superintendent shall only appear on the deed resulting from the field survey.
- c. Only deeds signed or attested to, by the Resident County offices shall be process for the signature of the President. This is to avoid more time being spent on spot-checking for public land sold to individual by the state.
- d. Surveyors working in the county other than the Resident County Surveyor must have a genuine current Licensed ID card and must work in collaboration with the office of the Resident County Surveyor.
- e. The quantity of land to be ascertained must be based upon order from the Land Commissioner before Purchase Order can be issued for payment into Government revenue.
- f. That, until otherwise, the price for the acquisition of farm land still stands at US\$0.50 (Fifty United States Cents) per acre.

g. No one individual should be allowed to acquire more than 1,000 acres of land at one point in time for farm land.

#### II. <u>Urban Land</u>

- a. Urban land certificate should be processed by the technical team of the City Corporation and sign/or approve by the City Mayor/Mayoress.
- b. The information of counts (b-e) of I, holds also for urban land town or city lot under rural state land.
- c. That, until otherwise, the price for the acquisition of urban/town land still stands at US\$30.00 (Thirty United States Dollars) per one (1) town lot.
- d. No one individual should be allowed to acquire more than five (5) acres of land in the urban community unless the purpose/project is well defined to benefit the community.

#### **RESIDENT COUNTY SURVEYOR**

#### Lofa County

During the period under review, the office of the Resident Surveyor undertook the following projects:

- 1. Survey of One (1) acre of land for Ministry of Geneder and Development in Salayea Town, Salayea District
- 2. Survey of Two (2) acres parcel of land for Ministry of Gender in Foya city, Foya District
- 3. Survey of Twenty- seven (27) acres of land survey for Joseph K. Jallah of Kolahun Highway, Mawolota, Voinjama District, and Undertook several other investigative surveys in Lofa county

#### Margibi County

The office of Margibi County Resident Surveyor was able to implement the followings:

1. Surveyed 25 acres of land for Logo Town in Margibi county;

- 2. Executed 307 acres of land survey for the state, and
- 3. Conducted several investigative surveys for citizens of Margibi County.
- 4. Cape Mount County

The below listed activities were carried out during the reporting period:

- 1. Four (4) acres of land were surveyed and deed prepared for all the security agencies(security net work) in the county in October 2009;
- 2. Two (2) acres of land were surveyed for Grand Cape Mount County Resource Training Center under the county development program and,
- 3. The office of the Resident County Surveyor undertook property verification assessment within the city of Robertsport in April 2009, and did some work on the improvement of the city layout.

#### 3.1.2 Liberian Cartographic Service

Operating under five (5) technical divisions (geodetic, cartographic, photogrammetric, geographic, and planning and research) and an administrative division, the Liberian Cartographic Service (LCS) is pleased to report on the following activities undertaken and accomplished during the period under review:

#### **ADMINISTRATION**

#### **PERSONNEL**

#### Employment:

Three men (Cyril Banya-Photogrammetrist, Anthony Musiabe-Yard boy and Richmond Crusoe – Driver) joined the Cartographic work force during the period under review.

#### <u>JICA Projects</u>

The mapping for the master plan study on Urban Facilities Restoration and Improvement in Monrovia, undertaken by Japan International Cooperation Agency (JICA), was completed at the Ministry of Public works with the participation of the Liberian Cartographic Service during the year under review. At the close of the project, LCS received a complete set of soft copies file (products) of all maps at the scale 1:10,000 (Topographic map). Other items received included an aerial movie of Monrovia, photo-flight, geodetic/triangulation resolution desk and a project report. These are asset for our long term cadastral program.

#### **OMEGA**

Government intends to move the Red-light Market of Paynesville City to the Whein Town area or the OMEGA Navigation Station Site. To enable the planners at the Ministry of Public Works prepare designs, a topographic survey was executed by the Liberian Cartographic Service to include 33% of the Omega enclosure. The maps at various scales are now a basic data to completing the designs.

#### <u>NEC</u>

The National Elections Commission (NEC) in developing plans for the upcoming elections in 2011 had observed some sticking issues on boundaries which needed the attention of the Inter Ministerial Technical committee on elections. The LCS participated in these meetings.

#### **Millennium Challenge Corporation**

The Liberian Threshold Program:

Technical Assistance Mission on the Development of land, a group of world bank consultants, was in the country this year to identify and detail activities in the area of land access and tenure to improve land rights in Liberia. The Liberian Cartographic Service participated in those discussions.

#### **SLAKPAWHEIN**

In a bid to acquire land for Government infrastructural development through the Ministry of Lands, Mines and Energy, the Liberian Cartographic Service played a pivotal role in acquiring 68.52 acres of land donated by the people of Slakpawhein Town at Tower Hill in Margibi County to the Government of Liberia. The project earmarked upon acquiring a parcel of land for constructing low cost housing for tenants.

#### **Strategic Planning Workshop**

In early April 2009, the Ministry of Lands, Mines and Energy (LM&E) held a two (2) days Strategic Planning Workshop in the Port City of Buchanan. This forum brought together administrators, head of Bureaus, Departments and the Ministers of the LM&E.

The Liberian Cartographic Service participation was to strategize plans for the economic mapping of Liberia and the development of this sector. Points brought forward at this deliberation included, creating a viable sector to involve manpower development, creating a conducive setting and the transfer of technology. Now that this service has a settled blue print, it is hopeful that more effort will be exerted to realize these set goals.

#### ADA/LAP

The African Development Agency/Liberia Agriculture Project based in Foya District, Lofa County requested the Global Positioning System (GPS) mapping of her concession which prioritized low or flat land. A team from the LCS was dispatched to Foya and the exercise was completed after ten (10) days.

#### UMC/LAP

The United Methodist Church/Liberia Annual Conference acquired 68.42 acres of land in Duazohn, Margibi County sometimes back. Citizens of Duazohn who had earlier sold the property are now encroaching and reselling the land.

The church requested the Ministry to conduct a survey of the parcels of land lying contiguously in one place. A perimeter survey and 49% of the monument was completed by the LCS.

#### **Doing Business**

International Finance Corporation and Liberia Setter Business Forum are involved with studies in Liberia that should lend credence and trust to business communities. One of such forum is "Registering Property" in Liberia as a special case study. The Liberian Cartographic Service attended these discussions at the Ministry of Lands, Mines and Energy and the National Investment Commission. High on the agenda at these meetings was finding a way to rank Liberia among 183 economies. Other institutions dealing with real property were all part of the discussions.

After many lengthy sections over several months, moderate regulations were accepted for registering property in Liberia. These collaborative actions from all institutions show some positive signs for registering property. Liberia ranking has improved as a result to these actions; but more needs to be done to institutes higher ranking. The published list of Registered Licensed Surveyors in Liberia is one good benefit the Ministry got in the reconstruction and management of the Land Sector.

#### **TRAVEL**

#### <u>Nairobi</u>

Maxwell C.F. Gwee, the LCS Director traveled to Nairobi, Kenya to attend a one week seminar on the Best Practice for Land Tenure sponsored by USAID and facilitated by African Development Agency.

Highlights of the seminar included, land rights, tenure rights and mineral rights. Gender equality and transparency in tenure were included as a vital tool for post conflict resolution. It was requested that since West Africa is politically unstable, the donor/sponsor should execute such seminar in West Africa also especially Liberia. The request is being highly studied.

#### **Freetown**

The Inter Agency Task Force Committee on Delineation of the Inter-Ministerial Technical Committee on Elections traveled to Freetown, Sierra Leone during March 2-15, 2009 as guest of the National Electoral Commission of Sierra Leone. The LCS was represented by Mr. Nathaniel K. Cisco, Assistant Director/LCS.

The objective of the trip was to study the concepts of Sierra Leone's system of preparation for elections. Only technical issues were discussed. Results from this visit enlightened members of the delegation on delineation of electoral maps and other technical supports to the holding of elections.

#### **CONTACTS**

The LCS made contacts with several institutions, agencies and organization. These efforts are aimed at creating a lobby for external aid. Among the many contacted, the followings are worth mentioning:

- a. Dozie Ezigbalike Chief, Geo-Information System (GIS) Section Economic Commission of Africa, Addis Ababa, Ethiopia. Discussion centered on the establishment of a GIS facility that will aid LCS in revising maps using satellite technology. Presently, communications and presentation are being exchanged.
- b. Kentaro Usuda Aero Asahi Corporation, surveying and mapping expert. This group is lobbing to initiate a project in Liberia in the near future through JICA funding.
- c. Ara Histoshi, Senior Program Officer JICA . JICA has undertaken many projects in Liberia especially at the Liberian Cartographic Service. This agency is seeking the formation of a project for Liberia to be established at LCS.
- d. ESRI Foundation: ESRI has consented to place Liberia possibly for the awarding of a grant to establish a Remote Sensing and GIS Lab. This work station with a TRK capability is very essential for dynamic mapping.
- e. OMI, Germany: OMI is a group that conducts geodetic surveys. This group has worked for MITTAL STEEL (Liberia) by establishing geodetic controls throughout the company's concession area. The Cartographic Service is discussing with OMI for the systematic networking of Liberia by either harmonizing the existing controls or establishing a new network.

#### **3.1.3 Bureau of Land Information and Training**

The Bureau of Land Information and Training has its official mandate to maintain and control the Land Registration Program as enshrined in the 1974 ACT of the Land Registration Law of Liberia. This program deal with demarcation of parcels of Land as well as adjudication of disputed parcels and the training of interested people in the field of surveying and mapping.

During the period under review, the Bureau investigated and surveyed the followings:

- A parcel of land lying between Water Street and the Measurrado River, the Johnson Street Bridge, Mechlin Street and Vai Town Bridge found in Adjudication Area One of Monrovia. The investigation was intended to know who has legal title in the area and those without titles (Squatters).
- A parcel of land lying and situated on Ashmun Street belonging to the Government of Liberia. This survey was requested by the Civil Service Agency. However, the land was managed previously by the then Department of War now Defense Ministry. It was found in Adjudication Area One of Monrovia with parcel No.48.

The Bureau of Land Information and Training dealt with the following issues:

- A request from the Government of Liberia through the General Services Agency relative to the statuses of parcels Nos. 15 & 16 of Randall and Ashmun Streets at the Northeastern intersection, found in Adjudication Area One of Monrovia and registered under the GOL claim. General Services Agency (GSA) wanted to know if there was any claim made during the Land Registration Process in early 70s. Even though, a deed was seen from GSA but such information are not available in the Land Registry.
- Investigation of the parcel of land presently occupied by the National Fire Service found in Adjudication Area One of Monrovia
- Settling a dispute on Buchanan Street between the Harris' family and Administrator of the late Mark M. Dennis
- Investigated a parcel of land in the interest of the National Drug Service, Ministry of Health and Social Welfare in Oldest Congo Town. As a result of the investigation, a parcel of land containing two (2) lots was secured for the NDS.
- Participated in the Ministry Strategic Planning Workshop held in Lower Buchanan, Grand Bassa County.

The Bureau of Land Information and Training has a special team responsible to find Government owned lands. These lands were legally acquired by the Government from their legitimate owners and are now occupied by squatters or sold by the same people from whom they had been purchased. One of such land is the Buzzy Quarter located near the Executive Mansion.

The Bureau as the Land Information Center of the Ministry working in collaboration with the bureau of Lands and Surveys and the Liberia Cartography Service was able to find 68.52 acres of land from the people of Slakpawein, Lower Margibi County for the Government of Liberia development purpose. The document for the land (deed) was turned over to the Government of Liberia on July 9, 2009.

The Bureau also took part in the followings surveying activities:

- Eight (8) acres for the Angie Brooks Randall Center for International Colloquium for Women Empowerment, in Fendall.
- Investigated and secured 27.37 acres of land for the Liberia Refugees Repatriation and Resettlement Commission (LRRRC) in Low Cost Village, Bensonville City, Montserrado County.
- Conducted a perimeter survey of the OMEGA Land in Paynesville City in the interest of the Liberian Government. This project was evenly shared among the Three (3) Bureaux of the Department of Lands, Surveys and Cartography.

Following the completion of the perimeter survey, the Government of Liberia through the President requested for the deed of the land. In compliance thereto, a Development Grant Deed covering 452 acres from the Republic of Liberia to the Liberia Marketing Association was prepared. The deed has already been probated, registered and subsequently signed by the President in accordance with Law and delivered to the Grantor

## 3.2 Department of Mineral Exploration and Environmental Research (D'MER)

The Department of Mineral Exploration and Environmental Research (D'MER) is charged with the responsibility of coordinating and monitoring the development of the nation's mineral and water resources as well as ensuring that sound environmental practices are adhered to in the mineral sector.

The Department comprises two bureaus: The Liberian Geological Survey and the Liberian Hydrological Service.

#### Status of Mineral Exploration

The global economic crisis of 2009 saw the decrease in investment dollars for mineral exploration programs in the country. Many exploration companies had to scale down their exploration activities thus resulting in a decrease in expenditure for geological exertion. However, investor confidence in the mineral sector was not completely derailed as evident by an increase in new applications for mineral exploration licenses and extensions on existing properties.

#### Mineral Exploration Licenses Granted

In the year 2009, Thirty (30) companies applied for forty-five (45) mineral exploration licenses over several parts of Liberia. After careful vetting of the spatial distribution and geographic location of the application areas with the existing licenses, the Liberian Geological Survey (LGS) through the MLME recommended fifteen (15) companies for the issuance of twenty (20) mineral exploration licenses in Liberia.

The spatial reference of all received applications were vetted and cleared of all overlaps. Based on the initial technical processing and analyses conducted by the LGS on the applications, the MLME was pleased to recommend the companies to the IMCC to allow the MLME grant the recommended applicants mineral exploration licenses according to PPCA Reg. # 002.

These newly issued license holders are awaiting the promulgation of a prepared Draft Mineral Exploration Regulations before actual field work begins according to Section 2 of the terms of their licenses and the New Minerals and Mining Law of 2000.

#### Mineral Extensions Granted/Denied

Section 5.3 (f) of the New minerals and Mining law of 2000 states "the initial terms of the Exploration license shall be not more than three (3) years and it may be extended for a single two (2) year term upon the written application of a holder whom has fulfilled its work and expenditure obligations under the proposed exploration program and otherwise complied with this Law and the Regulations".

In keeping with this clause and the Minerals and Mining Law of 2000, several exploration companies applied for extensions on their licenses to enable them continue geologic work that will lead to full understanding of mineralization in their areas and subsequent declaration of production lots to upgrade to the mining phase.

The following companies were granted a two-year extension after careful vetting of their performance by the Liberian Geological Survey:

|              |                            | 0 5                      |
|--------------|----------------------------|--------------------------|
| $\checkmark$ | T-Rex Resources Inc.       | Grand kru & Nimba East   |
| $\checkmark$ | Hummingbird Resources Inc. | Dugbe                    |
| $\checkmark$ | Broadway Consolidated Inc. | Dugbe, St. Paul & Cestos |
| $\checkmark$ | Afro Minerals              | Kana Hills               |
| $\checkmark$ | Deveton Mining Company     | Ba & Zia                 |
| $\checkmark$ | Magma Minerals Res. Inc.   | Nimba South              |
| $\checkmark$ | Craton Development Inc.    | Gibi                     |
| $\checkmark$ | G-10 Exploration Inc.      | St. Paul & Belefunai     |
|              |                            |                          |

The following companies did not pass the vetting process of the Liberian Geological Survey (LGS) and were therefore denied extensions:

|    | Liberty Gold & Diamond Mining<br>Hummingbird Resources Inc.<br>Broadway Consolidated Inc. | River Gee<br>Nimba & Cestos<br>Cavalla, Dugbe, Buchanan | _ |
|----|---|---|---|
| AA | Junk River, Weala-Gibi, Upper Bong<br>Liberian Gold Corporation<br>Ducor Minerals (DFI)   | Gedabo<br>Western Liberia                               |   |

#### Mineral Exploration Licenses Terminated/Cancelled

The Department of Mineral Exploration and Environmental Research is very cognizant of the reluctance of investors to put huge capital in the very risky venture of mineral exploration especially at a time when the global economic meltdown is seriously affecting the financial world (private investors and the stock markets).

However, with the need to contribute to the success of the Poverty Reduction Strategy (PRS), the Department embarked upon a vigorous campaign during the course of the year to make sure exploration companies are indeed executing their work programs with the aim of graduating to the mining phase thereby creating needed job opportunities for the Liberian people and not hurdling exploration grounds while seeking investors.

In this regard, several exploration agreements/licenses were terminated/cancelled for non-compliance with the terms of their agreements and the Minerals and Mining Law of 2000:

- Akewa Global Services
- Broadway Minerals Resources
- Sino Gold Liberian Limited
- Yar River Mining & Agricultural Resources Corp.
- Freedom Gold Exploration& Mining Company
- Mineral Cooperation Agreement (JV btw GOL & MANO)
- Maxtech Ventures
- > Precious Minerals Mining Company

**Notices of Termination/Cancellation** were issued to the following companies and such terminations/cancellations take effect after grace period to cure defaults expires in keeping with the terms of their agreements and the Minerals and Mining Law of 2000:

- Hope Investment Inc.
- Ocean Bottom Resources (formerly Subseas)

#### Mineral Development Agreements (MDAs) Granted

During the course of the year, the following companies applied for MDAs on their exploration licenses:

- BHP Billiton (Liberia) Ltd., as of January 2006, had exploration licenses over Kitoma, Goe-Fantroe, Wologisi, and Bomi-East iron ore deposits. In the first quarter of 2008, it relinquished Wologisi and Bomi-east and applied for MDAs over Kitoma and Goe-Fantro. The Inter-Ministerial Technical Committee (IMTC) concluded its technical vetting of BHP's proposal and submitted its findings to the Inter-Ministerial Concessions Commission (IMCC). The IMCC is finalizing negotiations with BHP for the possible granting of an MDA.
- Putu Iron Ore Mining (PIOM) formally MARIO, on May 18, 2005, acquired an iron ore exploration and appraisal agreement over the Putu Range, in Grand Gedeh County. In early 2008, it applied for conversion of the exploration property into an MDA. PIOM and GOL are in the final stages of negotiation for the possible granting of an MDA over the Putu Range.
- AmLib United Minerals' request for conversion of three of its exploration properties (Cestos, Zwedru & KleKle) was assessed by the Ministry and members of the Inter-Ministerial Mineral Technical Committee. Thus far, a negotiated MDA has been signed between GOL and the company. This MDA is presently before the Legislature for final ratification.
- China Union (Old Bong Mines Concession) was awarded an MDA over the old Bong mines concession area in Bong County after participating and winning the tendering process.

#### Environmental Research

The effects of global climate change have now become a reality and Liberia, being a member of the global community, is no exception to adverse impacts being experienced globally. Liberia being a coastal country (coastline of approximately 480 km or 300 miles with a low lying coastal zone of some 50 km inward) will be greatly affected by any significant change in sea level rise.

The recent increase over the past few years in coastal disasters as exemplified by severe coastal erosion of communities such as Robertsport, Monrovia, Buchanan, Greenville and Harper to name a few, have prompted the Government of Liberia to pay serious attention to the threats by the Atlantic Ocean to the infrastructure and urban settlements of the Country.

The need to have a trained National Coastal Protection Unit serving as a counterpart to international consultants in respect to overseeing and monitoring coastal projects is indispensable to the success of any coastal protection project that will be undertaken.

It is in this respect that the Department of Mineral Exploration & Environmental Research proposed the transformation of the Coastal Protection Task Force commissioned by the Minister into the **Beach Erosion Control Unit of Liberia (BECUL)** with focus on technical issues relating to coastal engineering and morphological processes and monitoring. This proposal was endorsed by the Minister and **BECUL** was formed with the following members:

| No. | Name                  | Title           | <b>Profession/Agency</b> | Position    |
|-----|-----------------------|-----------------|--------------------------|-------------|
| 1   | Mr. Carlton S. Miller | Asst. Minister  | Hydro-geologist          | Chairman    |
|     |                       |                 | (MLME)                   |             |
| 2   | Mr. Napoleon Chattah  | Asst. Minister  | Civil Engineer           | Co-Chairman |
|     |                       |                 | (MPW)                    |             |
| 3   | Mr. Jonathan Davies   | Manager         | Environmentalist         | Member      |
|     |                       | _               | (EPA)                    |             |
| 4   | Mr. David Wiles       | Marine          | Professor (UL)           | Member      |
|     |                       | Sedimentologist |                          |             |

#### **Steering Committee**

#### **Technical Committee**

- 1. Mr. Jefferson Wylie, Director (LHS), Geologist Chairman
- 2. Mr. Emmanuel O. Sherman, Director (LGS), Geologist, IT Spec. Co-Chairman
- 3. Mr. Frederick Ziama, Chief Meteorologist (LHS), Geographer Member

- 4. One technician each from the following institutions:
  - Ministry of Public Works
  - Liberian Hydrological Service
  - Liberian Geological Survey
  - Environmental Protection Agency
  - National Port Authority
  - Geology Department (UL)
  - Geography Department (UL)
  - Civil Engineering Department (UL)

#### • Initial Main Task of the Beach Erosion Control Unit of Liberia

- Gathering of historical data (previous reports, investigations, studies, mitigating measures, base line maps, etc)
- Participating in Feasibility Studies for any interventions required for coastal areas
- Participating in detailed designs, tender documents and cost estimates for coastal protection projects
- Participating in implementation of works by selected contractors
- Monitoring of physical processes at "hot-spots" by topographic surveys (beach profiling and aerial images
- Monitoring of coastal protection projects
- Coastal engineering capacity building (training)

#### **Environmental Projects**

#### GEF LDCF Project Enhancing Resilience of Vulnerable Coastal Areas to Climate Change Risks in Liberia

The United Nations Development Program (UNDP) with the help of the Global Environmental Facility (GEF) has secured some funding for the conduct of pilot projects along the coast of Liberia with the aim of reducing the effects of coastal erosion along the coast. This project will develop capacity to adapt to coastal climate change and it will demonstrate low-medium cost measures for protecting coastal areas against coastal erosion and climate change. Through a participatory and capacity-development process, at three priority sites, communities will develop the capacity to protect their coast and will be benefiting from protection from coastal erosion. The national and county level enabling environment to sustainably manage and protect coastal resources will have been greatly enhanced - including sectoral reform, institutional strengthening and key developments in the tertiary education sector. Data and information management systems will be greatly improved. Monitoring, lesson learning and knowledge management are central parts of the project.

Three (3) pilot sites have been identified based on the intensity of erosion and the immediate need to protect human life and property:

1. Kru Town and Lake Piso Area in Robertsport

Proposed mitigations include the construction of gabion groins

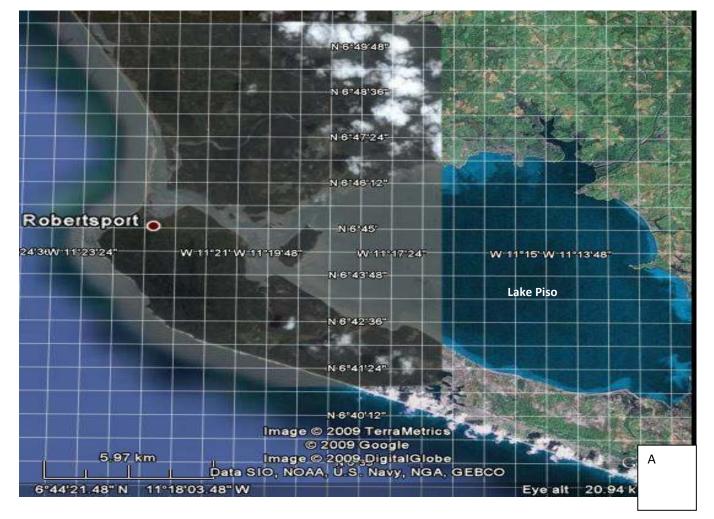
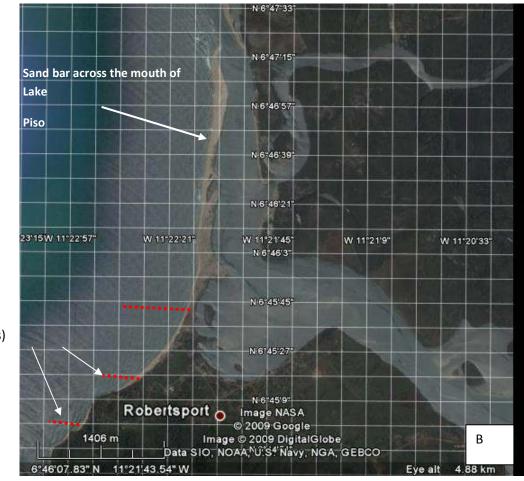


Figure 1.: Satellite Imagery showing Robertsport area and Lake Piso



#### Gabion groins

(provisional locations)

Figure 2. Satellite Imagery showing (A) Robertsport area and Lake Piso and (B) Robertsport and the sand bar across the mouth of Lake Piso. (Provisional locations of gabion groins shown in red dotted lines).

#### 2. Hotel Africa Coastline in Monrovia

Mitigation efforts will include a combination of gabion groins and revetment system to be constructed along the coast off the Hotel area



Figure 3: Satellite imagery (A) of proposed pilot project area for gabion groins and revetment) (B) Pictorial view of proposed pilot project area.

#### 3. Atlantic Street Coastline in Buchanan

A combination of groins and gabion revetment



Figure 4: (A) Satellite imagery of Buchanan Proposed Atlantic Street coats for gabion groin and revetment

(B) Pectoral view of the Atlantic beach proposed pilot project site. (Gabion groins in red dotted lines).

# UEMOA/IUCN/Liberia National Coastal Diagnostics Project (NCDP)

The West African Economic and Monetary Union (UEMOA) is conducting a regional program to combat coastal erosion, the first phase seeks to produce a regional diagnostics and draw up a development scheme for the West African coastal area. A proposal for Liberia was submitted and accepted; a national consultant has been contracted for this project. The Department is fully collaborating with the consulting team by providing expertise relevant to the management of resources and/ or human impact in the coastal environment.

# 3.2.1 Liberian Geological Survey

The Liberian Geological Survey (LGS) is one of two bureaus of the Department of Mineral Exploration and Environmental Research (D'MER) of the Ministry of Lands, Mines & Energy. The Survey is mandated by law with the following responsibilities:

- Geologic mapping
- Mineral exploration
- Mineral resources data bank
- Environmental studies, and
- Development of mineral and environmental policies

The Survey has two divisions:

# **Exploration Promotion Division**

The EPD is responsible for the vetting analysis (application examination process) by undertaking technical evaluation and due diligence (local information completed as relate to the availability of the area being applied for and other pertinent information; due diligence on information provided by the companies; search for additional and pertinent geological information on the projected area; environmental and social impact assessment in the suggested area to be undertaken by a license holder when license is awarded.

#### **Exploration Monitoring Division**

The EMD is responsible for periodically monitoring of all exploration companies operating in the Republic with the view of ascertaining that all submitted quarterly reports received by the Ministry are accurate and being followed. Filed exploration programs to include financial expenditure, environmental and social impact assessment reports, etc are all monitored by this Division.

## **Mineral Exploration Licensing and Monitoring**

Early this year the Government of Liberia continues the issuance of Mineral Exploration Licenses under an approved PPCC Reg. #002. This regulation governs the issuance of Mineral exploration licenses in Liberia. Since then, all applications for mineral exploration licenses were processed and issued in accordance with this regulation.

Since the implementation of Regulation #002 began, about fifty percent of all of the companies that were cleared after the vetting of three separate batches of applications by the IMM-TC and the approval of these applications by the IMCC have made full annual exploration and surface rental payments to the Government of Liberia and their licenses granted/issued.

In the year 2009, Thirty (30) companies applied for forty-five (45) mineral exploration licenses over several parts of Liberia. After careful vetting of the spatial distribution and geographic location of the application areas with the existing licenses, the Liberian Geological Survey (LGS) through the MLME recommended fifteen (15) companies for the issuance of twenty (20) mineral exploration licenses in Liberia.

The spatial reference of all received applications were vetted and cleared of all overlaps. Based on the initial technical processing and analyses conducted by the LGS on the applications, the MLME was pleased to recommend the companies to the IMCC to allow the MLME grant the recommended applicants mineral exploration licenses according to PPCA Reg. # 002.

#### **Monitoring of License Holders**

LGS visited several exploration and MDA licensed areas during the course of the year. The essence of the visits was to verify the work commitments of these companies as stipulated in their quarterly reports. The methodologies used during the geological assessments of various targets by the license holders were also reviewed in collaboration with the environmental impacts of these activities. Careful assessments of most of the exploration and MDA areas reviewed that the companies are conducting their activities according to the basic regulatory frame works governing the mineral sector of Liberia.

Few of the licensed areas could not be visited because of logistical constraints. However, the MLME has begun putting in place mechanism to upgrade the capacities of the LGS to efficiently and effectively monitor all of the exploration license and MDA holders in the country.

#### Mineral Investment Promotion

Due to the lack of investment during the long periods of civil unrest, Liberia now lags far behind many other African countries in the development and promotion of its mineral resources. However, with the new stability we are enjoying, the government of Liberia through the MLME is keen to attract investors to develop Liberia's natural resources. During the period under review, the LGS gave out several Mineral Promotion Brochures to a number of potential local and international investors who expressed interest in the mineral sector of Liberia.

With over 75% of the country being underlain by Precambrian rocks of granite-greenstone affinity, the mineral potential is enormous. A wide variety of minerals exists, including iron ore, gold and diamonds, and there are significant traces of bauxite, base metals, barite, heavy mineral beach sands deposits, manganese etc. There is also potential for substantial gold deposits throughout the country, particularly in eastern and central Liberia, and several primary gold and diamond deposits are in the process of being developed.

Artisanal gold mining is widespread across the country, while alluvial diamonds are being mined in western Liberia, Northern Liberia and have been recently discovered in Sinoe and River Cess Counties in the southeast.

#### 3.2.2 The Mineral Cadastre Information Management System (MCIMS) Project

The Survey is playing a major role in the development of Liberia Mineral Cadastre Information Management System (MCIMS). The MCIMS is in its implementation phase. Prototype testing has been completed and the main system has been installed. Training activities at all levels relative to the smooth operations of the system have been completed. Turning over ceremonies are schedule for late January 2010.

This project is being sponsor by USAID and the Government of Liberia and is being undertaken by the Liberia Improved Budget and Mining Management Project (LIBAMM) as a means of "assisting the Government of Liberia in implementing its strategy to strengthening governance, transparency and capacity in the management of mineral resources, and promote accountability in a socially and environmentally sound development of the minerals sector based on private investments".

The cadastre will record and provide reliable information about the status, stage and precise location of exploration and mining rights as well as protected areas and special needs areas in the country. Cadastral procedures will limit discretion of the authorities in the allocation of rights and preserve the priority of the "first in / first assessed" (FIFA) principle in the allocation of mineral rights as enshrined in the New Minerals and Mining Law of 2000 (NMML); and will help monitor and enforce the financial, social, safety and environmental obligations of license holders.

The procedures it implements will be transparent, public, of general application, non-discretionary and in accordance with Mineral Policy, the NMML, Mining Regulations and other applicable legislation. Moreover, these procedures will have stages, instances and resources to allow mineral rights owners to adequately defend their rights in accordance with the provisions of the NMML, the Regulations and their subsequent amendments. Access to the MCIMS will be provided to key public mineral institutions and agencies, including those located in districts, to enable and facilitate awareness and public consultation. It will also have public access which is of particular relevance to companies which are potentially interested in investing in the minerals sector of Liberia.

A major funding gap is the payment of salaries for seven (7) technicians which isn't part of the Ministry's 2010–2011 budget. This might jeopardize the success of the program if not urgently addressed.

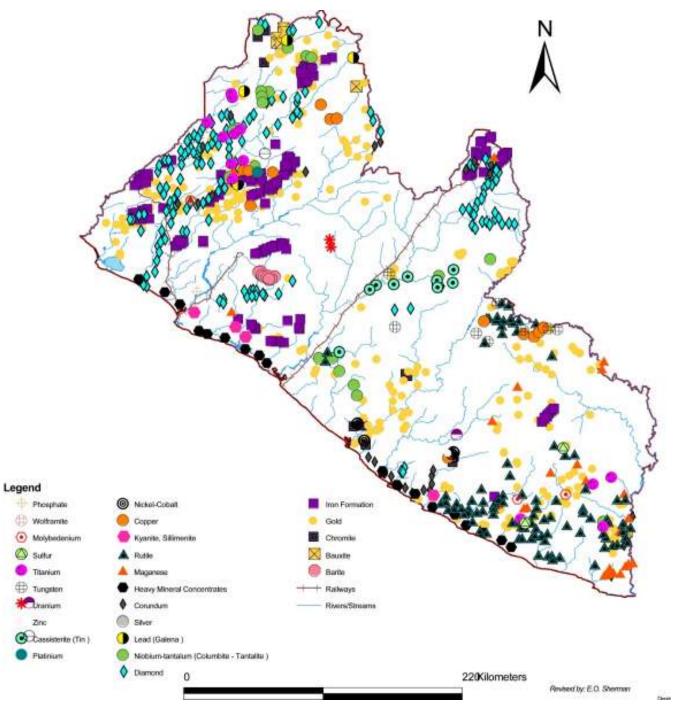


Figure 5: Map showing the mineral occurrences of Liberia

The MCIMS is in the implementation phase. Nearly all of the hardware and software have been installed. The identified staffs to run the system have all been fully trained by the contractor, Spatial Dimensions of South Africa. The system is based on a Commercial Off-the Shelve (COTS) product called Flexi-Cadastre. The Minister and his principal deputies' offices have all been networked and linked to the MCIMS building that supplies high speed internet services.

As it relates to data capturing issues, the Mine Surveyors underwent two weeks of intensive theoretical and practical trainings that enable them to use a post differential processing capable GPS with an accuracy of << 1.0 meters.

## Policy Formulation and Legislation Proposed Regulations Governing Exploration under a Mineral Exploration License of the Republic of Liberia (Exploration Regulations)

The Department finalized the drafting (with help from the International Senior Lawyers Program) of the *Exploration Regulations*. These regulations have been presented to cabinet for endorsement and promulgation.

The proposed regulations comprehensively address the rights, obligations and responsibilities of a holder of an Exploration License issued under the Minerals and Mining Law 2000.

At present there are no regulations governing the rights, obligations and responsibilities of the holder of an Exploration License. The only regulations outstanding at this time relating to exploration licenses issued under the Minerals and Mining Law of 2000 are those contained in Regulation 002 of the Public Procurement and Concessions Commission, entitled "Regulation on Interim Procedures for Issuing Exploration Licenses".

#### **Conclusions/Recommendations**

The year 2009 was a very tough year for the geological survey because funds and logistical supports to the survey were very limited. As the result of the constraints, not much tasks were accomplished in terms of field monitoring, geological mapping and mineral investment promotion. As we enter 2010, with the realization that Liberia is bargaining with major investors in the mineral sector from a position of weakness due to the lack of a national database (inventory) of our mineral assets (quality and quantity), we highly recommend that the Government increases the budgetary allocation and support to the Liberian Geological Survey (LGS) so as to enable it conduct serious geological field mapping and mineral exploration to move us from Greenfield to Brownfield determination of our mineral resources.

#### 3.2.3 Liberian Hydrological Service

The Liberian Hydrological Service (LHS) Bureau was established through an Act of Legislature in 1972 as a research oriented bureau of the Department of Mineral Exploration and Environmental Research (D'MER) within the Ministry of Lands, Mines and Energy. The 1972 Act mandated the LHS to assess, monitor, evaluate and protect the national water resources of Liberia. The major sectional activities of the Bureau encompassed Meteorological Monitoring, Surface Water Evaluation, Ground Water Monitoring and Water Quality Monitoring and Control all supported by a Maintenance Section.

During 2009, the mandates of the LHS were carried out mainly through collaboration with JICA, NCL, the Latter-Days Saint Charity, LDSC, (a religious philanthropist organization) and Population International Services (PSI) and other NGOs. During the execution of these collaboration programs, the ground water, surface water and water quality monitoring activities were conducted. Also a major function carried out during this period under review was 'Policy Formulation and Legislation' geared towards reforming the Water and Sanitation Sector in Liberia. Personnel of the Service also participated in various seminars and workshops locally and internationally for the development of water resources in Liberia. The Bureau also facilitated the maintenance of several vehicles of the Ministry at the garage under its maintenance program.

# **Collaboration Programmes (Ground, Surface Water Monitoring and Control)**

# LHS-JICA Water Sector Study In Monrovia

In collaboration with JICA, LHS served as a major counterpart to the Water Sector Component of The Master Plan Study on Urban Facilities Restoration and Improvement in Monrovia. The Master Plan Study is being conducted in two phases.

During Phase One of the Study, two major activities were carried out. The first activity was the inventory of 800 shallow wells in Monrovia and its environs with deployment of three technical teams from the Ministry of Lands, Mines and Energy by conducting GPS mapping. During the well inventory in January and February 2009, depth to water level (water Table) and rapid spot water quality tests were conducted. Parameters tested during this phase included pH, Conductivity and turbidity. Selected water samples were send abroad to test for E-Coli bacteria. Figure 2 shows locations of shallow wells from the inventory. The second was the facilitation, through hydro-geological support and the negotiation for land utility rights from the communities to the Japanese Team, of the conduct Vertical Electrical Sounding (VES) study for exploratory drilling of four boreholes which culminated in the realization of the construction of one Pilot Water Supply System in the MTA Community dedicated on September 30, 2009 to serve an estimated 1000 residents under the Ground Water Exploratory programmed. Figure 2 below shows site locations of the VES and exploratory boreholes.

The Second Phase is now being carried out since October 2009 in the Paynesville area as a result of an appeal for the extension of the Master Plan Study by the Liberian Government. During this phase, hydro-geological support and the negotiation for land utility rights from the communities were again rendered in selecting VES and Six (6) exploratory borehole sites as depicted in figure 3 below.

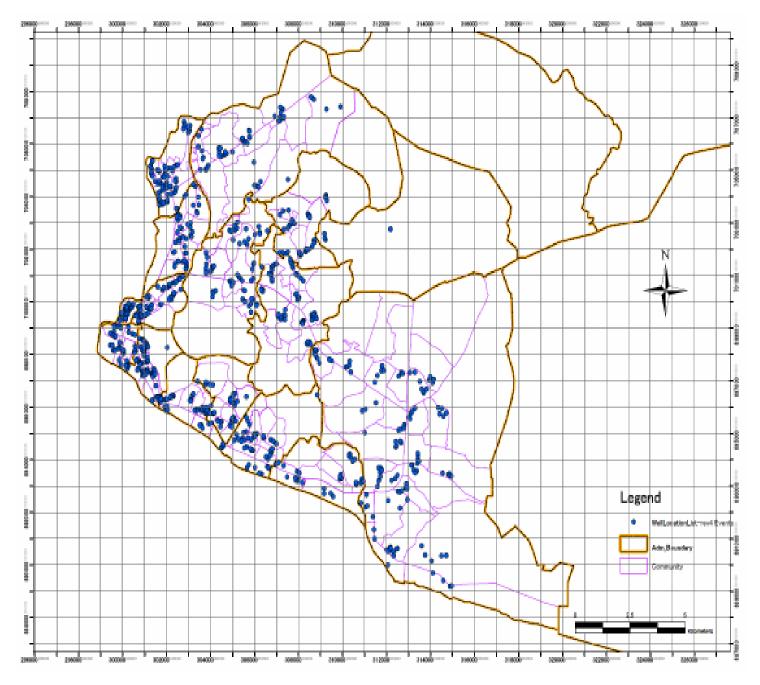


Figure 6: Location Map of the Well Inventory (Plotted from Annex 1)

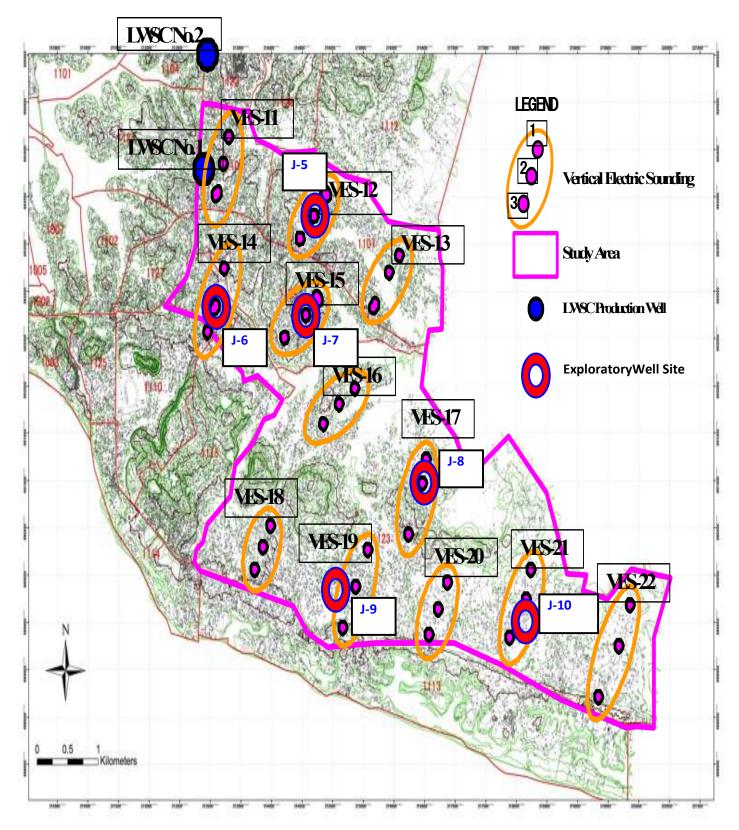


Figure 7: VES and Exploratory Drilling (J-1-10) Sites of the Master Plan Phase 2

#### LHS-NCL FEASIBILITY STUDIES

Based on an official request from the Liberia Water and Sewer Corporation in January 2009, LHS in conjunction with NCL, and AWF hired Nigerian-based engineering consulting firm for the 'Feasibility Study for the Expansion of Water Supply and Sanitation in Monrovia and Three County Capitals', facilitated the conduct of Vertical Resistivity Survey (VES) for ground water in Buchanan, Kakata, Zwedru and Monrovia; investigated the flow regimes of Benson, St. John, Mechlin and St. Paul Rivers between February and March 2009 under both the Surface and Ground Water Sections of the Bureau.

In Monrovia and its environs, several VES sites were investigated and based on the interpretations two pilot drilling sites were selected. One of the sites was located in the Soul Clinic Community while the other was in the Barnersville Estate. Figure 4 below shows the Monrovia VES sites.

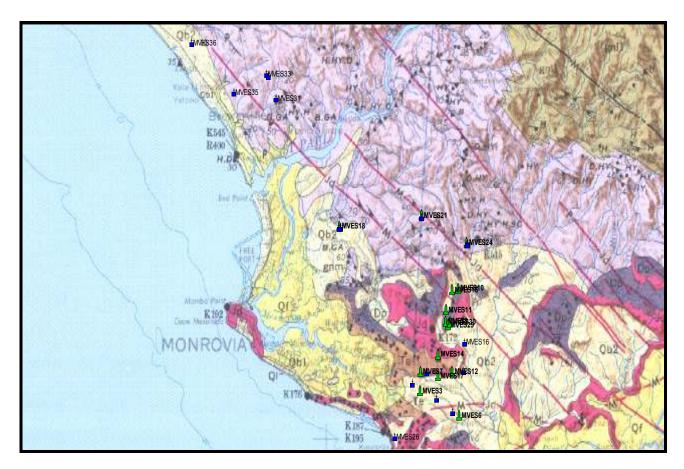


Figure 8: NCL VES Location in Monrovia and its environs on Geologic Map

#### **MLM&E – LDSC MEMORANDUN OF UNDERSTANDING**

During the period under review, the LHS also carried out Water Quality Monitoring and Control in collaboration with LDSC. Technicians from the Service monitored and verified 100 sites for water wells points. As part of its mandates to assess and evaluate water resource potential, LHS provided guidance for the sitting and monitoring of the 100 hand-pump project for LDSC which was successfully completed and now providing safe drinking to several inhabitants of Kakata (20 hand pumps), Monrovia and its environs (68 hand pumps) and Tubmanburg (12 hand pumps).

In order to clearly appreciate the humanitarian assistance rendered by LDSC in addition to other partners' efforts, the location of the project wells is produced in Figure 9a below.

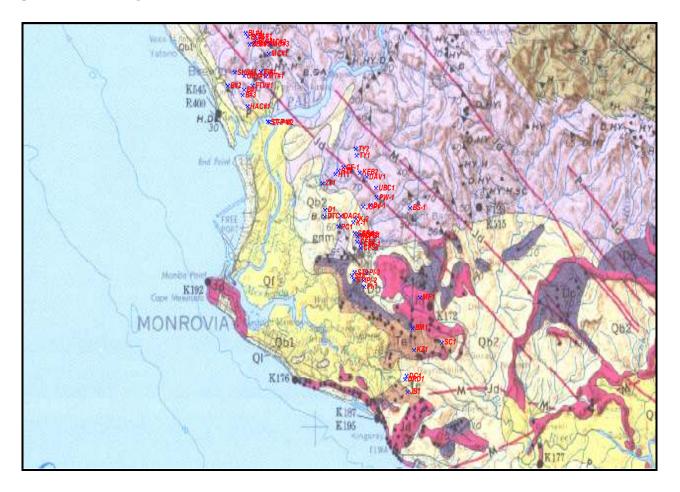


Figure 9a: LDSC Wells in Monrovia and Environs

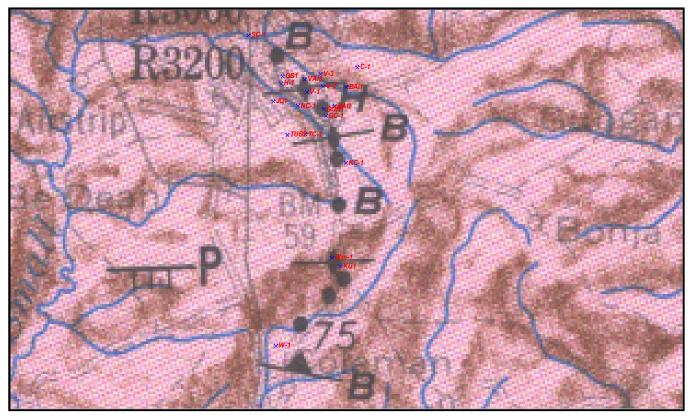


Figure 9b: Tubmanburg Well Location (red marks)

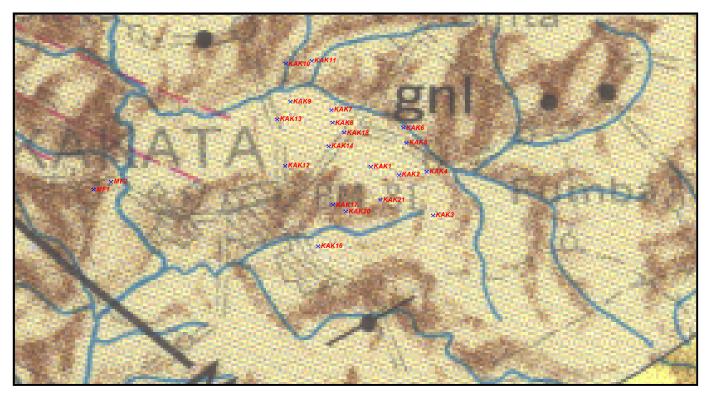


Figure 9c: LDSC Wells in Kakata (red color marks)

# Water Quality Testing

In an effort to improve water quality in Liberia, the laboratory of the Liberian Hydrological Service, Ministry of Lands, Mines and Energy conducted water quality analyses of 113 water samples in the country, participated in the Firestone waste water investigation and the launching of Water Guard introduced in Liberia by Population Services International/Liberia (PSI) in 2009.

## Water Quality for LDSC

In April 2009, the water quality laboratory concluded the analysis of 100 water samples for Later-Day-Saint in three localities, namely; Montserrado (68 hand pumps), Kakata (20 hand pumps) and Bomi (12 hand pumps) analyzed. Annex 2 attached contained the results of analyses. The analyses of water samples for physical, chemical and bacteriological parameters resulted in 100 analyses for LDSC for its hand pump construction project in 2009 in various communities in Monrovia, Kakata and Tubmanburg;

#### **Collaboration with other Institutions**

During the year under review, the Liberian Hydrological Service collaborated with other line institutions agencies of GOL to conduct monitoring of water quality testing. These efforts led to working with the Ministry of Planning and Economic Affairs, Liberia Water and Sewer Corporation, Environmental Protection Agency of Liberia and Ministry of Health and Social Welfare to conduct human consumable water quality as well as environmental monitoring. Below activities contained excerpts of such collaborations.

#### Water Quality Testing for other Organizations

Upon requests from the institutions below, the Liberian Hydrological Service conducted water quality analyses in support of the quality of water supply and environmental investigations to ascertain the impact of pollution on the water resources.

# Water Quality for CHICO

Four samples were received for analysis from CHICO from the Bomi East Exploration Camp to investigate the quality of the water supply for the camp. The samples were tested and found to be of acceptable quality in line with WHO Guideline for Drinking Water Quality.

# Population Services International/Liberia (PSI)

The Liberian Hydrological Service conducted quality control testing for the introduction of the household water brand of disinfectant called 'WaterGuard' by Population Services International/Liberia (PSI). In Liberia, for the purpose of treating water at the household level, tests were carried out on water samples treated with WaterGuard to determine free chlorine, total chlorine and residual chlorine. At the end of this exercised, single dosage was recommended to be used for the Liberian water treatment with WaterGuard concentration of 1.5mg/l Cl<sub>2</sub>. The official launching of this product was held at Rally Town Market in Monrovia on Wednesday September 30, 2009 where the President of Liberia, Madam Sirleaf, served as the Chief Launcher.

# **Forest Cry Liberia**

On 28 August 2009, three samples were analyzed for Forest Cry Liberia Inc. collected from one hand pump and from Stockton Creek showed very high level of fecal coliform bacterial contamination. This showed evidently how polluted the surface of most water bodies associated with highly populated human settlements.

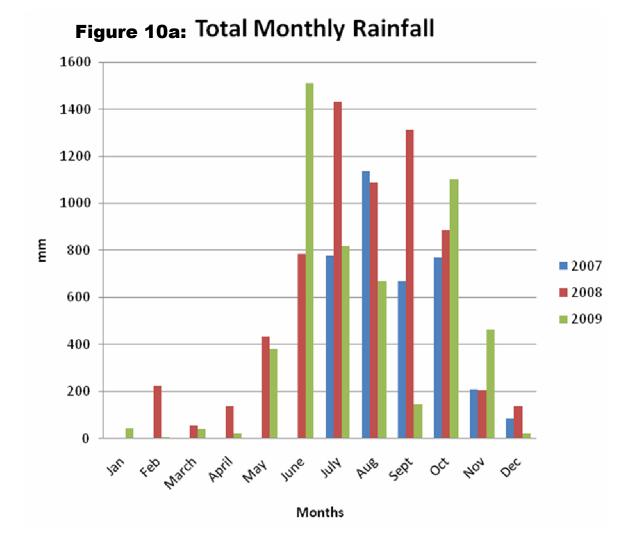
# Water Quality for Firestone Rubber Company

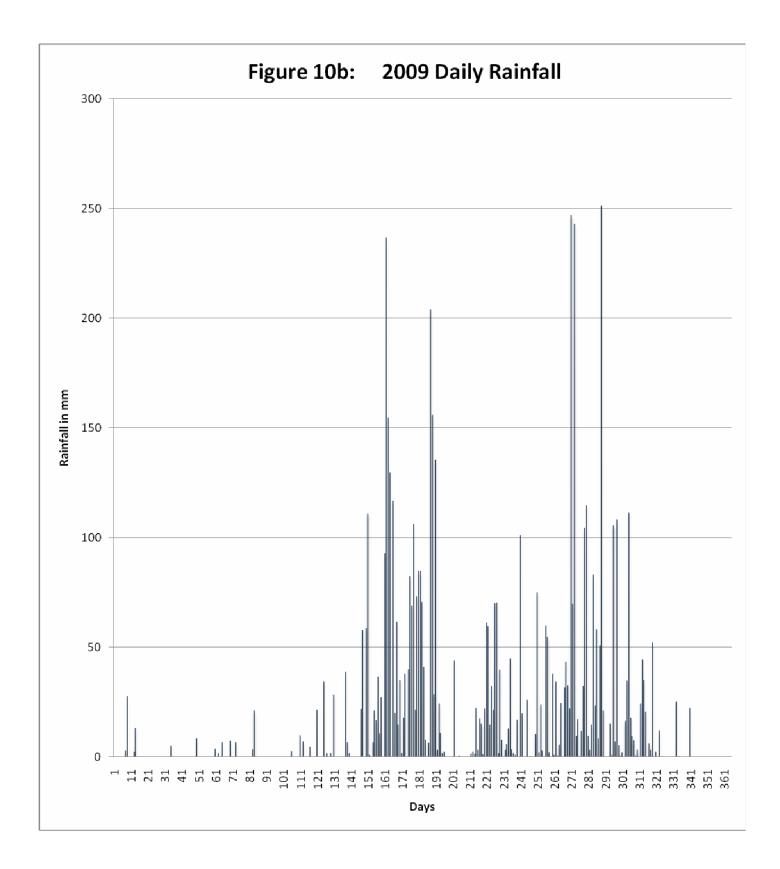
On the 10<sup>th</sup> of September 2009, the laboratory technician was involved in collecting water samples from creeks in Kpanyah town community that were allege to be polluted by Firestone Rubber Company. These samples were collected and brought to the Hydrological Service on the Old Road, Monrovia for analysis.

The Technical Inter-Ministerial Committee constituted by the Chairman of the Board of EPA, Hon. Amara Conneh, and comprised of MPEA, MLM&E, LWSC and EPA including closed participation of the Civil Society concluded the Orthophosphate level of the samples tested was high above normal due to the activity of effluent from the Firestone Treated Wastewater in hydrological environment in the Kparyan Town Area.

#### **Meteorological Monitoring**

The Meteorological Section continued to monitor rainfall at LHS by observing daily rainfall using one manual rain gauge installed in 2007 and commissioned one semi-manual 'Rainwise' Rain gauge at LHS in August 2009 (see the figures below for details). From the analyses of the rainfall recorded by LHS, June 2009 exhibited the highest monthly total of 251.1mm for 2009.





#### Hydrometric / Maintenance Section

The Hydrometric Section is an organic body established with other sections which constitutes the Liberian Hydrological Service, to serve as a supporting arm (maintenance and installation) in assisting four major sections:

- ➢ Surface Water
- ➢ Ground Water
- ➢ Meteorology
- Water Quality Laboratory

# **Activities under Review**

In consistency of data collection, the Hydrometric section which is responsible for installation and maintenance, installed a Digital Electronic Rain Fall Gauge at the main office of the Liberian Hydrological Service on August 19, 2009.

The section also engaged in the monitoring of twenty- two hand dug wells (Ground Water) constructed by the Latter- Day Saints, a charitable organization which commenced from January 17- 25 May 2009.

# Policy Formulation and Legislation

On Policy Formulation and Legislation, LHS hosts the Secretariat of Integrated Water Resources Management (IWRM) in Liberia. During the period under review and in furtherance of the drive to reform the Water and Sanitation Sector in Liberia, the IWRM Draft Policy was presented to Liberian Cabinet on 17 July 2009 and subsequently adopted and printed in November 2009. The Draft Water Supply and Sanitation Policy was also presented to Pillar IV on 05 October 2009 and the Liberian Cabinet on 23 November 2009. It now been adopted and awaits funding for printing. As the headquarters for IWRM, the Secretariat for Sector Reform (SSR) is also based at LHS.

The SSR successfully completed the Technical Evaluation of Technical Proposals from three short listed firms in compliance with ICQB procurement of Consultancy for the Water Sector Reform Study in Liberia by receiving 'NO Objection' from African Water Facility (AWF) on 06 October 2009 and negotiated a contract with Focal Consult International Ltd. The Water Sector Reform Study in Liberia will now begin in 2010 upon the approval by the Bank.

## **Conclusions/Recommendations**

The Liberian Hydrological Service had continued to foster the development and protection of water resources for the Socio-economic development of Liberia. All activities proposed to be conducted for the year under review were carried out. The required institutional frameworks were completed including the completion, adoption and printing of the IWRM Policy, the completion and adoption of the Water Supply and Sanitation Policy, the completion of bidding process for the Water and Sanitation Sector Reform Study hiring of the consultant and conduct of several water quality tests. Collaboration with sectoral institutions had further improved in this year. Through the active participation in international workshops, the water sector of Liberia had gained International awareness and more support to the sector had been ensured.

The following will be the plan of actions for the Liberian Hydrological Service for 2010:

- 1. Installation of additional weather monitoring stations
- 2. Establishment of regional water quality testing centers
- 3. Training of additional senior level technicians and
- 4. Continuation of the Collaboration with other institutions

# Recommendation

The water and sanitation sector is the life strain of any developing society. The efforts exerted by GOL are commendable in revitalizing the supply of safe drinking water and improved sanitation. However, more is now required to be done as Liberia strived to achieve the goals of the PRS and MDGs. Therefore, the following recommendations are made for consideration.

**1**. That GOL increase its financial support to the Sector in line with international protocols such that dependency on international support may be reduced

- 2. That GOL rectified all international conventions in line with the development and protection of water resources and make contributions to international bodies, such as the African Ministerial Council on Water (AMCOW), African Center for Meteorological Application for Development (ACMAD), the World Meteorological Organization (WMO), etc. and
- **3**. That GOL ensures the effective implementation of policy instruments in relations to Water and Sanitation.

# 3.3 DEPARTMENT OF MINES, MINERAL RESOURCES DEVELOPMENT AND CONSERVATION

The Department of Mines, Mineral Resources Development and Conservation during the year in review continued to carried out its regular functions which include but not limited to supervision, control and monitoring of the Mining sector, the scrap industry, quarries, and sand mining. The Department also participated in regulatory framework formulation, several negotiations with potential investors, field activities and training.

# A. Mining Sector Reform

The potential of the mining sector can be considered as an engine of economic growth and development and therefore remains pivotal to Government's overall Poverty Reduction Strategy (PRS). Mining has the propensity to contribute significantly to employment and revenue creation. In recognition of this fact, the Department of Mines under-took a number of institutional and regulatory framework measures with assistance from international partners to reform and accelerate growth in the sector for the attainment of economic and social development. In this respect, significant progress was made in developing a National Mineral Policy, model Mineral Development Agreement (MDA) and Mining Cadastre Information Management System (MCIMS). The promulgation of the model Mineral Development Agreement (MDA) will be subsequently followed by that of the mining regulations. In furtherance of efforts to improve the mineral governance process, harmonization of the Minerals and Mining Act (MMA) and Public Procurement and Concessions Act (PPCA) is now completed.

# **B. Extractive Industries – Technical Advisory Facility (EITAF)**

The World Bank's assistance for the establishment of Extractive industries Technical Advisory facility was requested by the Ministry of Lands, Mines and Energy (MLME) which is the leading Ministry in the preparation of mining tenders, evaluations of proposals, and monitoring the process. The Ministry of Finance (MOF) of Liberia is supportive of the proposed Grant and was consulted on each stage. The Minister of Finance signed on behalf of the Government for one million dollar Grant and has transferred management of the project to MLME. The project is now being implemented by MLME jointly with the MOF Bureau of Concessions (BOC).

The objective of EITAF is to provide specialized consulting services depending on the nature of the transaction. In Liberia, EITAF will provide technical support to MLME, the Inter-Ministerial Concessions Committee and Mineral Technical Committee (IMCC and IMMTC, respectively), National Investment Committee (NIC) in evaluating Concession/investment proposals. The Grant will assist the Government to (i) build capacity with the government for contract negotiations, management of concession process, including project evaluation and development of standard methodologies and concession processes; and (ii) move identified extractive industries transactions towards contractual close.

The EITAF will not be a substitute for a standard Bank-supported technical assistance project but would provide sustained actions towards monitoring on contract compliance and environmental and social safeguards, and will have its primary focus on immediate assistance with proposed transactions. It will work closely with the LIBAM-financed advisors with the Ministry of Land, Mines and Energy, experts with the Bureau of Concessions, Bank project assisting strengthening of Public Procurement and Concessions Commission, as well as ISLP lawyers assisting the President's Office.

# C. On-Going and Future Transaction

Tendering for Western Cluster Iron Ore took place in 2007 (first attempt) but the process had to be cancelled following unsuccessful due diligence of the selected bidder and some issues arising over the selection criteria of pre-qualified bidders. The bid was re-launched in 2008, and new round of bids was received and opened in May 2009. Inter-Ministerial Mineral Technical Committee, after a careful analysis of bids the Bid Evaluation Panel recommended the award of the Western Cluster Bid to Elenilto Mineral and Mining Ltd.

The above decision was subsequently approved and adopted at the inter-Ministerial Concession Committee (IMCC) meeting of Wednesday December 23, 2009.

- In January 2008, Government announced a public bid for the Bong Mines Iron Ore. The bids were received in May 2008, evaluation completed in December 2008, and in January 2009 Liberia entered into a Mineral Development Agreement with top ranking bidder, China Union. The investment value of this project is the largest in the country's history and the first successful public tender of a mineral asset in Liberia. However, there were issues raised by the international and mining community in respect to the preferential fiscal terms that were granted to China Union, which are already resulting in other mining companies seeking same terms for their iron ore projects in Liberia.
- Currently, Liberia is in the process of concessioning several other large mineral properties, with a possible cumulative investment value of over US\$8 billion by the private sector. Looking forward, it is critical that future long term contracts for iron ore (expected to be 25 to 35 years, including exploration & construction) are configured and negotiated to optimize both the project's direct and indirect contributions to national growth and development.

The iron ore projects generally fall into three types:

- i. Known deposits auctioned under the Public Procurement & Concessions Act (PPCA) of 2005;
- ii. Greenfield exploration licenses issued under the Mineral and Mining Law. These have conjunctive rights (the right to graduate from exploration to mining license), which require the negotiation of a Mineral Development Agreement (MDA) if an exploitable deposit is discovered;
- iii. Major iron ore infrastructure projects (rail/roads, port, power, water) traversing Liberia, that will also be used for Liberian ore.
- > The major iron ore projects being negotiated are:
- **Putu Range** Iron Ore Mining Company has requested the conversion of exploration rights to mining rights. This concession formerly held by Mano River Iron Ore with majority ownership by Severstal is currently being negotiated for an MDA (Mineral Development Agreement) by PUTU. The negotiation is in its final stage. The expected capital expenditure is estimated to be 2 billion United States Dollars, while the expected ore export is projected to be 20 million tons per annual
- **Kitoma & Goe Fantro** iron ore deposits: Currently negotiating an MDA. Capital expenditure for the project is estimated at US\$1.5 billion, exports 15mn tpa. This negotiation is at the final stage complicated by the Nimba (Guinea) rail/port negotiations. It is being considered that these two operations together with existing Mittal operation may use the same infrastructure to transport and export the iron ore to the port facility in Liberia.
- Nimba (Guinea) iron ore ( infrastructure related negotiations, license held by BHPB): The BHPB Nimba deposit (20km into Guinea) is proposing to export 30 million tpa of iron ore to the Port of Buchanan using the same infrastructure as Kitoma & Goe Fantro (rail/road, port, and possibly power) and Mittal. Estimated investment is \$1 billion.
- **Simandou iron ore** deposit: deposit located 60km across the border in Guinea): Infrastructure for 100mn tpa of ore to a port on the Liberian coast (rail/road, port, and possibly power). This infrastructure could possibly also serve the Wologisi, Kpo & Bong deposits in Liberia. Investment is estimated at \$2 billion. Contract negotiations possibly in the second half of 2010.

#### 3.3.1 Bureau of Mines

With limited logistical supply, the Bureau has been able to monitor and assess several alluvial mining operations including few semi-mechanized (Class B) mining operations. The Bureau was also able to attain a certain level of efficiency and proficiency in its operations by reshuffling Mining Agents and promoting personnel of the Bureau to the position of Regional Coordinator.

Reports from the field indicate majority of miners were abiding by the mining and mineral laws in greater of the country while some illicit mining operations are still being carried out in the Southeast and western Liberia.

## Training/Workshops

- A training workshop for mine surveyors were conducted to fit them in the mineral cadastre information management system(MCIMS)
- Participated in validation workshop of the ECOWAS Mining directive (mineral resources development program) which called for harmonization of the guiding principles and policies in the mining sector (July, 2009). The mandate for such directive derived from the revised ECOWAS Treaty of Benin, Cotonou, 1993 on National Resources.
- We also participated in the WAMSSA Workshop held in Freetown, Sierra Leone (November 2009, which brought together all of the MRU countries including other stakeholders as well as the World Bank. The idea put across the table was to identify all of the mineral clusters within the Mano Basin for mutual benefit as well as addressing the socio-economic and value addition.
- A consultative workshop was also held in Accra, Ghana (December 2009) on the African mining regime. The Department of Mines also participated in this workshop. The International Study Group (ISG) was mandated by the UN Economic Commission of Africa (UNECA) in September 2009 to review the African Mining Regime. The workshop highlighted the uses of the abundance resources to develop Africa including value addition, socio-economic issues, community participation (Community Development).

- The Artisanal Small Scale Miners (ASM) workshops were held in Gbarnga, and Tubmanburg that brought miners and stakeholders from the Western, Northern and Central Regions.
- A Mineral Road Map workshop was held in Kakata, Margibi County (June 2009) for the purpose of reviewing the entire activities accomplished thus far.

# 3.3.1.1 Mine Survey Division

The survey section of the Bureau of Mines during the period under review conducted and implemented several field assignments in the various Mining Agencies in Liberia.

The Mine surveyors conducted the demarcation and redemarcation of mining claims (Class c and class B). The section also verified and surveyed one rock quarry operations in the schefflin area on the Roberts field Highway. A total of 150 claims have been surveyed pending more surveys to be conducted

## Constraints

The Bureau of Mines has the ability and technical strength to effectively and efficiently discharge its duties and functions that could bring credibility to the mineral industry, but its major problems are:

Lack of logistics, such as 4x4WD pickups, motor bikes, GPS(Global positioning system), survey equipment, and Office space and furniture, etc

#### 3.3.2 Bureau of Economic Forecast and Concession Appraisal

The Bureau of Economic Forecast also collected several vital data from the various bureaus for storage and statistical treatment.

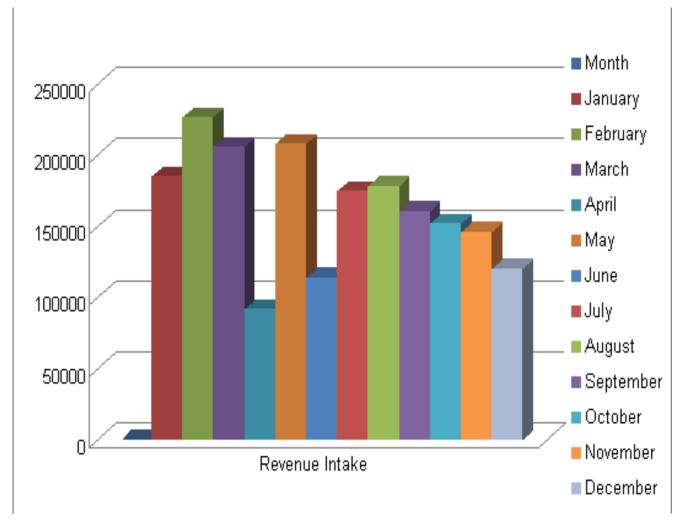


Figure 11a: Revenue Intake Bar Graph

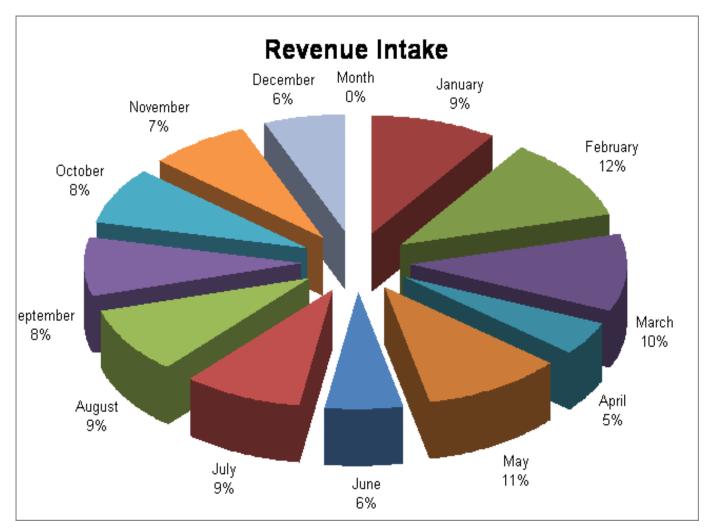


Figure 11b: Revenue Intake Pie Graph

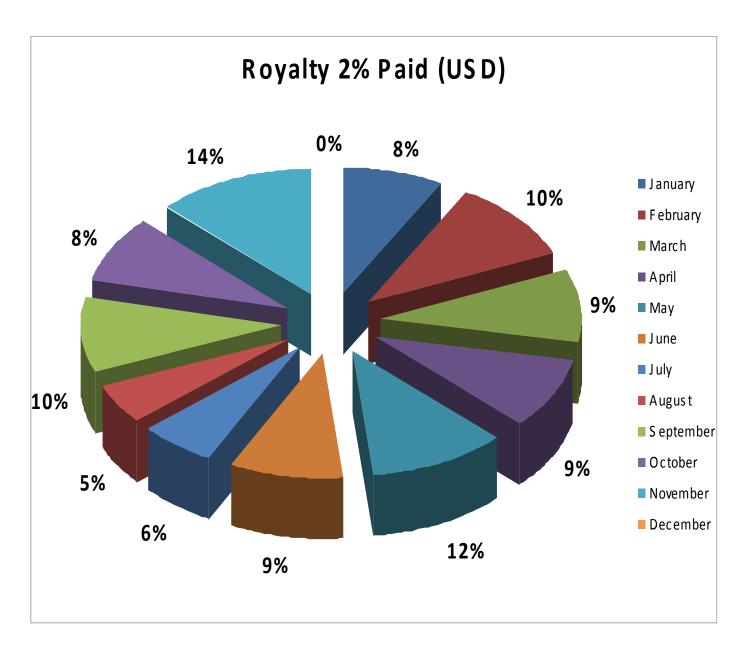


Figure 12a: Royalty Payment Pie Graph

| Tab | le | 1: | Royal | lty | Payment |
|-----|----|----|-------|-----|---------|
|-----|----|----|-------|-----|---------|

| MONTHS    | CARATS   | VALUE (US\$) | PRICE/CARAT | 3% ROYALTY |
|-----------|----------|--------------|-------------|------------|
| January   | 792.06   | 778,369.37   | 982.72      | 23,351.08  |
| February  | 498.35   | 331,779.00   | 665.75      | 9,953.37   |
| March     | 231.37   | 171,702.03   | 742.11      | 5,151.06   |
| April     | 1008.35  | 722,835.20   | 716.85      | 21,685.06  |
| Мау       | 2046.25  | 2,091,104.00 | 1,021.92    | 62,733.12  |
| June      | 3611.13  | 848,984.03   | 235.10      | 25,469.52  |
| July      | 2614.27  | 774,469.02   | 296.25      | 23,234.07  |
| August    | 2908.08  | 516,131.49   | 177.48      | 15,483.94  |
| September | 4328.98  | 1,163,212.17 | 268.70      | 34,896.37  |
| October   | 6359.41  | 326,193.00   | 51.29       | 9,785.79   |
| November  | 47.00    | 97,991.00    | 2,084.91    | 2,939.73   |
| December  | 3286.68  | 1,302,865.45 | 396.41      | 39,085.96  |
| Total     | 27731.93 | 9,125,635.76 | 7,639.49    | 273,769.07 |

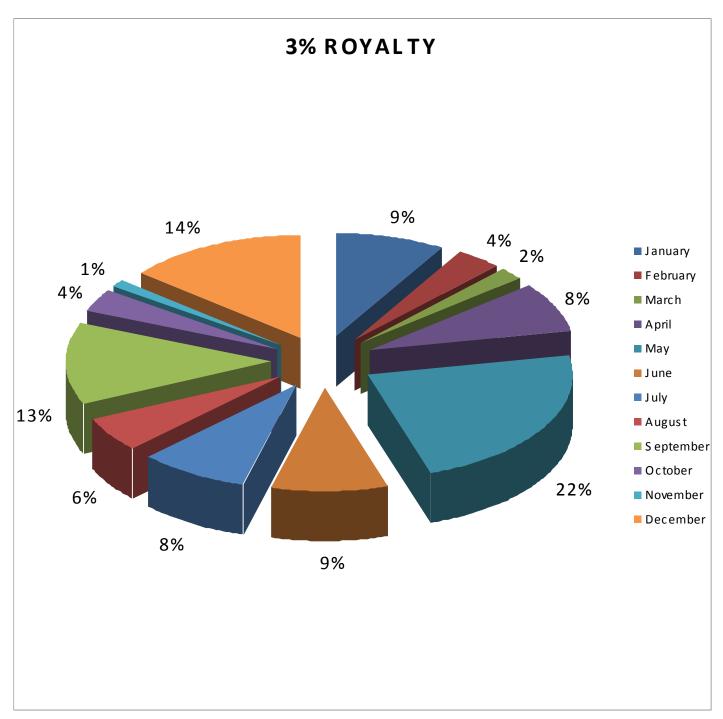
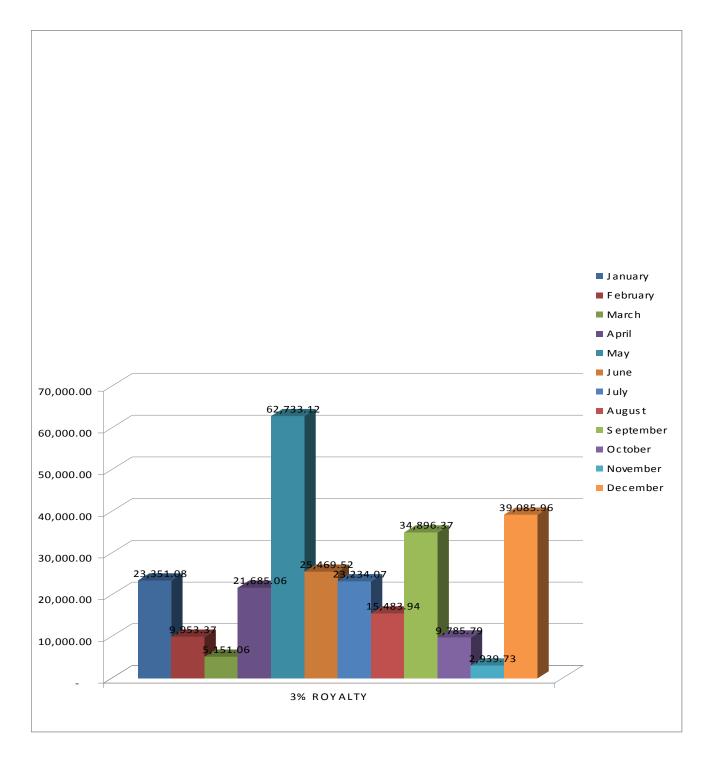


Figure 12b: Royalty Payment Pie Graph



# Figure 12c: Royalty Payment Bar Graph

The figure include intake of mining related fees and royalty paid on both gold and diamond.

These data were collected from the Department of Mineral Exploration and Research, the Bureau of Mines, Government Diamond Office and the Gold Appraisal Office.

The data ere collected compiled and reported by the Bureau of Economic Forecast and Concession Appraisal on a Monthly basic.

# **Field Visitation**

The Bureau had the privileged to be represented at the Petroleum sector monitoring training which was held in Grand Bassam, Ivory Coast during the year under review. The purpose of the training workshop was to train the various participants who came from seven (7) West African Countries, to be able to monitor the Petroleum Sector of their respective Countries.

Topics discuss at the training workshop included the following;

- a. Monitoring of the upstream petroleum sector-regulatory framework
- b. Reporting, presentation of Resource figures and forecasting
- c. Analysis of reported data
- d. Reporting of Petroleum related data to the National budget 2010
- e. Production Accounting in the oil and Gas sector
- f. Monitoring of safety in the petroleum sector
- g. Core issues in cost/fiscal monitoring
- h. Monitoring for economic/fiscal purposes and
- i. Hydrocarbon accounting-resources management and monitoring

At the end of the training workshop participant was awarded certificate of participation.

## **3.4 DEPARTMENT OF ENERGY**

## **3.4.1 Bureau of Alternative Energy**

#### Liberia Energy Assistance Program (LEAP)

In October 2006, the Liberia Energy Assistance Program (LEAP) funded by USAID, and implemented by the International Resources Group (IRG) was launched. LEAP was a follow on and complimentary program to the Emergency Power Program (EPP) launched in July 2006 to restore public electricity supply. Whereas EPP is focused on short-term delivery of electricity power to Monrovia and its environs, LEAP was focused on the long-term sustainable delivery of energy services to the whole country. The objective of LEAP was to support the reform of the Liberian energy sector and to create new replicable pilot projects that would provide critically needed electricity to low income urban and rural communities through and in coordination with USAID's non-energy activities that require modern energy services.

At the end of LEAP on February 28, 2009, a bilateral agreement for the handing over of all of the USAID funded LEAP solar equipment to the Government of Liberia (GOL) through the Ministry of Lands, Mines and Energy (MLM&E) was signed between USAID and MLM&E.

In May 2009, the MLM&E commissioned an Inspection and Assessment of the LEAP Solar pilot demonstration projects. The Department of Energy undertook the responsibility to physically verify the existence of the equipment at various locations, determine their status and assess the extent to which LEAP has contributed to the poverty reduction strategy especially in rural Liberia.

Twenty (20) Solar Street Lights (SSL), Twenty one (21) Solar Home Systems (SHS), Five (5) Solar Power Systems (SPS), Two (2) Solar Refrigerators (SR) and Seven (7) Solar Lanterns (SL) were assessed in seven counties – namely Gbarpolu, Bomi, Margibi, Bong, Nimba, Grand Cape Mount, and Lofa counties. It is hope that the remaining projects will be assessed during the dry season when they will be assessable. The complete list of LEAP pilot demonstration projects is tabulated in table 2.

|                     | Lihoria      |  |                                     |                  |  |  |  |
|---------------------|--------------|--|-------------------------------------|------------------|--|--|--|
| County              | City         | System Installed                                 | Contact Person/Institution          | Contact<br>phone |  |  |  |
|                     |              | S – solar home syster<br>gerator; SL – solar lan | n; SSL – solar street light (200/21 | ow); swp -       |  |  |  |
| Bomi                | Tubmanburg   | 160W SHS   | Abraham B. S. Jones, Sr             | 06559167         |  |  |  |
| bonn                | rabinanbarg  | 160W SHS   | Borbor S. Johnson                   | 06562540         |  |  |  |
|                     |              | 160W SHS   | Sekou Keita                         | 06473942         |  |  |  |
|                     | T C          | 160W SHS   | Dominic Bohlen                      | 06981668         |  |  |  |
|                     |              | 160W SHS   | Konnah V. Duwar/Agnes               | 06711399         |  |  |  |
|                     |              | 10000 3113                                       | Duwor                               | 00111000         |  |  |  |
| Bong                | Totota       | 160W SHS   | Joseph B. Momo                      | 06582663         |  |  |  |
|                     | 11           | 160W SHS   | Korpu Johnson                       | 06915703         |  |  |  |
|                     |              | 160W SHS   | Karmone A. Kanneh                   | 06458596         |  |  |  |
|                     |              | 160W SHS   | John Yah                            | 06473495         |  |  |  |
|                     |              | 160W SHS   | Comfort Jones                       | 06856543         |  |  |  |
|                     | Gbarnga      | 1.3kW SPS  | Learning Resource Center            | 06558840         |  |  |  |
| Gbarpolu            | Bopolu       | 160W SHS   | K. Moses Monionporior               | 06536436         |  |  |  |
|                     | 100          | 160W SHS   | Dr. Dwana Joseph, MD                | 06420152         |  |  |  |
|                     |              | 160W SHS   | Alpha Oumar Jalloh                  | 06671190         |  |  |  |
|                     |              | 160W SHS   | Dedeh Jallah                        | 06759766         |  |  |  |
|                     |              | 160W SH5   | C. Amaru Jalloh                     | 06644296         |  |  |  |
| Grand Cape<br>Mount | Robertsport  | 10 SSL   | County Superintendent               | 06492400         |  |  |  |
| Grand Gedeh         | Zwedru       | 520W SPS; 1 SSL                                  | Friendship Bakery                   | 06457652         |  |  |  |
|                     | Lincord .    | 520W SPS; 1 SSL                                  | Save the Children, UK               | 06835189         |  |  |  |
|                     |              | 1.3kW 5P5  | Learning Resource Center            | 100033103        |  |  |  |
|                     |              | 4 SSL  | Multilateral High School            | 06452553         |  |  |  |
|                     |              | 520W SPS; 1 SSL                                  | Liberia Agro Systems                | 06561552         |  |  |  |
| Lofa                | Voinjama     | 260W SR  | Sakonnedu Clinic                    | 06531450         |  |  |  |
|                     | Foya         | 260W SR  | Shello Clinic                       | 06531450         |  |  |  |
| Margibi             | Cotton Tree  | 160W SHS   | David S. Garyeazohn Sr.             | 06687064         |  |  |  |
| Hand Brown          | Cotton Tree  | 160W SHS   | Joshua V. Robinson Sr.              | 06408449         |  |  |  |
|                     |              | 160W SHS   | Stephen G. Alpha                    | 06557349         |  |  |  |
|                     |              | 160W SHS   | Thomas S. Artis Sr.                 | 06541853         |  |  |  |
|                     |              | 160W SHS   | John S. Sana                        | 06956961         |  |  |  |
|                     | Dolo Town    | 1.3kW SPS; 320W<br>SWP                           | Henry Korkorsor                     | 06418113         |  |  |  |
|                     | Kakata       | 4 5SL  | KRTTI                               |                  |  |  |  |
| Maryland            | Pleebo       | 320W SWP; 2 SSL                                  | Catholic Relief Services            | 06384876         |  |  |  |
| Montserrado         | Monrovia     | 464 SL kits; 30 SL                               | Center for Sustainable Energy       | 06559266         |  |  |  |
|                     | Paynesville  | tool kits  | Technology                          |                  |  |  |  |
|                     | 62           | Solar spares                                     | Solar Technologies<br>Incorporated  | 06539691         |  |  |  |
|                     |              | 320 SWP  | Duport Rd Clinic, Paynesville       | 06581602         |  |  |  |
| Nimba               | Sanniquellie | 260W SPS; 2 SSL                                  | Try & See Woodwork                  | 06474066         |  |  |  |
|                     |              | 1040W; 2 SSL                                     | Sanniquellie High School            | 06431768         |  |  |  |
|                     |              | 520W SPS; 2 SSL                                  | ARS Guesthouse                      | 06574175         |  |  |  |
| River Cess          | Cestos City  | Taa Bora system                                  | Supreme Stitches Tailoring          |                  |  |  |  |
|                     |              | Taa Bora system                                  | Nimley J. Toe Fishery Co.           |                  |  |  |  |
|                     |              | Taa Bora system                                  | What's the Promise Fishery          |                  |  |  |  |
|                     |              | Taa Bora system                                  | New Hope Carpentry Shop             |                  |  |  |  |
|                     |              | Taa Bora system                                  | God is Great Fishing Co.            | 06445929         |  |  |  |
|                     |              | 2x52OW SPS; 45SL                                 | Cestos City High School             |                  |  |  |  |
|                     |              | 520WSPS; 2SSL                                    | Gbesse Junior School                | 06883110         |  |  |  |
| Since               | Greenville   | 520W SPS; 1 SSL                                  | Cooper Pastry Shop                  | 06829591         |  |  |  |
|                     |              | 520W SPS   | County Administration Building      |                  |  |  |  |
|                     |              | 520W SP5; 1 SSL                                  | Be Honest Fishery Shop              | 06621052         |  |  |  |
|                     |              | 520W SPS; 1 SSL                                  | Cecilia Beauty Saloon               | 06698617         |  |  |  |
|                     |              | 2×200W SSL                                       | F.J. Grant Hospital                 | 06824274         |  |  |  |

# Table2: LEAP solar pilot demonstration projects handed over to Government of

#### **Rural and Renewable Energy Agency**

The National Energy Policy was approved by the Cabinet in June 2009. The policy proposes the establishment of a Rural and Renewable Energy Agency (RREA) to facilitate and accelerate the economic transformation of rural Liberia by promoting the commercial development and supply of modern

energy products and services to rural Liberia through the private sector and community initiatives.

In addition the policy calls for the establishment of the Rural Energy Fund (REFUND) that will facilitate and provide for the coordinated and sustainable financing of projects and programs in a manner such that the REFUND becomes the channel through which domestic and international financial resources intended for rural and renewable energy services delivery in Liberia is managed. The REFUND will be managed by the RREA.

Since the process of establishing the RREA will require a number of consultations at different branches and levels of Government, an Executive Order to establish the RREA has been issued by the President in order to move quickly beyond interim arrangements and bring our policy and institutional implementation arrangements to materialization.

The World Bank has approved over three million United States dollars for the initial operations of the RREA under the program **"Catalyzing New Renewable Energy in Rural Liberia"**. The Liberia Electricity Corporation (LEC) has provided a building to house the Agency. Under the World Bank funded program, the Bank will renovate and furnish the building, provide logistics and underwrite the salary of the core RREA staff of the Agency for a period of at least six (6) months. Besides the above activities the Bank will support capacity building program to enable the Agency demonstrate capacity through the implementation of pilot projects in various aspects of renewable energy.

In May of the reporting period, a joint team from the Ministry and the World Bank, visited the Yandohun Microhydro Plant in Vanhun District, Lofa County to assess the plant and conduct several measurements including topographic survey and socio – economic survey of the Yandohun Town and surrounding villages.

The Ministry and the Bank are working out plans to have the plant renovated as part of the Poverty Reduction Strategy (PRS).

# 3.4.2 Bureau of Hydrocarbons

#### **Petroleum Exploration**

The Government of Liberia through the Ministry of Lands, Mines, and Energy and the National Oil Company of Liberia in August of 2009 announced the opening of the third bid round for five of the seventeen offshore blocks. In accordance to the Public Procurement and Concession Act the bid round will run from September 1, to November 30, 2009. Figure 1 below shows the five offshore blocks being offered in the third bid round.

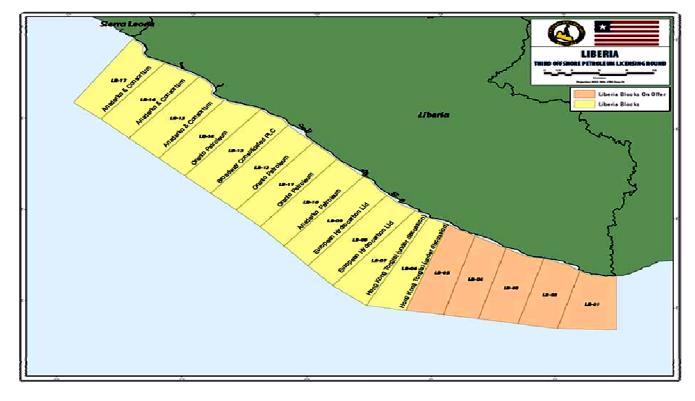


Figure 13: Map of the Seventeen (17) Offshore Blocks Showing Those Offered in Third Bid Round (After TGS-NOPEC,2009)

The Government in 2009 successfully concluded production sharing contracts (PSC) with two international oil companies. Anadarko Liberia Company, an American international oil company, concluded agreement for offshore block # 10 in the first quarter of 2009. Whilst in the last quarter of the year, Hong Kong Tongtai Petroleum International, a Chinese international oil company signed a production sharing contract for blocks # 6 and 7.

## 3.4.3 Department of Energy Special Projects Cote d'ivoire – Liberia – Sierra Leone – Guinea (CLSG) Interconnection Project

The CLSG Interconnection Project is a West African Power Pool (WAPP) Project. The objective of WAPP is to establish a regional electricity market in West Africa through the judicious development and realization of key priority infrastructure that would permit the accessibility to economic energy resources, to all member states of the ECOWAS. Fundings are provided by the European Union – African Infrastructure Trust Fund, for which the European Investment Bank and the Kredietanstalt fur Wiederaufbau (kfw) are acting as agents.

The CLSG Interconnection Project forms part of the Cote d'ivoire – Liberia – Sierra Leone – Guinea System Redevelopment Sub-program of the WAPP and would serve to establish a more secure, reliable transmission corridor for transfer of low cost energy to post conflict countries such as Liberia and Sierra Leone. The project will result in the construction of approximately 1,100 Km of high voltage transmission line.

The Government of Liberia hosted two meetings during 2009 on the CLSG Interconnection Project. The objective of the 5<sup>th</sup> February 2009 was to among others, continue the dialogue on the institutional arrangements for the project, discuss a framework of cooperation between WAPP and Arcelor Mittal in the implementation of their respective projects and further discuss possibilities for acceleration of the interconnection project.

The second meeting was held from 17<sup>th</sup> to 20<sup>th</sup> November to review the second Line Route Feasibility Study Report. The project is making steady progress and on course.

### **Request for Regional Dimension River Feasibility Study**

The Ministry realizing the need to update previous studies on the country's river basins for suitable micro/mini hydro sites in view of the much – publicized climate change, requested the West African Power Pool (WAPP) to assist with the feasibility of our numerous potential river basins for suitable micro/mini hydro sites. In response to our request a comprehensive Terms of Reference (TOR) was prepared by WAPP and submitted to Ministry for our input and/or approval to facilitate the preparation for Request for Proposal for the study. Efforts are underway along with the Liberia Electricity Corporation (LEC) to finalize the necessary documents to allow for the study to start.

# Institutional Cooperation between the Government of Liberia and the Royal Government of Norway

The Government of Liberia through the Ministry entered into an agreement with the Royal Government of Norway Through their agency for Water Resources and Energy Directorate (NVE) for institutional and capacity building cooperation. Under the agreement, NVE will work with the Ministry to strengthen the energy and water sectors of the country. The objectives amongst other are the preparation of an energy master plan, conduct capacity building within the sectors, and the development of legislation and framework for the water and energy sectors. Preparation of the Program Document is being finalized by a Norwegian consultant firm called NORPLAN after a weeklong consultative meetings/discussions with various stakeholders in the country's energy and water sectors.

NORPLAN is hired by NVE to prepare the program document.

### Manpower Capacity Building

The People Republic of China continues to assist the Department of Energy in the area of manpower capacity building. In this regards, an invitation was extended to the Ministry to nominate one person to participate in a six (6) weeks training in Small Hydropower Technology held in Hangzhou, The People's Republic of China from May 14 – June 24, 2009. Mr. Mohammed M. Sheriff, a Civil Engineer assigned to the Department of Energy was nominated and attended the course.

The Director of Alternative Energy, Mr. Sylvester Massaquoi and Jeremiah C. Wilson, Energy Technician were also invited to attend a Seminar on Energy Policy Development for Developing countries held in Beijing, the people's Republic of China from October 19 – November 8, 2009.

### International Renewable Energy Agency (IRENA)

Liberia became a founding member of IRENA in Germany on 26<sup>th</sup> January 2009. This is the first international organization to focus exclusively on renewable energy. This agency will act as a global voice for all forum of renewable energy; and will provide practical advice and support for both industrialized and developing countries.

The Agency shall promote the widespread and increased adoption and the sustainable use of all forms of renewable energy.

The Government was represented by the Director of Alternative Energy.

# Status of Implementation of Energy Projects under Pillar IV of the Poverty Reduction Strategy (PRS)

The Department as the coordinator of the Energy Sector continues to work with various institutions within the sector to implement the various energy projects under Pillar IV – Infrastructure and Basic Services of the PRS. The projects are at variant status of implementation as tabulated below. The National Energy Policy and the negotiations of offshore blocks with two International Oil Companies were successfully concluded.

| Planned Action   | Due<br>Date | Progress to<br>date  | % Completed | Month | 90 day<br>Progress | Overall<br>Score |
|--|-------------|--|-------------|-------|--------------------|------------------|
| Establish a power sub-<br>station( including 22 KV<br>switch gear, 10 MMVA<br>transformer and high<br>voltage line) in<br>Paynesville  | Nov.        | Platform the<br>transformer<br>completed; bid<br>document has<br>been prepared;<br>80% poles<br>have been<br>planted | 60%         | Score | 6.0%               | 53%              |
| Establish a power sub-<br>station( including 22 KV<br>switch gear, 10 MMVA<br>transformer and high<br>voltage line) in New Kru<br>Town | Nov.        | Platform the<br>transformer<br>completed bid<br>document has<br>been prepared  | 50%         |       | 5.0%               |                  |
| Establish a power sub-<br>station( including 22 KV<br>switch gear, 10 MMVA<br>transformer and high<br>voltage line) in Capitol<br>Hill | Nov.        | Platform the<br>transformer<br>completed bid<br>document has<br>been prepared  | 50%         |       | 5.0%               |                  |

 Table 3:
 Status of Implementation of Energy Projects Under Pillar IV of Poverty Reduction

 Strategy (PRS)

## Table 3 Cont'd

| Planned Action   | Due<br>Date        | Progress to<br>date   | %<br>Completed | Current<br>Month<br>Score | 90 day<br>Progress | Overall<br>Score | Planned<br>Action | Due<br>Date |
|--|--------------------|---|----------------|---------------------------|--------------------|------------------|-------------------|-------------|
| Establish a power<br>sub-station(<br>including 22 KV<br>switch gear, 10<br>MMVA transformer<br>and high voltage<br>line) in Bushroad<br>Island | 30<br>Nov.<br>2009 | Platform the<br>transformer<br>completed<br>bid<br>document<br>has been<br>prepared | 50%            |                           | 5.0%               |                  |                   |             |
| Establish 1100, new<br>connections in<br>Monrovia (Central<br>Monrovia, Bushroad<br>Island, Sinkor, Congo<br>Town, Paynesville)                | Nov.               | Poles<br>planted and<br>connectors<br>to arrive<br>shortly                          | 35%            |                           | 3.5%               |                  |                   |             |
| Expansion of street<br>Lights for Red Light<br>to 72 <sup>nd</sup>   |                    | Lights have<br>been<br>installed<br>awaiting<br>testing                             | 95%            | 95%                       | 9.5%               |                  |                   |             |

## Table 3 Cont'd

| Planned Action        | Due<br>Date | Progress to date | %<br>Completed | Current<br>Month | 90 day<br>Progress | Overall<br>Score | Planned<br>Action | Due<br>Date |
|-----------------------|-------------|------------------|----------------|------------------|--------------------|------------------|-------------------|-------------|
|                       |             |                  |                | Score            |                    |                  |                   |             |
| Complete              | 30          | Poles            | 80%            |                  | 8.0%               |                  |                   |             |
| installation of 10KM  | Nov.        | planted and      |                |                  |                    |                  |                   |             |
| of MV Lines           | 2009        | strong lines     |                |                  |                    |                  |                   |             |
|                       |             | done             |                |                  |                    |                  |                   |             |
| Complete              | 30          |                  |                |                  | 0.0%               |                  |                   |             |
| installation of 10KM  | Nov.        |                  |                |                  |                    |                  |                   |             |
| of LV Lines           | 2009        |                  |                |                  |                    |                  |                   |             |
| Finalize new          | 30          | Arrangement      | 60%            |                  | 6.0%               |                  |                   |             |
| management            | Nov.        | completed,       |                |                  |                    |                  |                   |             |
| contract for LEC      | 2009        | contract to      |                |                  |                    |                  |                   |             |
|                       |             | be signed in     |                |                  |                    |                  |                   |             |
|                       |             | 2 weeks          |                |                  |                    |                  |                   |             |
| Finalize contact to   | 30          | On hold,         | 50%            |                  | 5.0%               |                  |                   |             |
| select engineering    | Nov.        | attention        |                |                  |                    |                  |                   |             |
| advisory firm to      | 2009        | shifted to       |                |                  |                    |                  |                   |             |
| support the           |             | BRE project      |                |                  |                    |                  |                   |             |
| rehabilitation of the |             |                  |                |                  |                    |                  |                   |             |
| Mt. Coffee Hydro      |             |                  |                |                  |                    |                  |                   |             |
| Plant                 |             |                  |                |                  |                    |                  |                   |             |
| Total                 |             |                  |                | 95%              | 53%                |                  |                   |             |

# 4.0 DEPARTMENT OF PLANNING AND DEVELOPMENT/PRECIOUS MINERAL UNIT

## 4.1 Human Resource Supply Analysis

The shortage of technical and professional manpower in any Ministry / Agency results from the failure to identify requirements in advance and to train and develop employees. Hence, to avoid the scarcity of skilled manpower at the Ministry, the Division of Planning and Development collaborated with heads of Departments to identify needed manpower and to train employees to enhance productivity of the Human Resource Bureau.

The Division of Planning and Development has prepared three years (2009-2010) human resource supply and demand report which forecast the manpower needs of the various bureaus of the Ministry.

The supply analysis of the bureaus shows scarcity of the Ministry's technical and professional manpower. This document is intended to serve as a catalyst to recruit the numbers and types of employees, enhance decision about training, promotion and retirement.

For capacity building, the division identified 25 employees for three months computer training in Microsoft Word, Power Point, Excel and Access. The Training is sponsored by USAID, AED-Liberia Forecast Project.

Table 4: Manpower needs of Ministry of Lands, Mines and Energy

| Column | Column | Column | Column D                     |           |  |
|--------|--------|--------|------------------------------|-----------|--|
| Α      | В      | С      |                              |           |  |
| 75     | 42     | 33     | 15 Geologists BSc.           | /MSc.     |  |
|        |        |        | 10 Geologist Assistants HS/  | cert      |  |
|        |        |        | 2 chemist/geochemist MS      | С.        |  |
|        |        |        | 1 GIS Specialist BSc         | ./MSc.    |  |
|        |        |        | 2 Remote Sensing Specialists | BSc./Msc. |  |
|        |        |        | 1 Petrologist                | BSc/MSc   |  |
|        |        |        | 1 Mineralogist               | BSc/MSc   |  |
|        |        |        | 1 Geophysist                 | MSc       |  |

| Table 4b: | Liberia Hydrological Service |
|-----------|------------------------------|
|-----------|------------------------------|

| Column | Column | Column | Column D                 |           |
|--------|--------|--------|--------------------------|-----------|
| Α      | В      | С      |                          |           |
| 37     | 26     | 11     | 4 Hydrogeologists        | BSc./MSc. |
|        |        |        | 1 Hydometeorologist      | MSc.      |
|        |        |        | 1 Agrometeorologist      | MSc.      |
|        |        |        | 3 Hyrochemist            | MSc.      |
|        |        |        | 2 Mechanical Technicians | Msc.      |

## Table 4c:Energy Technology & Policy Development

| Column | Column | Column | Column D                   |           |
|--------|--------|--------|----------------------------|-----------|
| Α      | В      | С      |                            |           |
| 25     | 13     | 12     | 2 Electrical Engineers     | BSc.      |
|        |        |        | 2 Energy Statisticians     | BSc./MSc. |
|        |        |        | 1 Energy Technologist      |           |
|        |        |        | 4 Energy Technicians       | BSc.      |
|        |        |        | 1 Environmental Specialist | Msc.      |
|        |        |        | 1 GIS Specialist           | Dipl/BSc. |
|        |        |        | 1 IT Specialist            | Dipl/BSc. |

## Table 4d:Hydrocarbon

| Column | Column | Column | Column D                   |           |
|--------|--------|--------|----------------------------|-----------|
| Α      | В      | С      |                            |           |
| 16     | 6      | 10     | 2 Petroleum Engineer       | BSc./MSc. |
|        |        |        | 2 Petroleum Geologists     | BSc./MSc. |
|        |        |        | 1 Petroleum Economist      | BSc./MSc  |
|        |        |        | 1 Petroleum law specialist | Msc       |
|        |        |        | 2 Geophysicists            | MSc.      |
|        |        |        | 2 IT Specialists           | Bsc.      |
|        |        |        |                            |           |

Table 4e: Bureau of Mines

| Column | Column | Column | Column D                 |           |
|--------|--------|--------|--------------------------|-----------|
| Α      | В      | С      |                          |           |
| 140    | 124    | 16     | 6 Mine Surveyors         | Dipl/Cert |
|        |        |        | 6 Draftmen/GIS Dipl      |           |
|        |        |        | 1 Mineral Economist      |           |
|        |        |        | 1 Blasting Engineer M    |           |
|        |        |        | 1 Environmental Engineer | Msc.      |
|        |        |        | 1 Mining Engineer        | MSc.      |

#### Table 4f: Bureau of Economic Forecast

| Column<br>A | Column<br>B | Column<br>C | Column D            |           |
|-------------|-------------|-------------|---------------------|-----------|
| 12          | 5           | 7           | 3 Mining Engineers  | BSc./MSc. |
|             |             |             | 2 Economists        | BSc/ MSc. |
|             |             |             | 2 Mineral Economist | MSc.      |

Column A is the total number of employees needed to bring section/bureau to its full capacity

Column B is the actual number of employees available now in the section/bureau

Column C is the difference between what is available and what is needed Column D is the breakdown of the deficiency & required qualification

### Update on the Kimberley Process Certification Scheme (KPCS)

#### Liberia as Head of KP Review Visit to Zimbabwe

In early June 2008, the KPCS Chairman on Monitoring (European Commission, EC) requested the Republic of Liberia through the Ministry of Lands, Mines and Energy to chair a KP Review Mission to Zimbabwe. That request was approved by the President of Liberia and the Liberian KPCS Focal Point, Deputy Minister A. Kpandel Fayia, was designated to lead the Review Mission. Other members of team included Mr. Alfred L. Brownell (Liberia), Mr. Brad Brooks-Rubin (USA), Mrs. Cecilia Gardner (World Diamond Council), Miss

Clementine Burnley (European Community), Mr. Abdul Omar (Canada), Mr. Kennedy Hamutenya and Mr. Desiderius Reinhold (Namibia) and Mr. Martin Mononela & Mr. Garfield Chounyane (South Africa). The visit which took place from 30 June to 4 July, 2009 included tours of the Moruwa, River Ranch Limited and the Marange Diamond fields. After the Review Mission visit the team concluded that Zimbabwe was noncompliant in the implementation of some aspects of the KPCS and requested that either Zimbabwe self suspends itself from the KPCS for a period until at such time when it has met minimum KP requirements or be suspended by the KP Plenary in November 2009.

## 2009 KP Plenary

During the Plenary in Namibia Liberia also led a discussion group on '*The State of Artisanal Mining and its Impact on the Kimberley Process*' and responded before plenary to the 2009 KP Review Visit Report.

A Government delegation from Liberia attended the KP Plenary that was dominated by the Zimbabwe issue, its control of the Marange Diamond Field and the continued reports of human rights abuses.

# 4.2 Kimberley Process Diamond Export Arm: The Government Diamond Office (GDO)

The Office of Precious Minerals, which comprises the Government Diamond Office and the Gold Appraisal Office, is under the supervisory direction of a manager. The Government Diamond Office is clothed with the mandate of implementing the diamond export aspect of the Kimberley Process whereas the Gold Appraisal Office has the responsibility of gold export assessment for revenue purposes.

The professional strength of the Office of Precious Minerals includes twentytwo Regional Officers, two Data Specialists, four professional Diamond valuators and two Gold Assayers and Appraisers.

## 4.3 Government Diamond Office

The technical arm of Liberia's Kimberley Process Certification Scheme is the Government Diamond Office. As the Import and Export Authority of rough diamonds, the GDO is responsible for the implementation of the Kimberley Process. This process involves the effective monitoring of the movement of all rough diamonds recoveries and the subsequent elimination of conflict diamonds from circulation within the Liberia rough diamond industry. To effectively achieve this goal, the Government Diamond Office is structured into three main components: Database, Valuations and Regional Offices.

## Structure of the Government Diamond Office

The Government Diamond Office is composed of three main branches to strengthen compliance with the KP guidelines and regulations for the import and export of rough diamonds. These guidelines are framed within the confines of our Mining and Mineral Law of Liberia.

## 4.4 The Database Unit

This is the responsible unit for the entering and reconciliation of production, import and export data, including the profiles of all industry participants. The database application was constructed and two specialists trained through the instrumentality of the United States Geological Survey. However, the database system of the Government Diamond Office needs reconstruction to accommodate national interest. The USGS has consented in principle to perform the reconstruction and further train the two specialists.

## 4.5 The Valuation Unit

The valuation unit continues to maintain the responsibility for the assessment of all rough diamonds imports and exports, including confiscated goods, to strengthen the integrity of Liberia's Kimberley Process. It also has the responsibility to transmit export information to recipient participants. This unit also supports the Database Section by furnishing the export and import statistics of rough diamonds for subsequent submission to the KP Working Group on Statistics and the Ministry's annual report.

## 4.6 Regional Offices

The Regional Office is the first point of contact with the miner and his recovery. It is mandatory by the Mineral and Mining Law of Liberia that all miners record their production at the Regional Office where a "Mineral Voucher" for authentication will be issued in their respective jurisdictions of operation. This voucher captures the miner's profile together with the details of the rough diamonds reported to support the "Certificate of Origin" regime established by law. No legitimate transaction will occur without this document, a copy of which will be furnished by the miner to the broker or dealer at the point of sale. Each transaction between two licensed participants is accompanied by a receipt that reference the rough diamonds within the Liberian territory will be furnished by the Regional Office to the Government Diamonds Office for verification and reconciliation before the issuance of a KP certificate for export.

## 4.7 Diamond Export

With the downturn of the global economy, the diamond industry in Liberia experienced a reasonable degree of decline in our export revenue and carat weight. However, the recent recovery of notable larger stones confirmed the indication that Liberia has potential in this category of rough diamonds. Consequently our export revenue show sign of favorable recovery during the second half of the year.

For the period under review, the Government Diamond Office processed sixtytwo (62) KP certificates with cumulative weight and dollar value at 27,012.31 carats and US\$8,529,402.76 respectively. Diamond revenue for the reporting period currently stands at US\$255,882.08. These statistics represent a drop in export volume of over forty percent (40%) while our diamond export value and subsequent revenue registered only a decline of thirteen percent (13%) due to high value stones recoveries in the second quarter of the calendar year. This is a strong indication that that Liberia has a comfortable Internal Control Regime in place to capture high value diamonds that were escaping the local market.

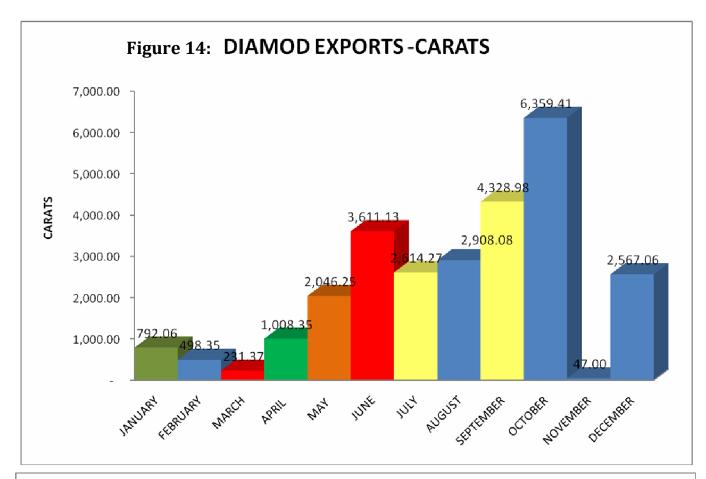
|    |           |           |              |             | 3%         |
|----|-----------|-----------|--------------|-------------|------------|
|    | MONTHS    | CARATS    | VALUE (US\$  | PRICE/CARAT | ROYALTY    |
| 1  | JANUARY   | 792.06    | 778,369.37   | 982.72      | 23,351.08  |
| 2  | FEBRUARY  | 498.35    | 331,779.00   | 665.75      | 9,953.37   |
| 3  | MARCH     | 231.37    | 171,702.03   | 742.11      | 5,151.06   |
| 4  | APRIL     | 1,008.35  | 722,835.20   | 716.85      | 21,685.06  |
| 5  | МАҮ       | 2,046.25  | 2,091,104.00 | 1,021.92    | 62,733.12  |
| 6  | JUNE      | 3,611.13  | 848,984.03   | 235.10      | 25,469.52  |
| 7  | JULY      | 2,614.27  | 774,469.02   | 296.25      | 23,234.07  |
| 8  | AUGUST    | 2,908.08  | 516,131.49   | 177.48      | 15,483.94  |
| 9  | SEPTEMBER | 4,328.98  | 1,163,212.17 | 268.70      | 34,896.37  |
| 10 | OCTOBER   | 6,359.41  | 326,193.00   | 51.29       | 9,785.79   |
| 11 | NOVEMBER  | 47.00     | 97,991.00    | 2,084.91    | 2,939.73   |
| 12 | DECEMBER  | 2,567.06  | 706,632.45   | 275.27      | 21,198.97  |
|    | TOTAL     | 27,012.31 | 8,529,402.76 | 315.76      | 255,882.08 |

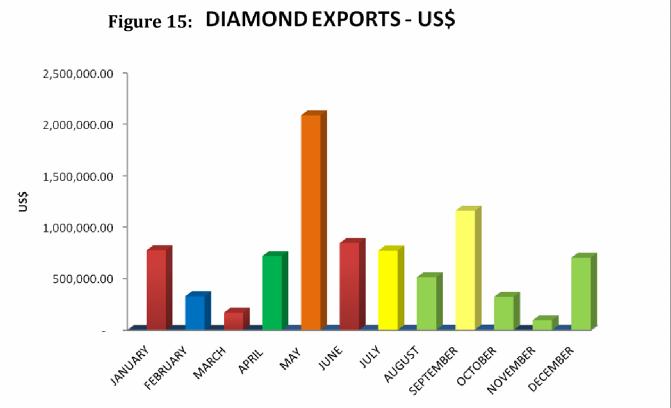
#### Diamond Export Figures - 2009 Table 5:

|                        | CARATS   |
|------------------------|----------|
| AVERAGE MONTHLY EXPORT | 2,251.03 |

P/CT \$315.76 \$710,783.56

VALUE





## 4.3.5 Foreign Travel

For the period under review, two Kimberley Process conferences were held Namibia. Liberia's delegation to the KP Intercessional was headed by Deputy Minister A. Kpandel Fayia, KPCS Focal Point, with Chief Valuator, Corvah Baysah, Joyce Nuahn, Data Specialist and Moses Segbeyan, Valuator, as the other members of the delegation. Deputy Minister Fayia headed Liberia's representation to the November Plenary with Cecilia Davis, Diamond valuator and Veronica Harris, Data Specialist as the other members.

## 4.8 Gold Appraisal Office

Gold Export during this reporting period has maintained a remarkable strength of recovery. Up to date, gold export statistics confirmed a total of seventy-four (74) shipments with corresponding weight and US dollar value of 18,186.18 ounces and US\$13,385,776.56 respectively. Accrued revenue is US\$268,144.72.