The Effect of Extractive Industries on the Economy of Sierra Leone: A Literature Review

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Abstract - Extractive Industries Transparency Initiative (EITI) is a policy launched by an international organization, aiming to improve the living standard in countries where resources such as oil, gas, gold and other minerals can be found abundantly. In a way to avoid poor management and corruption, EITI was initiated to promote transparency in the exploration of these natural resources. This calls for a great need of transparency in the management of the country’s resources. In a way to avoid poor management and corruption, better manage its natural resources, Sierra Leone endorsed the EITI in 2006. Revenues from the extractive industries should be an important source of economic growth and social development in developing countries. To this, an attempt is made to analyze the root causes of lack of cultural accountability, transparency, mismanagement, and poor public service delivery in the extractive industry as it affects the economy of Sierra Leone. This paper is an overview of reports to study the effect of the extractives industries on the economy of Sierra Leone since it endorsement to the EITI policy and also examines some of the main challenges and policies associated with Extractive Industries in Sierra Leone.

Keywords: Extractive Industries; Transparency; Economic Growth; Natural Resources; Sierra Leone

I. INTRODUCTION

Countries rich in natural resources naturally have more chances in promoting wealth and development over those countries that don’t, but in practice it is found to have a different result. As history can tell us, natural resources such as minerals, oil, etc., have a contrary effect in the development and economy of many countries due to poor management. In practice, it often has an adverse effect on the economy of several natural-resource-rich nations. Instead of contributing to poverty alleviation and economic growth, resource revenues often lead to large-scale corruption, under development, and in some cases has fueled conflict and war. This can be attributed to the absence of strong, transparent, accountable governing institutions and sound legal and regulatory frameworks that would lend to managing resource revenues effectively as the case of Sierra Leone[1]. Sierra Leone is a country gifted with vast variety mineral resources including diamonds, gold, rutile, ilmenite, zircon, iron ore, bauxite and Oil. Due to this, the country has a long history of the mining sector and it plays a major role in development of the economy. For years, Sierra Leone suffered a very brutal civil war where one of the major causes was its abundance in mineral resources specially diamonds. The war left severe scars which until today the country is still recovering. With a weak economy, Sierra Leone is trying to get up on its feet again and for this reason, the country established an Agenda for Development 1, where her minerals can play a huge role in its recovery and lead to an economic growth. Since 2009, the discovery or rediscovery of mineral resources such as iron ore and oil have propelled the issue of responsible and transparent management of the country’s mineral resources towards the top of the development agenda [2]. By endorsement in the EITI, and in achieving some of the objectives of EITI like improving the process of management, creating a more attractive environment for investors, improving the revenue collection system, building trust between the citizens, government and the companies, the country now stands on the verge of an unprecedented period of economic growth, driven primarily by revenues from large-scale iron ore mining [3].

II. PROBLEM STATEMENT

Proper channels of public answerability are often missing in resource-dependent countries because the government has an independent source of income which does not depend on citizen’s taxes[4]. In a way for countries rich in mineral resources such as Sierra Leone to fully enjoy the benefit from its extractive industries, suitable channels of public answerability must be established. Its not a hidden fact that adequate provision of standard and quality information will bring about checks and balances in ensuring companies and government account for all transactions and create a healthy climate for investors, improve economy, have political stability to say but few[5]. The endorsement of Sierra Leone in the EITI was aimed to bring more transparency, confidentiality, new regulation framework about contracts and legislation on the extraction of its minerals resources. Also it seeks to establish a way for government and civil society to competently engage in smooth process of information produce and create a conducive data acquisition system [6]. Lastly, the lack of cultural accountability and transparency in the extractive industry in Sierra Leone is historic and the ideology of keeping records is eccentric 2.

III. LITERATURE REVIEW

Extractive industries represent a large growing activity in many less-developed countries but the wealth generated does not always lead to sustainable and inclusive growth. Extractive industry businesses often are assumed to be interested only in maximizing their short-term value, implying that less-developed countries are vulnerable to powerful corporations. Alternatively, host governments are often assumed to be only maximizing immediate revenue [11]. Researchers argue that there are areas of common interest where development goals and business cross. These present opportunities for international governmental agencies to engage with the private sector and host governments through revenue management and expenditure accountability.

1- Sierra Leone on its recovery process has established a series of goals to be achieved in a way to promote its economic growth, called The Agenda for Development.

2- Recent discussions with Allison George, World Bank consultant for EITI implementation in Sierra Leone, suggest that this failure was mainly due to a loss of focus by the EITI Steering Committee during the recent election period.
infrastructure development, employment creation, skills and enterprise development to impact youths, especially girls and women [10]. The industry is the economic block for many developing countries. In some cases, this industry constitutes the sole source of fiscal revenues, foreign exchange earnings and surpluses to finance the needed socio-economic development [8]. Since 2002, the price of many mined commodities rose, which led to the higher growth rate of many resources rich nations as in some cases to record heights. It thus appears that the generosity of nature may sometimes alter and by no means sometimes turn out to be a mixed blessing. 

A. Extractive Industries Transparency Initiative (EITI) audits, contracts transparency and sub-national revenues[3].

In many resources-rich countries, they have been unable to enjoy the full benefits from its extractive industries due to the many governance issues such as weak environmental and fiscal policies, resources utilization policy and so on. As a resulting factor, it has caused lack of transparency and accountability in the management of the resources that lead most times to corruption, conflict, and consequently a weak economy [10]. As such, EITI which stands for Extractive Industries Transparency Initiative was created by an international organization, which the aim was to maintain a standard assessment of the levels of transparency in extractive industries for countries where natural resources such as oil, gas and mineral resources are found. In the effort to translate natural resource wealth into better development for the local population [3]. It created a multi-stakeholder value-chain to focus on the revenue transparency consisting of the

Some other benefits of increased revenue transparency include:

- Improving revenue collection and management processes;
- Creating a more attractive investment climate;
- Building trust between governments, companies and citizens;
- Providing a forum to discuss broader extractive industry governance issues such as physical and process

B. Overview of Sierra Leone Economy

Sierra Leone is abundantly rich with mineral resources but unfortunately extremely poor. Nearly half of the working-age population engages in subsistence agriculture. The country possesses substantial mineral, agricultural and fishery resources, but it is still recovering from a civil war that ended in the early 2000s that destroyed most institutions[12]. In recent years mining - particularly of iron ore and oil exploration, has driven economic growth with also support from agriculture, expansion in construction and services. The country exports rutile, bauxite, limonite, zircon, gold and diamonds, and is vulnerable to fluctuations in international commodity prices. The country relies on external assistance to meet and maintain its budgetary needs clocking overseas grants up to one-fourth of total revenue [24]. Political instability and corruption is a hindrance to foreign investment, although from 2011 to 2012 the country’s Anti-Corruption Commission increased convictions of high-level officials from 9 to 22 and recovered millions of dollars [13].

Driven by the mining sector (particularly iron ore), GDP growth accelerated from 6% in 2011 to 16.7% in 2012 as a result of iron ore production. It has also been supported by agriculture, services and increase in construction. GDP growth is projected to stabilize around 10.2% in 2013 before reaching 12.1% in 2014 as iron ore projects become fully operational [13,14].
been reduced from 52.3% in 2011 to 44.0% in 2012 as a result of development in the minerals and cash crop exports. It is projected to shrink to 11.6% in 2013 but to slightly increase to 12% in 2014 [14,15].

Sierra Leone currently has 5 Large Scale Mining Companies, and 4 others at an advanced stage of commencing large scale gold and iron-ore mining operations respectively; 217 Exploration Companies; 6 Small Scale Mining Companies; and over 200,000 people engaged in Artisanal mining operations all around the country [17].

The country was struck by an epidemic ebola outbreak but did not significantly affect the operations of the five large scale mining companies as they continued to operate with implementation of protocols to protect their staff and surrounding communities and minimize risk of infection. However, some of the exploration companies have suspended operations following departure of their expatriate staff resulting from the Ebola outbreak[17].

The three largest iron ore mining projects (Tonkolili, Marampa and Bembeye) started in 2012 and boosted iron ore exports in 2013 and 2014 thus making Sierra Leone one of Africa’s largest iron ore producers within five years. These projects were to increase the country’s trade balance, country’s tax collection and improve the economy [12]. In addition, African Mineral Limited operating at Tonkolili iron ore mine where upgrading some infrastructure like transport facilities lining from the mines to maritime port [9].

As GDP grows as a result of the mining sector, other sectors like tradable service (Telecommunication, transport, real estate and business services, retail trade and wholesale etc.), and including logistics, roads and poor land based telecommunication are suffering from weak infrastructures has reduced its contribution to the GDP [14,18]. Nevertheless, it still remains as the second dominant sector i.e. 15.6% of GDP in 2012 against 18.3% in 2011.

In an effort to resolve this problem, Government took steps through parliament in 2012 of privatizing the state-owned Sierratel with a three-year management contract to the Indian government and has already seen a vast rehabilitation in a fixed-line infrastructure also benefiting from the national fibre network [14].

Diamond productions are concentrated in Kono, Kenema and Bo Districts. Bauxite found includes those between Moyamba and Mano, Freetown Peninsular; Krim-Kpaka, and Port Loko. Rutile production is distributed around Gbanamba, Sembehun, Rotifunk and Kambia. Iron ore has historically been mined at Marampa but recent discovery of about 12.1 billion tonnes has been found in Tonkolili. Gold is found in all greenstone belts but presently the only gold production comes from alluvial deposits[18].

Figure 2. Official Diamond exports in SL showing annual and monthly exports from 2014(GGDO report).

### TABLE 3. OFFICIAL DIAMOND EXPORTS FROM SIERRA LEONE FOR 2008-2013 (GGDO REPORT)

<table>
<thead>
<tr>
<th>Year</th>
<th>Category</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
</tr>
<tr>
<td>2009</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
</tr>
</tbody>
</table>

### TABLE 4. OFFICIAL DIAMOND EXPORTS IN SL SHOWING ANNUAL AND MONTHLY EXPORTS FROM 2014(GGDO REPORT)

<table>
<thead>
<tr>
<th>Month</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>Value 1</td>
<td>Value 2</td>
</tr>
<tr>
<td>Feb</td>
<td>Value 1</td>
<td>Value 2</td>
</tr>
</tbody>
</table>

### TABLE 2. GDP BY SECTOR (PERCENTAGE OF GDP AT CURRENT PRICES) (SOURCE: DATE FROM DOMESTIC AUTHORITIES)

<table>
<thead>
<tr>
<th>Sector</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry, fishing</td>
<td>15.3</td>
<td>15.9</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>7.4</td>
<td>7.6</td>
</tr>
<tr>
<td>Mining and quarrying</td>
<td>3.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Power and water</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Construction</td>
<td>1.5</td>
<td>1.5</td>
</tr>
<tr>
<td>Wholesale, retail and transport</td>
<td>11.7</td>
<td>11.6</td>
</tr>
<tr>
<td>Public administration and defence</td>
<td>3.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Other services</td>
<td>7.3</td>
<td>8.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

C. The Extractive Industry in Sierra Leone

Sierra Leone’s mineral resources include diamonds, rutile, bauxite, iron ore and gold. The mining sector accounts for about 80% of export revenues, with diamonds alone bringing in 60%.

Mining is the country’s second most important sector after agriculture in terms of employment and income generation. The mining sector has the potential to contribute more towards the economy than it is currently, as it has already attracted large investments [17].
Sierra Leone’s rich endowment of diamonds and other natural resources is a potentially large fiscal revenue base. Diamonds accounted for at least 60 percent of total official exports from 1965-79. The government participates in the global Kimberly Diamond Certification Process designed to prevent the trade in “conflict diamonds”. Sierra Leone also participates in the Extractive Industries Transparency Initiative, which seeks to improve governance in resource-rich countries through the full publication of company payments and government revenues from natural resources [7].

Official diamond exports increased from US$10 million in 2000 to a high of US$149 million in 2005. However, fiscal revenues, which come from license fees and a three percent of GDP. Official charges are low to discourage illicit mining and smuggling.

The major problem is that the country produces mainly alluvial diamonds which are widely dispersed and are being mined with simple tools like shovels and sieves, impeding policies and facilitating illicit mining and smuggling. Furthermore, the government’s access policy to the diamond mines is liberal with little effective restrictions. Thus, dispersed artisanal mining is the norm. Diggers, employed by financiers, search for diamonds in a predominantly profit-sharing method of remuneration.

Total taxes-income tax, surtax and diamond industry profit tax on the corporate sub-sector after it was nationalized in 1970, amounted to 70 percent of net profits. Furthermore, the government received 51 percent of the balance in dividends[7]. The first-best fiscal option would involve favoring large-scale operations. This could be done by introducing auctions for localized diamond-mining rights in some areas.

To improve monitoring of mining activity and formalize property rights, the government introduced in 2005 the cadastre system, which provides records of the geographic location and ownership of mineral rights. The government is preparing a Diamond Cutting and Polishing Act for legislation to “help Sierra Leone move up the value chain” [23,24].

Sierra Leone also has Kimberlite diamond resources, which, being geographically concentrated and occurring in pipes deep in the earth’s surface; require deep-shaft mining technology. For these reasons Kimberlite diamond mining offers much greater prospects for the state to collect the diamond rents. Export of Kimberlite diamonds started in 2004 [23].

The rutile mines: the largest private employer, taxpayer, and official source of foreign exchange before their closure in 1995 and resumed production in 2006. As at April 2007, employment stood at 1000 workers. The government contracted loans and grants totaling US$55 million from the European Union (EU), and the Overseas Private Investment Corporation (OPIC), (a US government agency), to provide a start-up loan to the foreign-owned company. The bauxite mines: the second largest private employer and taxpayer before their closure in 1995 also reopened in 2006 [25].

Gold exports are projected to increase significantly following acceleration of exploration projects [26].

D. EITI Implementation in Sierra Leone

Sierra Leone applied to become a member of the EITI in 2006 but only after two years was it accepted to be a member country. It saw the first ever published report on minerals only of EITI (2006-2007) in 2010. 2010 also saw a published validation report, which highlighted the EITI board assessment saying Sierra Leone did not comply fully to the regulations although it made meaningful progress [2].

The second validation report was published in 2012 but also failed 11, 13, 14 and 15 requirements as assessed by the EITI board. In 2013, Sierra Leone published its third EITI report relating only to mining sector. Although the revenues from the oil and mining remained less than 1%of the GDP, the current report show that they are growing fast, and though still small, revenues from oil, gas and mining are forecast to grow to up to 17% of GDP by 2020 [9,11]. As a subsequent repetition of failing to fully adhere to requirements and standards of reporting, EITI board suspended Sierra Leone on 26 February 2013. Although, the board recommended Sierra Leone to complete some four steps of remedial action, and on satisfactory reporting, the board reconsidered the pending of suspension on before 27 February 2014 and Sierra Leone started too see the possibility of becoming candidate country again [9,14].

From joining EITI in 2006, Sierra Leone only has produced EITI reports (2006 to 2013). The 2006-2007 report saw the first input covered and the second EITI Report covered the period 2008-2013. The number of Government Bodies and extractive corporations involved in the EITI reports increased from 9 to 19 from the first report to the second. The table below shows the progress made in each report: [9].

TABLE 5: SHOWS SIERRA LEONE EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE PROGRESS REPORT (SLEITI)

<table>
<thead>
<tr>
<th>Period Covered</th>
<th>Publicatio n Date</th>
<th>Sectors Covered</th>
<th>Governme nt Revenues (USD)</th>
<th>Company Payments (USD)</th>
<th>Number of Companies Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>Feb-10</td>
<td>Mining</td>
<td>72,00,000</td>
<td>77,00,000</td>
<td>9</td>
</tr>
<tr>
<td>2007</td>
<td>Feb-10</td>
<td>Mining</td>
<td>1,02,00,000</td>
<td>1,06,00,000</td>
<td>9</td>
</tr>
<tr>
<td>2008</td>
<td>Sep-12</td>
<td>Oil &amp; Gas, Mining</td>
<td>50,27,565</td>
<td>74,76,297</td>
<td>19</td>
</tr>
<tr>
<td>2009</td>
<td>Sep-12</td>
<td>Oil &amp; Gas, Mining</td>
<td>58,75,779</td>
<td>60,91,294</td>
<td>19</td>
</tr>
<tr>
<td>2010</td>
<td>Sep-12</td>
<td>Oil &amp; Gas, Mining</td>
<td>75,86,793</td>
<td>82,73,470</td>
<td>19</td>
</tr>
</tbody>
</table>

E. Approach

We will briefly highlight the 3 main companies boosting the industry and their input/challenges to have a clear picture of what is expected.

1) London Mining Company

Due to lack of liquidity resulting from rapid fall in iron ore prices in 2014, London Mining PLC (LMC) went into administration in October 2014 resulting in temporary suspension of operations of its Marampa mine in Sierra Leone. The Marampa mine has now been taken over by Timis Mining Corporation (TMC). The Marampa mines resumed operations

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under TMC ownership in November 2014 and produced 150,000MT of iron ore in November. Prior to that the Marampa mines produced 3.2 M DMT (millions dry metric tonnes) under LMC ownership and exported 2.8M DMT. The corresponding figures for 2013 were 3.1M DMT and 3.3M DMT respectively. Royalties on mineral exports paid to GoSL by LMC amounted to USD 9.2 million in 2013. This declined to USD 4 million in 2014 due to declining iron ore price ad temporary suspension of the Marampa operations during transition from LMC to TMC. Employees totaled 1,373 in 2014 including 92 expatriates [17,28].

a) Prospects: The latest projection from TMC was a production of 4.5M WMT of iron ore in 2015. Market analysts suggest that an increase in world supply coupled with a fall in demand from the likes of China is likely to result in a significantly lower price for iron ore in 2015 which was seen. The Marampa mine will have to reduce costs and increase efficiency to cope with the scenario of declining iron ore price in the near future[28].

b) Challenges: The unpredictability and probable fall in of the world market price for iron ore. Other challenges include increasing costs of inputs, the shortage of skilled labor in the domestic market, access to credit and the high costs involved in transporting the product to the port on land and to the international market on sea. During suspension of AML operations, TMC temporarily used rail transportation to get product to Pepel. The resulting lower freight cost has impacted positively on the project economics and the risk is whether this shared infrastructure with AML will continue in the long term[28].

2) African Minerals Limited

African Minerals (SL) Limited (Tonkolili Project) is mining one of the largest iron ore deposits (~ 12 billion tonnes JORC compliant resource) in the world. The Tonkolili Iron Ore Project is currently managed by African Minerals Limited (AML) with a 75% shareholding and Shandong Iron and Steel Group (SISG) (with a 25% shareholding) as of 2015. The AML subsidiary, Tonkolili Iron Ore (SL) Limited, mines iron ore at the Tonkolili mine in Ferengbeya. AML’s concession contains four main iron ore deposits at its mining site, Simbili, Maronpong, Kassoponi and Simbara, which together make up a resource of 12.8 billion tonnes. In its current production phase, DSO (Direct Shipping Ore) is being mined from the Simbili deposit. This is not particularly high quality (averaging around 53.5% Fe content), but requires minimal processing. Future phases will involve the mining of other ore types which require more processing. Output increased significantly in 2013. Also that year saw AML publicly acknowledging for the first time that Phase 2 is unlikely to be of the scale previously indicated. Production is likely to increase to only 25Mt per annum rather than the 35Mt per annum that was originally proposed. After months of falling iron ore prices, trading in AML shares was suspended on 20 November 2014, and the Project’s operations were suspended on 1 December 2014 due to ‘insufficient working capital’. AML has continued to suggest that the implementation of existing cost reduction strategies would return operations to a position of positive cash flow even at the current iron ore price. However, these strategies require an injection of working capital to be implemented. The Project has restricted cash of US$102m in its accounts. However, this can only be released with the agreement of both parties and SISG has been reluctant to authorise this. GoSL discussions with SISG indicate that this is as a result of serious concerns it has about AML’s management of the Project. In addition to efforts of obtaining SISG’s authorisation to release these funds, AML has indicated it is also seeking additional short-term funding from other sources and is in discussions to sell some of its stake in the Project. Nevertheless, AML has indicated that there is no certainty that any of these strategies will be successful or the time this will take even if they are. With each additional day that operations remain suspended inflicting more economic and social damage on the country, the Government is taking an active role in facilitating resumption of the Tonkolili operations.

Prior to the suspension of operations on December 1 2014, the Tonkolili mine produced 15.1M DMT (millions of dry metric tonnes) of iron ore and exported 15.7 M DMT. The corresponding figures for 2013 were 11.6 M DMT and 11.5M DMT respectively. The company in 2014 demonstrated capacity to produce 20Mtpa (million tonnes per annum) of iron ore (58%Fe). Royalties on mineral exports paid to GoSL by AML amounted to USD 20.2 million in 2013. This declined to USD 16.4 million in 2014 due to declining iron ore price and temporary suspension of operations. Employees totaled 3,900 in 2014 including 509 expatriates [17].

a) Prospects: AML up to date has been producing a relatively low value Hematite Direct Shipping Ore. The current mining of DSO will continue up to 2017. Phase 2 of the Project includes the replacement of this with production of a high value Friable Hematite concentrate, which AML estimates could attract a sales price that is US$25/t higher than its existing products. The required investment is US$600m. The mine will not be a financially sustainable operation without this investment [17].

b) Challenges: The unpredictability and probable fall in of the world market price for iron ore. In addition to the predicted fall in iron ore prices, a major challenge to AML operations is heavy rainfall. DSO does not dry as well as the ore mined by LM/TMC, and therefore this rain leads to it having high moisture content. Moisture content of the DSO is ideally 12 percent. When this rises to around 16 percent, the DSO is stockpiled to dry for at least 5 days, impeding the rate at which trains are loaded and, in turn, the volume of exports. The high cost of equipment is another challenge, particularly as AML is often required to pay upfront as a result of the perceived risk by suppliers. The incidence of theft of materials and fuel was a key challenge. However, this has been largely addressed by increased security arrangements in the camp and the mines sites [17].

3) Sierra Rutile

SRL is an AIM-listed company with majority ownership held by Pala Minerals Limited. It predominantly mines rutile, but also produces small amounts of ilmenite and zircon. The operations center on JORC Compliant Resource of over 900 million tonnes with an average rutile grade of 0.94%. The majority of product is extracted using a dredge, but dry mining is becoming increasingly important after a second dredge capsized in 2008. The minerals are then treated and processed before being loaded onto barges at Nitti, which transport them to ocean-going vessels (OGVs). SRL’s mine is one of the world’s largest natural rutile deposits, and in 2014
produced up to the end of November 114,163MT rutile, 35,839 MT Ilmenite, and 2,221 MT of high-grade zircon product. A new dry mining project was commissioned at Lanti in 2013 to supplement production from the dredge, and the next stage of its expansion strategy, Gangama Dry Mining, is forecast on completion in 2016 to have an average annual production rate of 83,400t of rutile, 46,000t of ilmenite and 9,500t of high grade zircon concentrate over six years. This will take SRL annual rutile production capacity to over 200,000 MT per annum. SRL is currently operating under the ‘First Amendment Agreement’ (2004), which sets the rates for royalty and turnover tax at only 0.5%. This is due to expire at the end of 2014, and the fiscal regime will automatically return to that as set out in the Sierra Rutile Act (2002), in which the rate for royalty is 4.0%. Turnover tax (3.5%) will continue to be paid until the company makes a profit and becomes liable for corporate income tax. 1,402 staffs are employed directly by SRL, of which only 44 are expatriates. Efforts are being made to reduce the number of expatriates further through the ‘talent-spotting’ and subsequent training of national staff for senior positions[17,25].

a) Prospects:As a result of modifications to its operations and expansion of the dry mining project, production and exports are set to increase whilst operating costs should decrease in 2015. Prices are expected to remain low however. Capital expenditure in 2014 will continue to be focused on increasing output from its dry mining operations[17,25].

b) Challenges:The major challenge is the unpredictability of the market price. This not only affects current profitability, but also the economic feasibility of expansion plans. The ability to exploit the remainder of the deposit requires a certain price to be achieved[25].

IV. METHODOLOGY

It is known that most of the brutal war in the world was driven by the greed of humanity towards the richness offered by nature. This is because; natural resources such as oil, diamond and other minerals in the extractive industries have been seen more as a curse, cause of destruction than a cause of development. This is a study of the impact analyses on the extractive industries and how it has developed the economy of Sierra Leone.

A. Database

This paper used information published in different reports about the extractive industries in Sierra Leone from its endorsement of EITI policy in 2006 to 2014. The analyze was made according to the statistic data published in reports such as World Bank, Bank of Sierra Leone, National Mineral Agency and government reports on the Extractive Industries etc. on whether the extractive industries had any significant influence on the economic growth.

V. DISCUSSIONS AND RESULT

A. Extractive Industry’s Economic Effect

Extractive industry indeed is an important instrument for economic growth in developing countries. For some natural resource rich nations, it accounts for the half of the country revenue. However, the full range of benefits that can accrue to the resource owner has been limited because of a variety of factors including the enclave nature of the industry and the capital-intensive requirements for developing the industry.

The main economic impact of extractive industry is reflected in the macroeconomic performance in government revenues through direct employment, economic externalities and spillover effects on other sectors of the economy [27].

1) Macroeconomic performance

Extractive industries exports are a valuable source of foreign exchange in host countries. These resources finance imports of goods and services needed for industrialization, diversification and growth. Capital inflows from the development stage of projects and revenues from operations have a positive impact on the country’s balance of payments. However, if these inflows are not well managed, especially when there is a dominance of a natural resource in an economy, they may harm economic performance. In these cases, extractive industry can be a source of macroeconomic instability and distortions; commonly referred to as the “Dutch disease”. Volatility in the price of commodities is also a major concern for countries that are heavily reliant on extractive industries exports, as recurrent booms and busts in commodities prices tend to affect the stability of the exchange rate, the local industry activity and even the government finances. Export dependency on minerals can reach almost 98% of total exports in some developing countries. Experience in some natural resources-rich countries such as Norway, Chile and Indonesia have shown that negative macroeconomic effects can be diminishes with the creation of sovereign wealth funds, the application of realistic exchange rates policies, prudent fiscal policy and persistent initiatives towards diversification[27].

2) Government revenues

Extractive industry may raise government revenues mainly through: direct ownership (with state-owned companies or joint ventures), taxation (corporate income, value added, and other specific taxes) and royalties and/or payments under contractual arrangements (like concessions or production share agreements in the oil industry). In many countries, extractive industry represents an important part of annual government revenues, as it is the case of oil in Nigeria with 74% in 2010 and Sierra Leone 53% in 2012. These revenues have a positive impact as a source to finance public infrastructures, human capital investments (education, health) or to support the development of other economic sectors. But at the same time, an excessive dependence can also have negative and destabilizing effects on fiscal budgets, as prices volatility is directly mirrored in government cash inflows. In the case of Chile, two main policies have had good results in stabilizing government expenses: (1) the budget structural balance rule and (2) the creation of reserve funds. In terms of revenues from taxation, most tax regimes applied in the sector are based on taxing profits, which implies that companies are not required to pay taxes when they incur losses[27].

3) Employment

In general, extractive industry is capital intensive and makes a limited direct contribution to employment. For example, the mining sector employs 22 million to 25 million people worldwide (approximately 1% of the total global force), and in some mining countries like Botswana, Chile and Peru that percentage varies from 3% to 0.7% of the local work force. Similarly, the contribution of the oil and gas industry to the national employment is also small, 1.5% of the working population in Saudi Arabia and 4% in Equatorial Guinea.

In the mining sector, artisanal and small-scale mining can have an important role in local employment, especially in poor countries; however, their contribution is difficult to estimate because of the informal nature of the activity, which is performed in remote location and may be pursued during periods of seasonal agricultural inactivity or underemployment. At the local level, large-scale extractive projects can have relevant employment effects, but the net
impact depends on how they affect employment in pre-existing activities, like agriculture or small-scale mining[27].

Extractives industries can definitely bust the economy once it is managed properly. Taking a case of Sierra Leone, its natural resources have favored a type of transformation in which the extractive industries plays a dominant role [24]. Driven by the mining sector, the country’s GDP has experience some significant growth from 6% in 2011 to 2012, and it was stable from 2013 to 2014, making this sector a main driver of the economic activity. Although in 2014, the country suffered some break down because the epidemic Ebola outbreak which stroke the economy [3]. But the economy is expected to recover where the extractive industries will play an important role.

The proper management of the Extractive Industries can lead to a construction boom to upgrade infrastructures in the country. It can promote employment and more business opportunities for the country. Under its new strategy, the Agenda for Prosperity, the government is making effort to implement reforms to better manage its natural resources and enhance its revenue by strengthening the policies of collection processes rather than increasing taxes on the extractive activities. In this perspective, some kind of policy seems needed to enhance the productivity and continue to promote the economy development.

B. Policies recommendations

Stable and conducive policies should be created by government to regulate the framework in order to encourage competitiveness and attract more investments in a way that the policies will promote more employment, wealth, and create new opportunities for development.

- The government must create rules and policy in ways to fight the corruption and enhance good governance of the natural resources;

- The government should maintain all principles, guideline and strictly adhere to the Extractive Industry Transparency Initiative (EITI) rules;

- The government should promote and enforce mineral revenue balance and reduce fiscal disparity. An increased capacity for forecasting and managing mineral revenues appropriately will minimize adverse macro-economic impacts associated with commodity price fluctuation;

- The government through the Bank of Sierra Leone and the Ministry of finance should direct policies towards handling inflation and exchange rate instability;

- The government should enact/force the mining companies to build facilities like mineral processing plant and others that will enhance value addition in the mining sector, and expand the country’s benefits from its natural resources;

- Achieving better mineral resources revenue allocation and redistribution of benefits of mineral wealth must be done through improving governance and managements of the revenue flow, resources allocation and inclusion of stakeholders in decision-making;

- In order for the country to maintain a steady growth, amongst others, government should enforce diversification by encouraging other sectors of the economy to grow with likewise attention given to the extractive industries.

VI. CONCLUSION

Expansion of the extractive sector in Sierra Leone especially following the recent rediscovery of iron-ore mines has initiated a process of structural transformation in the economy. The country is experiencing today some development in its productivity from the primary sector to the mining and extractive activities. As a result, the mining sector became the main driver of economic growth leading to an unprecedented high growth. This should in principle, beac accompanied by structural transformation and defined as the transfer of workers from activities and sectors with low average labor productivity to those with high average labor productivity, thus contributing to an increase in average labor productivity for the overall economy and increasing diversification and sophistication of exports.

In achieving some of the objectives of EITI like improving the process of management, creating a more attractive environment for investors, improving the revenue collection system, building trust between the citizens, government and the companies and creating an avenue for group discussion of major issues amongst all parties, Sierra Leone now stands on the verge of an unprecedented period of economic growth, driven primarily by revenues from large-scale iron ore mining [3]. Some other benefits of increased revenue transparency include amongst others listed above:

- Providing a forum to discuss broader extractive industry governance issues such as physical and process audits, contracts transparency and sub-national revenues[3].

The extents of the positive and negative impacts are context specific and vary from extractive activities, location, economic environment and quality of governance. These impacts can be influenced at any level of the value chain by the local content policies adopted in host countries [29]. Likewise, apprehending these impacts and their dynamics are of critical importance in the design of appropriate regulations [7].

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