

New Structural Economic Perspective: The Case of Sierra Leone

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Abstract - The economy of Sierra Leone has a list of critical challenges. The country has undergone significant economic shocks over the years; the 11years of civil war, the Ebola Virus Disease, and the Corona Virus Disease. The decrease in the price of iron ore in the world market, the county's primary export, back pedalled all the country's economic gains. Though a transition or Least Developed Country (LDC), Sierra Leone has a lot of mineral wealth (as it is also famous for its blood diamonds), vast acres of arable land for agriculture, fisheries, and marine resources tourism potential. However, in the face of all these natural resources, the social and economic lives of the people have not improved (is it a resource curse?).

Obviously, over the years, it seems not all the macroeconomic policies have been able to heal the economic infirmities of the country. For example, currently, the government has one of the highest inflation rates (increased food, housing, and transport inflation worse than even the period of the civil war and Ebola in the country). The motivation of this work is to examine why the critical drivers for economic growth have not been able to transform the nation's economy and identify a framework for financial growth facilitation through value-added chains. However, to achieve this, the paper employs the Growth Identification and Facilitation Framework (GIFF) from a New Structural Economic perspective. The study used a descriptive statistics method to evaluate the impact of these economic drivers on the economy of Sierra Leone. Data for the analysis were from secondary sources. Significant findings of this study include but are not limited to the lack of adequate knowledge of the staff of the National Revenue Authority about the extractive industry and the lack of coordination between the National Minerals Agency (NMA) and the National Revenue Authority (NRA) on revenue mobilization in the extractive sector of the country. Policy recommendations also hold out in this study as to the critical policy interventions the Sierra Leone government should consider to transform Sierra Leone's comparative advantages to competitive advantages.

Keywords: Mineral resources, growth identification, and facilitation framework, new structural economics, value-added chain, comparative advantage, competitive advantage, economic drivers.

1. Introduction

Sierra Leone's economy is well thought out as the least developed country, with its GDP at approximately 1.9 billion USD in 2009. The economy of Sierra Leone has been gradually recovering since the end of its civil war in 2002. The Gross Domestic Product (GDP) growth rate was between 4 and 7%, and it's GDP in PPP ranked between 147th in 2008 by the World Bank and 153rd (CIA) as most significant in the world.

The Sierra Leone economy has always been over-dependent on its major mineral exploration, which has hindered its development. The nation had always believed that "diamonds and gold" are sufficient to generate foreign currency earnings and encourage or attract foreign investment. However, this has resulted in governments' considerable neglect of large-scale agriculture of commodity products, industrial development, and sustainable investments. Sierra Leone's economy is an economy that depends on the extraction of unsustainable resources or non-reusable assets.

Although about two-thirds of the population of Sierra Leone is directly involved in subsistence agriculture, the sector is seen to have received little attention. Agriculture accounted for 58 percent of the national Gross Domestic Product (GDP) in 2007.

Sierra Leone is known to have been heated by an unfortunate dilemma caused by a deadly epidemic, generally known as Ebola Virus Disease (EVD). This 18months outbreak had grossly disrupted usual health care, affected the socio-economic livelihoods of the country, including the education services, agricultural production, and trade, and led to the decline of iron ore prices.

Table 1: GDP and Percentage of GDP by sector (2007)

Sector	2010	2011	2012	2013	2014	2015
GDP growth (annual %)	5.37	4.81	15.18	20.72	4.56	(20.60)
Agriculture	55.15	56.72	52.52	49.72	53.96	61.33
Industry	8.11	8.18	15.09	22.00	16.27	4.76
Services, etc.	36.74	35.11	32.39	28.28	29.78	33.90

Source: World Development Indicators

Sierra Leone's population in 2015 was about 6.3 million, where about 39.1percent are living in urban areas, and the urbanization rate projection has been estimated to reach about 43.8percent by the year 2030. At the same time, the country experienced urbanization, with no industrialization such as manufacturing. As Sierra Leone experience a massive manufacturing problem, its labor force migrates from areas with low agricultural productivity activities in the rural areas to regions with small productivity services, regardless of the absence of a transformative industrial sector. This situation does not promote appropriate structural linkages; a sustained transformation of the economy became its primary missing link in its fundamental change.

The table below shows the trend of the gross domestic product of Sierra Leone estimated by the World Bank from 2005 to 2015, with figures in billions of U.S. Dollars.

Table 2: Trend of the gross domestic product of Sierra Leone

Year	Gross Domestic Product (\$bn)
2005	1,627,854,494.80
2006	1,885,112,201.85
2007	2,158,496,872.86
2008	2,505,458,705.03
2009	2,489,985,963.17
2010	2,616,610,911.07
2011	2,942,546,781.05
2012	3,801,862,611.36
2013	4,920,343,195.00
2014	5,015,157,815.73
2015	4,214,779,784.52

Source: World Development Indicators

2. A Shift from Comparative to Competitive Advantage with the Growth Identification and Facilitation Framework (GIFF)

2.1 Mining activities in Sierra

The mining sector of Sierra Leone contributes about 4.5 percent of the country's Gross Domestic Product (GDP) in 2007, and minerals made up 79 percent of the country's total export revenue, with diamonds contributing 46 percent of export income in 2008. However, the main minerals mined in Sierra Leone are diamonds, rutile, bauxite, gold, iron, and limonite.

Mining in Sierra Leone is one of the critical aspects of insecurity in the nation and one of the causes of the nation's past civil war. By tradition, paybacks from mining diamonds have benefited the private corporations plus corrupt bureaucrats instead of the government (Okey Iheduru, 2017).

The Mineral Resources Ministry is in charge of the supervision of the nation's minerals sector as well as the custodian of the 2009 Mines and Minerals Act. Sierra Leone is a nominee for the Extraction Industries Transparency Initiative (Okey Iheduru, 2017).

2.2 Recent Economic Developments in Sierra Leone

Sierra Leone's economy has proven strong resilience to the two significant shocking experiences it encountered in 2014 to 2015; these major shocks are the Ebola epidemic claiming lives and the collapse of iron ore prices that led to an economic fall.

The economy's growth is back on track through several major macroeconomic factors that challenge economic growth expediency. Over the years, the promising economic development of the country was being supported by new investments in mining, agriculture, and fisheries, and according to International Monetary Fund projections, the country's economic growth was expected to stay sustainable over the medium term.

Table 3: Macroeconomic Aggregates, 2005 - 2015 (in percent)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
GDP growth (annual %)	4.33	5.53	8.06	5.40	4.65	5.37	4.81	15.18	20.72	4.56	(20.60)
Inflation, GDP deflator (annual %)	16.62	12.49	6.80	9.99	7.84	17.19	17.30	12.04	6.93	1.80	18.86
Agriculture, value added (% of GDP)	52.46	52.89	54.76	56.35	57.32	55.15	56.72	52.52	49.72	53.96	61.33
Industry, value added (% of GDP)	11.96	11.06	10.12	8.23	6.79	8.11	8.18	15.09	22.00	16.27	4.76
Services, etc., value added (% of GDP)	35.58	36.05	35.12	35.43	35.89	36.74	35.11	32.39	28.28	29.78	33.90
Exports of goods and services (% of GDP)	17.82	16.87	15.60	13.52	13.30	16.55	16.27	32.91	28.63	30.76	19.36
Imports of goods and services (% of GDP)	29.71	25.05	24.69	25.69	27.53	33.97	64.45	60.37	58.83	52.43	47.44
Gross capital formation (% of GDP)	11.46	10.38	9.45	9.11	9.85	30.63	42.04	27.48	13.76	13.69	15.45

Source: World Development Indicators

→Real Gross Domestic Growth (GDP) is projected to recover from -20.6% in 2015 to 5.4% in 2017.

Consumer Price Inflation is on a continuous rise because of the exchange rate pass-through and monetary stance accommodation. The inflation raised from 9.5% in December 2015, and by December 2016, it had reached 17.41%. Exchange rate pressures remain unabated. The local currency (the Leone) had depreciated by 28.73% in December 2016 (year-on-year). The Bank of Sierra Leone has increased its weekly foreign exchange auction from \$1 million to \$3 million since June 2016.

Notwithstanding this, it has been able to maintain foreign exchange reserves for at least 3.5 months. The overall fiscal balance (excluding grants) was projected to recover slightly from -9.6% of non-iron ore GDP in 2015 to -8.1% in 2016. Total domestic revenue collection for 2017 is projected at Le3.5 trillion, up from Le2.68 trillion set in 2016. The IMF projects medium-term growth to pick up to around 6.5% by 2020 from 4.3% in 2016 and inflation to decline to 7.5% by 2020.

Table 4: Sample Population aged and Labor force, total and by gender

Series Name	2005	2010	2015
Population, total	5,071,271.00	5,775,902.00	6,453,184.00
Labor force, total	1,875,077.00	2,170,377.00	2,483,461.00
Labor force, female (% of the labor force)	50.31	49.85	49.54
Labor force, male (% of the labor force)	49.69	50.15	50.46

Source: World Development Indicators

2.3 Agricultural in Sierra Leone

Sierra Leone is perhaps the greatest challenging nation for the project of organic exports. It is still mending from a civil conflict that terminated in 2002. When the project commenced, farmers had hardly begun to rehabilitate their cocoa plantations (Food and Agriculture Organization of the United Nations (FAO), 2021). Work to restructure the critical road from Freetown to Bo had just started. T roads in the focal cocoa-growing regions were in abysmal situations, through trucks with cocoa often trapped in the mud (Food and Agriculture Organization of the United Nations (FAO), 2021).

Additionally, many young who had grown-up up during the conflict had received nominal education and a high race for skilled people.

In this environment, Kpeya Agricultural Enterprise tried to build up its export volume and be certified Fair trade to enter the fair-trade market and increase the incomes of its member farmers. The project decided to support them. In May 2008, the project organized a national workshop on organic and fair-trade export potential for Sierra Leone. Additionally, this attracted many government officials, representatives of farmer organizations, and other support programs.

2.3.1 Agricultural Export in Sierra Leone

In 2015, Sierra Leone exported \$582M, making it the 160th principal global exporter. During the last seven years, the exports of Sierra Leone increased at an annualized rate of 11%, from \$245M in 2010 to \$582M in 2015 (OEC Data, 2018). The most recent exports are led by Diamonds, which represent 21.9% of the total exports of Sierra Leone, followed by Iron Ore, which accounts for 21% (OEC Data, 2018).

2.4 Labor force in Sierra Leone

The labor force is the key element of dynamic production factors to achieve the maximum return and desire economic growth rates and welfare under the full utilizes of an existing resource. The income distribution affects the employment level. The International Labor Organization (ILO) defines the unemployed person who can, willing, search, and accepts work at the prevailing wage level but could not avail. This definition excludes from the circle of the unemployed, the elderly, patients, and students in schools, institutes, and universities at working age. However, they are not looking for jobs, individuals who can work but not looking for because they were utterly frustrated by the failure to find a former job. And those who voluntarily decide they do not want a job because of their highly wealthy.

The total population of Sierra Leone is 5.7 million and its labor force accounts for 2.4 million people. Around 63% of the population is at the age of 25 years or below. The employment rate has been estimated at 65%, with a minimal gender gap of 2% among men. The Sierra Leone conflict in the 1990s backed to youth unemployment as a significant cause and is still critical and considered the high political priority in Sierra Leone. ILO had also estimated a share of unemployed youth in total unemployed at 32% in 2013, 70% of the child at (age 15-35) approximately 400,000 are technically are jobless but underemployed (not working or studying) different categories of unskilled and skilled youths.

Apart from the nearly 90 % of work in wage jobs employed with tertiary degrees, a relatively large share of workers with low educational attainment are in unpaid work.

While 9.3 % of workers have only completed primary school and 8.5 % of workers who have some primary school but have not completed it, illiteracy and lacking skills remains a persistent challenge to compete for available jobs. The data from 2004 showed that wage and salaried workers constituted around 8% of the workers employed in Sierra Leone. Men are dominating this segment. Self-employment covers 92% of the country's labor market's workforce: Own account workers are the most significant (74%) while contributing family workers (18%) are less of total wage and salaried workers.

Among the employed between 15-19 years of age, an average of 15.7 % was primarily engaged in unpaid labor, while only 2.1 % had wage jobs, and 24.0 % were in nonagricultural self-employment. By ages 36–40, 8.9 % had a wage job; 29.5 % were in nonagricultural wage employment, and only 3.7 % worked without pay. Agricultural self-employment remained relatively stable, averaging 58.2 % of all jobs among 15–19-year-olds working and 57.9 % among people 36–40 years old. According to the (European Commission, DEVCO, 2008-2013), the country is undergoing rapid urbanization with the influx of young people into the larger cities. An estimated 800,000 youth today are actively searching for employment. As already mentioned, the urban areas are likely unable to generate the number of jobs needed, let alone in the formal sector, and lack employment opportunities.

2.5 Informal Economy

In contrast, the informal economy covers both the rural and urban areas, and it was estimated that 2 million people (92%) employs the economically active population, %50 of them women.

A survey of businesses in the informal economy in Sierra Leone showed that the main reason to remain informal is the total costs of entering the formal sector. However, it is also related to a general lack of information about the labor market and personal knowledge about operating with a formalized enterprise. Close to three out of four (73%) have never tried to formalize their enterprises.

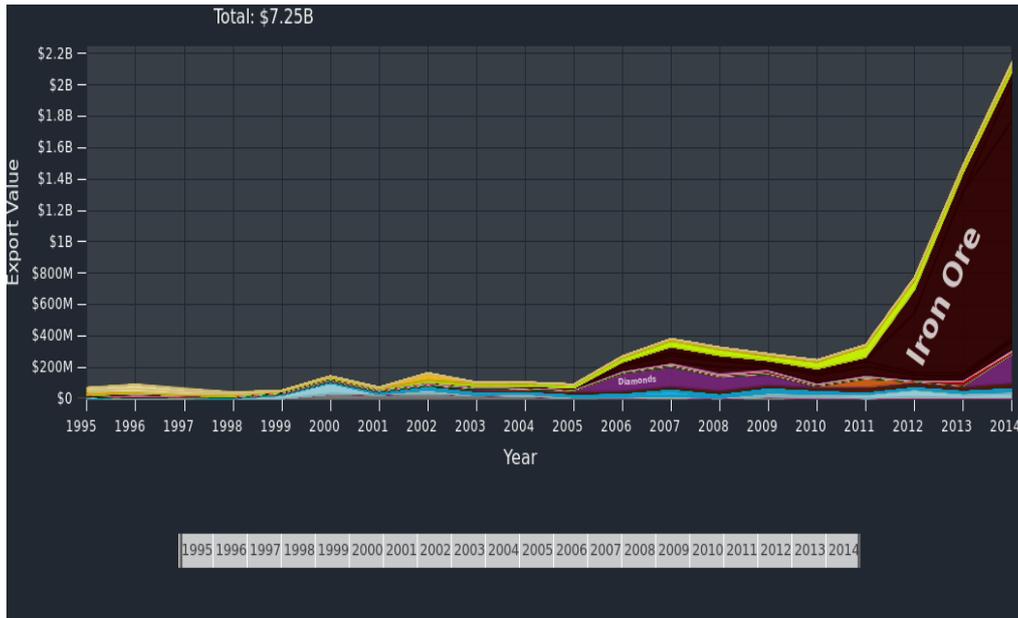
3. What does Sierra Leone export to other countries?

Table 5: Sierra Leone Export 2014 – 2015

Year	Main export commodities	Amount Million (USD)	Main Exporting Countries
2014	Iron Ore	1,390	China
	Tin Ores	237	Belgium-Luxemburg
	Titanium Ore	77	Romania
	Diamonds	175	Netherlands

	Cocoa Beans	30	United States
2015	Diamonds	128	China
	Iron Ore	123	Belgium-Luxemburg
	Titanium Ore	106	Romania
	Cocoa Beans	22	United States
	Excavation Machinery	10	Netherlands

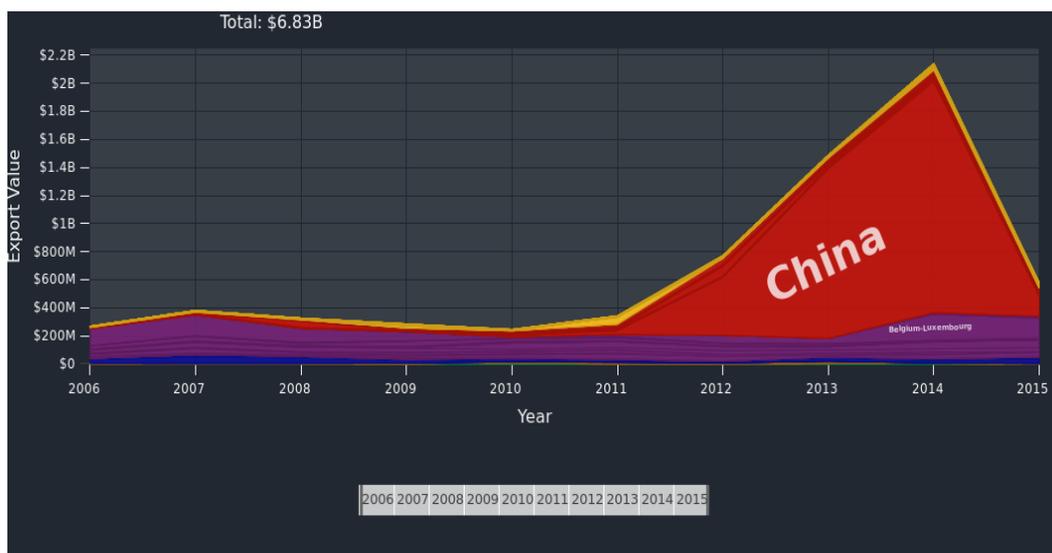
Source: OECD Data



Source: OECD Data

Figure 1: Sierra Leone Main Exports Chart

The graph above shows that Sierra Leone's highest export is Iron Ore, with a return of about \$1.390 billion.



Source: OECD Data

Figure 2: Sierra Leone Main Exporting Countries Chart

The graph above shows that Sierra Leone's highest exporting country is China from around 2011-2014.

3.1 Selecting Sectors

While selecting countries with a per capita income of 100-300 percent above Sierra Leone's, the below table shows a list of countries with a per-capita GDP of 100 to 300 percent above

Sierra Leone's. In addition, removing slowly-g=developing countries, we were left with the following countries: **India, Vietnam, Samoa, Lao PDR, Myanmar, Cote d'Ivoire, Cambodia, Tanzania, and Senegal.**

Table 6: Per Capital GDP

Country Name	GDP per capita 2015	Percentage to Sierra Leone (%)
India	5,733.45	289.00
Vietnam	5,667.41	284.51
Samoa	5,574.07	278.18
Lao PDR	5,345.26	262.66
Myanmar	4,930.59	234.52
Cote d'Ivoire	3,300.07	123.90
Cambodia	3,278.22	122.42
Tanzania	2,510.04	70.30
Senegal	2,273.62	54.26
Sierra Leone	1,473.91	-

Source: OECD Data

Using the criterion of factor endowment as recommended by Justin Lin (March 2011), amongst the above-listed countries, the country with the most similarity with Sierra Leone would be **India**. India has similarities with Sierra Leone because of its richness in labor intensity productivity and agricultural resources such as rice, fruits, and coffee. They have used to develop their economy, corresponding to its latent comparative advantage. Another country with the most similarity with Sierra Leone would be **Tanzania** due to its agricultural commodities and gold exports.

Critical markets for imports are New Zealand, Australia, the United States of America, Japan, and China, and significant exports include **copra, coconut oil, beef; timber; cocoa, and kava.**

3.2 Which commodities do these countries export?

This section identifies industries in these comparator countries where production is labor-intensive or requires natural resources and provides brief comments on Sierra Leone's potential in these industries.

Cote d'Ivoire exports cocoa, coffee, timber, petroleum, cotton, bananas, pineapples, palm oil, fish to the United States 8.5% Netherlands 6.2% France 5.6% Germany 5.6% Nigeria 5.5% Burkina Faso 5.5% (2015 est.) export revenue stood at about \$11.98 billion (2015 est.)

Cambodia exports clothing, timber, rubber, rice, fish, tobacco, footwear to the United States 23.1% the United Kingdom 8.8% Germany 8.2% Japan 7.4% Canada 6.7% China 5.1% Vietnam 5.0% Thailand 4.9% Netherlands 4.1% (2015 est.) and export revenue stood at about \$8.433 billion (2012).

India exports several agricultural goods and other cash crops, mainly to the Middle East, Southeast, and East Asian nations. It receives about 10 percent of its export income from agricultural products (Infogalatic - Creative Commons Attribution, 2016).

Tanzania's major exports are agricultural commodities, tobacco, coffee, cotton, cashew nuts, **tea**, and cloves being the most important. Other exports include **gold** and manufactured goods. Its export revenue stands at about \$5.6685 billion (October 2015).

Vietnam exports clothes, shoes, marine products, crude oil, electronics, wooden products, rice, coffee, machinery to the U.S., Japan, Korea, Germany, and export revenue stand at about \$169.2bn(2016)

Senegal's main exports are oil (15 percent of total exports), phosphate (13 percent), **and gold** (13 percent), and **fish** (10 percent). Senegal's leading export partner is Mali (15 percent of total exports), followed by India (12 percent) and Switzerland (10 percent). Others include Spain, France, Italy, and Cote d'Ivoire.

Samoa Major imports include machines, transport, equipment; food and live animals; mineral fuels; and manufactured goods.

Table 7: Identifying Sectors for Growth – Key exports of China, India, Vietnam, and Indonesia

Tanzania	Cambodia	Samoa	India	Sierra Leone Potential
			Labor force	The country has a substantial Labor force but needs to be appropriately engaged in suitable activity.
		Cocoa		Cocoa is already active and growing
	Fish			The country has good potential to see food
	Rice	Rice		Rice was the main export in the country many years ago; now, it can be revived to increase its exports and income.
Coffee			Coffee	Coffee is a regular product for the country
Agricultural produce				Other agricultural produce will enable the country to increase its expected income
Gold				Gold is currently the leading export but not well managed, depriving the country of enjoying its potential incomes.

Source: OECD Data

Table 8: Sierra Leone Import 2014 – 2015

Products	\$ million (USD)	Import Countries
Ships, phones, processed tomatoes, iron, Petroleum	302	China
Coconuts, Brazil nuts, and cashew, stone processing machinery	229	United Kingdom
Air pumps, refrigerators, rubber tires, delivery trucks	217	United Arabs Emirate
Rice, packaged medicaments, iron, motorcycles	98.2	India
Cars, poultry meat, sauces, and seasons	86.9	United States
Machines, metals, plastics, rubber	160	United Arabs Emirate
Delivery trucks, cars, petroleum	155	Belgium-Luxemburg
Petroleum, trailers	94.7	South Africa

Source: OECD Data

3.3 What are the sectors in which Sierra Leone has a potential comparative advantage based on this analysis?

Comparative advantage exists when an economic region or a nation can produce a good at a lower opportunity cost above the other (Darrell Kirklen et al., 2017). Sierra Leone is said to have a comparative advantage regarding food crops, particularly with Rice and Cassava, which have not been being exploited over the past year since mining dominated the market, and labor forces switched to the mining sector.

4. How to promote growth in the selected value chains?

The Growth Identification and Facilitation Framework of Sierra Leone is an important step forward in identifying the potential endowments of the country. Make an analysis of those endowments in terms of their value chain processes,

facilitation, key constraints, and policy recommendations that will help promote trade and overall economic benefits for the country. The researcher has identified that Sierra Leone's endowments comprise 1) 52% Mineral products; 2) 23% of Metal products; 3) 5.8% of Foodstuff; 4) 4.8% Machines; 5) 2.8% of animal products and others (Metals and Chemical products account for 11.6%). However, Sierra Leone remained one of the largest exporters and ranked as the 160th largest export economy globally and 56th most complex economy according to the Economic Complexity Index (ECI) (OECD Pro, 2017). Hence in 2015, the country exported \$582M and imported \$9.2B, which brought about a negative trade balance of \$1.32B (OECD Pro, 2017). Therefore, Sierra Leone's GDP per capita stood at \$1.57k and GDP \$4.21B in 2015. Throughout the last five years, the exports of Sierra has increased at an annualized rate of 11%, from \$245M in 2015 and the most recent exports with Diamonds leading with

21.9% of the overall exports of Sierra Leone, with iron ore accounted for 21% (OECD Pro, 2017).

Nevertheless, Sierra Leone's top exports include 1) Diamonds at \$127M; 2) Iron Ore at \$122M; 3) Titanium Ore \$105M; 4) Aluminum Ore \$54.2M and Cocoa Beans at \$22.4M, in line with the 1992 revision of the Harmonized System (H.S.) (OECD Pro, 2017). Besides, the country's top imports are Refined Petroleum \$175M, Coconuts, Brazil nuts, and Cashews \$131M, Rice \$97.3M, Cars \$70.2 M, and Telephones \$56.9M.

Sierra Leone's top export destinations are Belgium-Luxembourg \$144M, China \$143M, Romania \$54.2M, the United States \$37.5M, and the Netherlands \$34.2M. The top import origins or exporting countries to Sierra Leone include China \$303M, the United Kingdom (U.K.) \$233M, the United Arab Emirates \$217M, India (\$92.8 M), and the United States \$83.8M (OECD Pro, 2017).

4.1 General and Key Constraints for Each Sector

Sierra Leone's economy has been consumed over the past years by two main shocks: the eleven-year brutal rebel war. Secondly, the Ebola Virus Disease (EVD) led to severe economic backlash and further exacerbated the constraints on the trade facilitation of its endowments. However, like other developing countries, Sierra Leone referenced Professor Justin Yifu Lin in his book "New Structural Economics: A Framework for Rethinking Development and Policy, page 240" characterized by poor infrastructure and an unfriendly business environment (Justin Yifu Lin, 2012). On the other hand, Sierra Leone's business environment has been considerably improved over the years and was branded by the government and the private sector businesses as an investors' paradise. It could be that the government's policies reduce the bottleneck processes or bureaucracies in doing business in the country, strengthen institutions and improved security, and maintained political stability for existing businesses to thrive while at the same time attracting FDIs.

The value chains for most developing countries (for example, countries benchmarked in this report), if not all, are standard, and so are their constraints. They mostly include:

1. Physical infrastructure as regards the challenges of inadequate electricity supply or power and roads;
2. Complex business environment tarnished with bureaucratic bottleneck protocols.
3. Lack of access to finance;
4. Limited attention by government to the middle-level workforce of the country and hence less attention to the technical and vocational education system at tertiary level that corresponds with the requirement of

the labor market or emerging economic activities; and

5. Restrictive or ill-disposed trade policy.

4.2 Agricultural Value Chain – Food Stuff Processing

This value chain assessment reflected consumption as well as production of some known commodities, namely, 1) animal protein (apart from fish and cattle), 2) grains (for food besides feed), 3) horticulture (apart from tree crops), and 4) legumes/pulses (for food and feed) in Sierra Leone and the prevailing constraints in processing and export (Melissa A. Schweisguth et al., 2015). Facilities that cut across comprise inputs, equipment, and extension. While cross-sector, including finance, Information Communication Technology (ICT), transportation, and the enabling environment with policies and norms are critical elements of the value chain. Below are some of the limitations identified:

- i. Farmers in Sierra Leone are already producing such an integrated system but are not using modern practices due to inadequate resources and training. For example, low yields and post-harvest losses are high (Melissa A. Schweisguth et al., 2015).
- ii. There are many typical constraints across value chains, particularly access to finance (to support modern practices), technical competencies among farmers as well as service providers, and market linkages (Melissa A. Schweisguth et al., 2015).
- iii. The private sector is thin in sub-sectors such as fertilizer; government intervention has constrained the development of independent, private-sector entities (Melissa A. Schweisguth et al., 2015).
- iv. Storage and post-harvest loss are significant issues across value chains.
- v. Veterinary services are very limited in availability, resulting in high livestock mortality due to a lack of preventative and curative care.

4.3 Mineral products Value Chain

Sierra Leone is rich in mineral wealth, such as diamonds, bauxite, iron ore, gold, and rutile. According to the Human Development Index, regardless of this considerable mineral wealth, the country remains one of the poorest in the world, ranked 158th of 169. The impact of the mining sector on the domestic tax base was limited and stood at 60% of exports in 2010. This rate accounted for only 8% of government revenue. However, the generous tax incentives afforded to the mining companies have been the standard justification for this variation and are often reinforced by rampant corruption at the political level.

Nonetheless, it may be evident that tax avoidance is also a significant factor. Notwithstanding concerns about tax revenue leakage in the mining sector, the government of Sierra Leone so far takes action to safeguard measures for its tax base. Below are some of the constraints identified:

- i. Lack of technical expertise and understanding of the extractive or mining sector by the National Revenue Collection Authority staff.
- ii. To date, the coordination of information collected from mining companies has been reduced, in part due to overlapping responsibilities between various agencies. Relevant information from mining companies may not always be forthcoming to the National Minerals Agency (NMA). Yet, the main reason for the current lack of data is the weak enforcement of reporting obligations, and the government of Sierra Leone has failed to press companies to comply. Information management at the NRA also requires significant improvement, particularly in the area of reporting on audits. Consequently, a small amount of information is available on how many inspections were completed, the additional tax assessed, the extent to which there are disputes with taxpayers, and the outcomes.
- iii. There are currently no partnerships or points of cooperation between the National Revenue Authority (NRA) and other international tax authorities. Consequently, the National Revenue Authority and the Ministry of Finance and Economic Development (MOFED) have virtually no knowledge of tax issues about members of multinational companies registered in other jurisdictions. Despite recent improvements in international financial disclosure requirements, most extractive companies operating in Sierra Leone are not covered by these initiatives due to where they are registered and their size.
- iv. A significant challenge facing Sierra Leone is generous agreements for the major mining companies in the country, all of which are in disagreement with the 2009 Mines and Minerals Act(7) (Steve Macey, 2013). These include incentives such as corporate tax holidays, relief from import duties, and relatively generous royalties. Despite such incentives, the country has successfully attracted any major international mining company to invest in the country.
- v. Even if the government attains such a critical transformation through parliament, there are thoughtful anxieties about its capability to pull together incomes. International mining companies are infamous for using advanced accounting practices to curtail their taxable income (Steve Macey, 2013).

However, this includes, but is not restricted to, transfer mispricing, the extensive use of tax havens, and false invoicing. Perhaps the most worrying about these issues is the extent of tax havens used by the major mining companies operating in Sierra Leone. Tax havens include Bermuda, the British Virgin Islands, Guernsey, and Jersey. There are also grave suspicions over the low prices reported by mining companies and Sierra Leone's royalty revenue.

5. What Should the Government of Sierra Leone Do in Addressing the Measures to Deal with the Constraints?

The following are some interventions needed to address vital constraints identified as limiting outcomes in the target value chains and are thus essential to consider for addressing these constraints. Many are linked, and therefore should be implemented in concert to achieve positive, optimal outcomes.

- i. Improvement is required across the value chain, from farm to market, to increase revenues to decrease poverty.
- ii. The Sierra Leone government should address women's empowerment as well as gender in any program.
- iii. Assist access to pre-season finance for seeds, fertilizer, storage bags, and livestock; to upsurge production and profits. Additionally, this was the critical constraint identified across commodities. Value chain funding and financial institutions appear to be the most justifiable sources of funding.
- iv. Foster market linkages. Many farmers and traders show that they had a small number of buyers besides required additional direct buying relationships.
- v. Offer technical and financial education to farmers and linked value chain players in dual-gender or joint spouse education.

6. Conclusion

For many developing countries, natural resource exports such as oil, gold, diamonds, Iron ore, and copper continue to be essential drivers for economic growth and provide an exclusive opportunity for generating revenues for much-needed infrastructure and human development. Although these critical drivers have not translated into reality in terms of the expected economic growth in Sierra Leon, and if Sierra Leone is to compete with the benchmarked countries in this report, it is very crucial to promote economic development through focusing on:

- i. Physical infrastructure (power, roads especially trunk and feeder roads connecting the provincial areas where agricultural value chains begin to the markets).
- ii. Continue to improve the business environment to give investors the confidence of protection of themselves and their businesses.
- iii. Trade reforms with sound policies that will eliminate unnecessary layers of protocols will make starting or establishing a business easier.
- iv. Providing reasonable tax incentives to attract inflow of foreign direct investments (FDIs) in the country.
- v. They provide access to finance to startups or peasant farmers with flexible conditions to help them scale up their production.
- vi. Providing access to foreign exchange to facilitate trade.

Many developing countries such as Sierra Leone and fragile states emerge as oil and mineral resources producers. The challenges for managing or maintaining these natural resources are likely to expand the economy. However, the dependency on extractive or mineral resources may also upsurge the likelihood of underdevelopment, instability, and conflict. There is a shared recognition of the conflict risks connected with natural resource over-dependence and the so-called "resource curse," as well as the transformational potential of oil, gas, and mineral revenues to reduce poverty, heighten prosperity, and support economic growth expansion.

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