

Annex A(2)

Analytical Evidence to Support Guyana's Green State Development Strategy: Vision 2040

Green and Inclusive Structural Transformation

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A.2. GREEN AND INCLUSIVE ECONOMIC DIVERSIFICATION

A.2.1. Resource Extraction for Sustainable Development

A.2.1.1. MINING

Diagnosis Summary

Potential opportunities:

- Restart alumina refining to take advantage of reduced electricity costs due to natural gas
- Increase output and reduce water pollution through better recovery technologies
- Adopt technologies such as drones and GIS to compensate for the current limited GGMC monitoring of the environment
- Undertake better geological mapping to reduce unnecessary mining prospection and, associated costs and environmental damage

Main barriers and risks:

- Mining is the main driver of deforestation in Guyana
- It can create land conflicts with forestry and indigenous communities
- For small-scale activities, environmental guidelines are only advisory
- The sector has landlordism: the bulk of permits are given to few license holders who rent them out
- High royalties that cause smuggling
- Poor road conditions which increase costs

A.2.1.1.1. Resource potential and current dynamics

Mining is currently Guyana's largest economic sector. In 2016, mining comprised one-fifth of GDP and two-thirds of exports.¹ Mining also contributes significantly to employment. In 2013, the mining sector employed 17,000 people directly and 22,000 indirectly. The majority of mining jobs are concentrated in gold and diamond mining, especially on small- and medium-scale firms.

Mining plays a crucial role in raising income levels. The mining industry helps create jobs in related sectors such as the equipment production, jewellery and construction. Since mining employs residents of the hinterland where poverty is more pronounced, it plays a role in reducing poverty. Indigenous communities tied to gold mining tend to have higher living standards than others.

¹ Bank of Guyana, 2016

Gold is the dominant mining commodity in terms of foreign earnings, followed by bauxite. In 2017, gold exports reached USD 831 million, accounting for the greatest share of total exports at 57%,² meanwhile, bauxite exports have fallen from USD 135 million (2013) to USD 102 million (2017), representing 7% of total exports.

Gold production is a long-rooted economic activity, focused on artisanal production. Guyana's first commercial exploration and production of gold can be traced back to the early 1880s. The early ownership/ production structure was largely based on individuals and small groups operating as artisans ('pork-knockers'). Alongside this artisanal-structure British, European, and American 'explorers', were encouraged/facilitated by the then colonial authorities.

Large-scale gold mining was initiated in the 1990s. A decisive shift from basic artisanal mining happened when the Canadian-based corporation, Omai Gold Mines, started gold production in 1993 as a large-scale capital-intensive venture. Omai's production lasted from 1993 to 2005, yielding an annual average of 250 thousand ounces. Its gold output peaked in 2001 (354 thousand ounces), when the combined output of Omai and the small and medium-scale producers was 456 thousand ounces.³

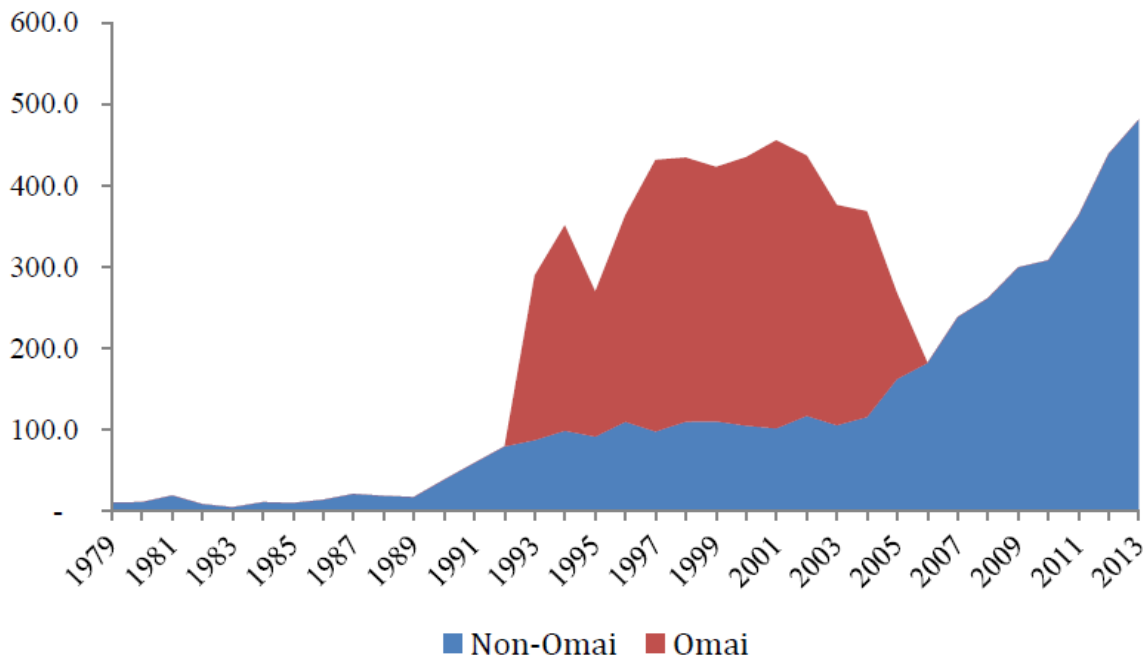
Omai's operations did not inhibit the continuous development of smaller firms. During Omai's production years, the output of the small and medium-scale producers more than doubled, rising from 80 thousand ounces in 1992, to 162 thousand ounces in 2005. Remaining gold mining companies were either small or medium-sized operations, owned by Guyanese and often in joint-ventures involving investment from Brazil, Canada, and the United States. The gold sector is not dominated by large national or multinational corporations and the Government does not have a share in any of these companies.

Figure 1: Guyana Gold Declarations 1979-2013 ('000 Ounces)

² Bank of Guyana. Gold exports have earned, on average, USD 350 million annually, during the decade 2005-2014

³ 'The gold industry in Guyana's mineral export dependence', Stabroek News, Clive Thomas, January 24, 2016

Guyana's Gold declarations; 1979 – 2013; thousands ounces



Source: GGMC, in "Toward the Greening of the Gold Mining Sector of Guyana," IADB, July 2017

High gold prices maintained the sector's growth after Omai's closure. During the 'super-commodity boom' (2003-2013), gold prices soared, increasing from less than USD 500 (February 2003) to a peak of more than USD 1,900 (August 2011) and then falling back to almost USD 1,300 (May 2016). The higher prices and increased demand for gold prompted new entrants into the Guyanese gold mining sector: the number of mining permits granted rose from 280 in 2006 to 1,995 in 2013. As a result, export earnings of the sector increased from USD 110 million (20% of total) to USD 650 million (48% of total) over the same period.⁴

The recent launch of newer large operations has led to a dual structure. From 2006 to 2014, all production was due to medium and small-scale artisanal miners. Then in 2015, two large-scale, foreign-owned open-pit mines—Guyana Goldfields Inc. and Troy Resources Inc.—became operational. These two companies ramped up operations since then, but still account for about one third of the output, while artisanal, small, and medium-scale miners using inefficient technology account for two thirds.⁵

In contrast to gold, the bauxite sub-sector is very concentrated. There are currently two large-scale bauxite mining companies active in Guyana with majority private, foreign ownership. Omai Bauxite Mining Inc. has 70% ownership by Bosai Minerals of China and 30% by the Government of Guyana; and the Bauxite Company of Guyana Inc. is a joint venture between Rusal, a Russian company, which owns 90%, and the Government of Guyana, which maintains a 10% stake.

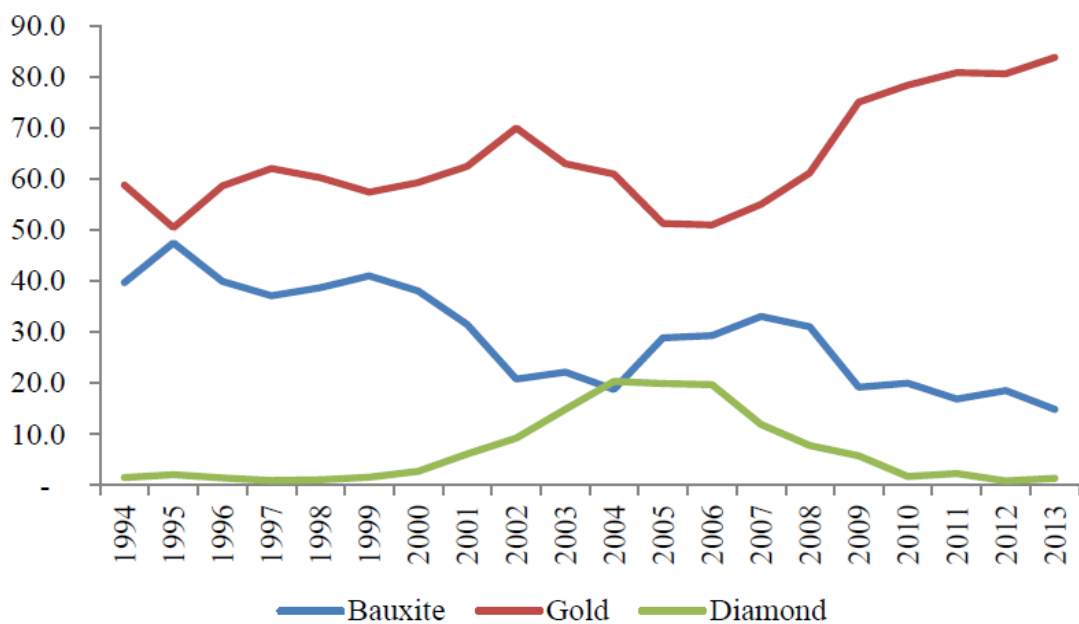
⁴ Toward the Greening of the Gold Mining Sector of Guyana, IADB, July 2017

⁵ Guyana Goldfields exported 156,000 to 160,000 ounces of gold in 2016 and Troy Resources exported 77,000 ounces; meanwhile, small and medium scale miners accounted for an estimated 475,000 ounces.

Bauxite's relative importance and value added has been decreasing. Over the past decade, the output level and export earnings from bauxite have fluctuated due to the changes in global demand and the mixed impact of investments in the bauxite subsector. Guyana used to produce aluminium through a refinery located in Linden. Built in 1961, the plant cost over USD 65 million and was the largest infrastructure project in Guyana at that time, with a production capacity of 300,000 tonnes of refined alumina. The refinery ran until 1982, when the high energy costs made it unprofitable. As a result, the significant growth in gold mining and stagnation of bauxite production, the bauxite industry's contribution to the mining sector has contracted continuously from 40% in 1994 to 15% in 2013 (see Figure 2).

Figure 2: Sectoral Contribution of 3 Leading Mining Subsectors (% of Mining GDP)

Sectoral contribution of 3 leading mining subsectors; % of mining GDP



Source: Bank of Guyana, "Toward the Greening of the Gold Mining Sector of Guyana," IADB, July 2017

Diamonds have lost relevance over the last decade. The subsector has consistently placed third in the industry, only overtaking the bauxite industry for second place once in 2004. High gold prices led to a shift from diamond exploration to gold mining by smaller firms, and the export earnings and value-added contribution of the diamond subsector have trended downwards from 2006 until the present day.

A.2.1.1.2. Institutional framework and governance

The mining sector is regulated by the Guyana Geology and Mines Commission (GGMC).⁶ The GGMC issues prospecting permits, quarry licences and is responsible for enforcing the conditions of the licences, as well as collecting associated fees. It regulates the extraction of minerals from small, medium and large scale mining operations, and provides advice to the Minister responsible for Mining on appropriate mineral policy matters so that Guyana's mineral resources can be rationally developed and utilised.

⁶ Guyana Business Law Handbook – Volume I: Strategic Information and Basic Laws; International Business Publications; 2015

The Mining Act of 1989 remains the principle regulating statute. This legislation vests ownership of all mineral rights with the State and there have been no amendments to the Act since 2003. Under the Act, small and medium-scale operations are restricted to Guyanese citizens, although joint-ventures with foreign companies are permitted. Foreign companies may be granted prospecting, mining, and quarry licences for large-scale operations. Permission may be granted for reconnaissance surveys over larger areas. Arrangements for large-scale operations are formalised and subject to more specific requirements.

Based on the Mining Act, gold mining is now centred on four types of operations. These are (i) small-scale (2.7 acres for land claims and one mile of navigable river); (ii) medium-scale properties and mining permits (150-1,200 acres); (iii) large-scale (prospecting licences, 500-12,800 acres); and (iv) permissions for reconnaissance surveys, to seek prospecting licences. Categories (i) and (ii) are restricted to Guyanese, but joint-ventures with foreigners are allowed as private contracts between the parties.

Mining on Amerindian land is subject to specific legislation. Under the Amerindian Act (2006), mining on Amerindian lands is subject to the consent of the respective Amerindian community occupying the land. The Act explicitly states that under any agreements reached, the miner must offer employment to residents at market rates: employment of non-residents is not allowed, unless residents with the required skills are not available.

Royalty fees vary according to the commodity. Royalty payments for gold vary from 3% to 5% of gross proceeds, depending on the world price of gold. For diamonds the payment for small and medium-scale mining is 3% of gross proceeds. For bauxite and non-precious metals, the payment is 1.5% of either gross revenues or ex-factory production costs, whichever is greater. Royalty rates are not set out in any regulation but are decided by the Government. Export duties on all mining products are levied at the general rate of 1.5%.

Various sector-specific fiscal incentives are available to the mining industry. For large-scale mining of gold and precious metals, diamonds and precious stones, the excise tax on fuel is reduced to 10%; equipment, process materials and spares used for mining and quarrying-related activities are exempt from customs duties, VAT, and excise taxes

A.2.1.1.3. Long-term trends and scenarios

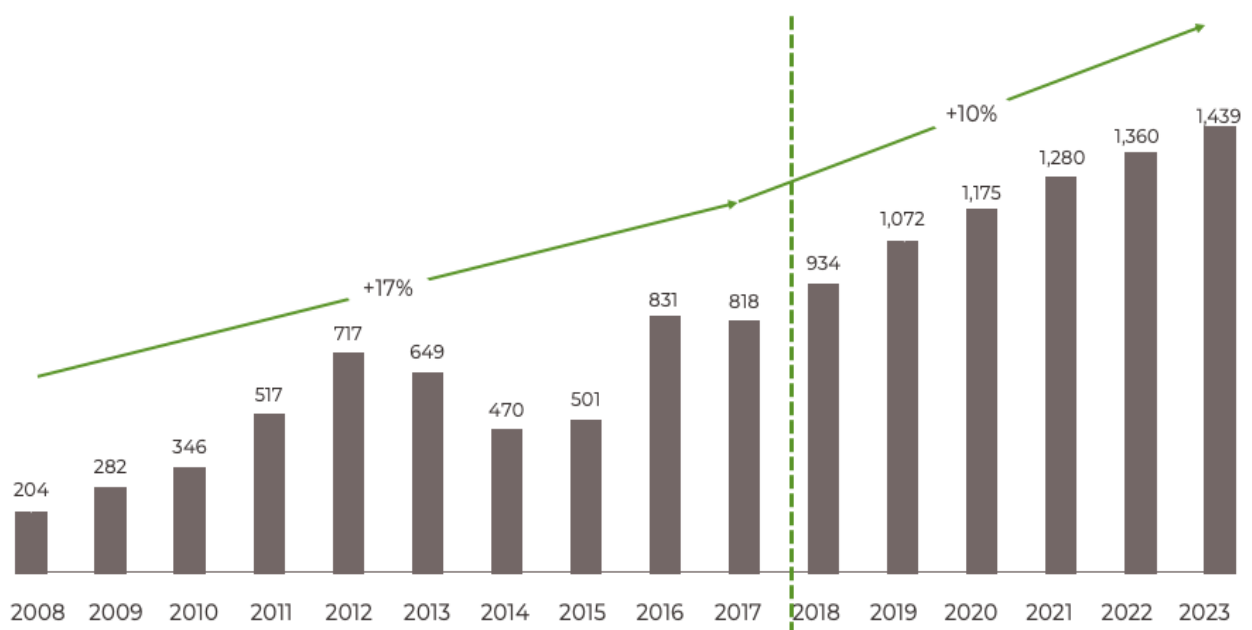
The global gold market growth outlook is stable with significant growth potential.⁷ Emerging market growth, government investments in gold, revival of closed mines globally is driving the demand for gold. Jewellery accounted for the largest share of the market, but the highest growth is projected to come from technology. Asia-Pacific is the largest market for gold, followed by the Middle East and North America. Going forward, North America is expected to witness the fastest growth in the gold market, followed by South America. China

⁷ <https://www.marketwatch.com/press-release/global-gold-market-2018-share-trend-segmentation-and-forecast-to-2022-2018-05-15>

is the largest market in terms of value in the gold market. India and Japan are forecasted to have fast growth as well.

In Guyana, despite the fact that two large gold mines have reached maximum output levels, production is expected to keep growing in the medium term (Figure 3). After reaching a peak of 710,000 ounces in 2016, gold declarations fell slightly to 650,000 ounces.⁸ However, several other large companies are in exploratory phases, even though they have yet to announce whether they will effectively establish a mine. The current gold price above USD 1,000 per ounce should accelerate projects. Prices not only stimulate new small and medium miners to enter in the industry, but they also increase incentives to adopt technology that could improve recovery rates and, therefore, increase output.

Figure 3: Gold Production – Performance & Projection



Source: Vivid Economics, based on IMF Country Report 2018

The bauxite sub-sector is passing through short-term obstacles. Guyana's bauxite production and exports have been negatively affected recently by the United States' sanctions against Russian business tycoon Oleg Deripaska, who is the co-owner of Rusal. Rusal is one of the largest aluminium producers in the world and has operations in Guyana in the form of the Bauxite Company of Guyana Incorporated (BCGI), employing over 500 persons. Rusal's exports to the United States account for over 10% of its global output and as sanctions begin to sink in, the local operation in Guyana which is the closest to US has significantly scaled back.

Bauxite's prospects in Guyana should, however, be positively affected in coming years by several developments. First of all, the adoption of natural gas for power generation and GuyEnergy's investment on a modular refinery in Linden should reduce electricity costs.

⁸ 'Gold exports top US\$800M again', Kaieteur News, January 03, 2018

GuyEnergy has ambitious plans for restarting alumina production and RUSAL has also begun a study on the feasibility of establishing an alumina refinery on known bauxite deposits in the Linden and Ituni. Improvement in road connections to Linden, Kwakwani and Ituni and the development of a deep-water port should also improve supply reliability and reduce logistic costs.

Other mining sectors are witnessing investment activity as well. Guyana's mineral resources include industrial minerals (mainly kaolin and manganese, but also silica sand, kyanite, feldspar, mica, ilmenite, columbite-tantalite, and soapstone,); base metals (copper, lead, zinc, molybdenite, tungsten, and nickel); ferrous metals (iron as magnetite and laterite); energy materials (uranium); and semi-precious stones (amethyst, green quartz, black pearl, agate, and jasper). BOSAI, for instance, has created a new company, Guyana Manganese Inc. which plans to come online in the last quarter of 2018 to produce 500,000 tons of manganese concentrate per year. There have also been new applications for uranium prospecting rights and the Pakaraima laterite bauxite deposits are being reappraised. A survey of iron ore possibilities in Guyana is being undertaken as a possible feed for a new iron and steel plant to be built in Trinidad.

A.2.1.1.4. Barriers and challenges for sustainable development

Gold mining is characterised by a marked duality, with two large, foreign-owned mines using efficient technology accounting for about one third of the output and artisanal, small, and medium-scale miners using inefficient technology accounting for two thirds. The main differences between the large-scale and artisanal, small, and medium-scale miners are the following:⁹

- Multiplier effects: small- and medium-scale miners have much larger economic multipliers and larger mines have low multipliers. This is because large mines employ fewer workers and a fair number of those are foreigners. They are also much more capital intensive and their mine operations are virtual enclaves, repatriating a large portion of their profits;
- Technology: large mines use state-of-the-art technology that recovers between 80% to 95% of the gold in material processed, whereas smaller mines use rudimentary technologies, most commonly sluice boxes, which recover between 25% and 40%;¹⁰
- Compliance and standards: large-scale mines are easier to monitor, and transnational corporations are more likely to comply with environmental and safety standards out of concern about maintaining reputations as responsible corporate citizens. Small- and medium-scale miners have less financial wherewithal and knowledge to comply and tend to more aggressively reduce extraction costs by cutting corners on environmental safeguards and good management practices;
- Formality: large mines cannot easily evade making declarations because their operations are geographically concentrated, whereas smaller artisanal mine operations

⁹ Toward the Greening of the Gold Mining Sector of Guyana, IDB, July 2017

¹⁰ 'IDB recommends how to make Guyana mining greener', BNAmericas, July 25, 2017

are widely dispersed and more difficult to monitor, making them more likely to under-declare. Since artisanal miners have little or no access to formal credit, they often cancel their debts in gold, and their creditors may or may not enter the gold into the formal economy.

The small- and medium-scale mining sector faces several abnormalities that present obstacles to its development. Guyana's Mining Act 1989 restricted small- and medium-scale concessions to Guyanese nationals and allowed joint ventures. The intention was to protect the interests of the technologically- and financially-limited national sector.

There is no limit on the number of licences that can be held by one miner or mining company, which leads to a large market concentration. In 2014, the 50 individuals or enterprises with the largest numbers of mining claims held 80% of the area under small-scale claims¹¹ and one person held over 1,500 claims. There is a similar problem of high concentration for medium-scale mining permits. Such concentration may lead to landlordism and there must be a limit to claim holding.¹²

The distinction between small- and medium scale exists only on paper mostly. In practice, a small number of concession holders/rentiers monopolized concession holdings, both in number and area. Moreover, the same hydraulic mining methods are used in both concession types. Yet, at the GGMC's headquarters, small- and medium-scale concessions are administered by separate administrative divisions (Mines Division for small scale claims, prospecting permits and mining permits and the Land Management Division for medium- and large-scale prospecting permits and mining permits). There is no obvious rationale or justification for this separation which only leads to unnecessary duplication, slothfulness in titles management and unnecessary turf conflict.

The renewal process perpetuates the concentrated structure. Concession licences are cheap and renewed automatically. Claim Licences at the small scale have to be renewed at the end of each calendar year; and mining permits at the medium scale every five years. In practice, concession renewal is automatic, regardless of whether the concession holder is engaged in mining or not. As almost all the area allocated for mining at the small and medium scales is held under concession licences, the only option available to most current or prospective miners is to negotiate a contract as a 'tributor' on a concession held by landlords. A tributor is 'one who works in a contract agreement with a claim owner for a percentage of the mineral output.

The landlord-tributor structure is an obstacle to financial access. Tributors, who effectively pursue the mining work, do not have any solid claim on the land and, therefore, have nothing that can be used as collateral. They are constrained in their investments due to the impossibility of accessing long-term financing. Gold extraction is a risky business, and the risk is amplified by the prevalence of contractual arrangements that do not provide enough

¹¹12,300 out of a total of over 15,000 claims

¹² Environmental Protection Act, 1996; "Landlordism, patronage and power in Guyana's gold mining sector", Janette Bulkan, John Palmer; May 9th, 2016

legal protection to tributors. As a result, banks do not lend to small and medium-sized mining companies: less than 6% of the loan portfolio of the commercial banks was directed to the mining sector.¹³

The overwhelming majority of miners self-finance or use informal sources of finance. Informal capital (for example, family, friends, suppliers, shopkeepers, traders) is primarily used to finance the operations of small and medium-scale miners, as well as family savings and supplier credit from firms that sell heavy equipment. To a lesser extent, miners use supplier credit and bank credit to acquire fixed assets (or equipment), while shopkeepers finance some operational expenses.

The lack of capital influences technology adopted by miners: the sluice box, the main recovery technology employed by small and medium sized operations, is relatively inexpensive, easy to operate and has high capacity. Notwithstanding the benefits, it is extremely inefficient: only 20 to 40% of the gold originally in the ore is captured in the concentrate, and the remainder (60-80%) is disposed in the tailings and/or middling. Other barriers related to small- and medium-scale mining are related to geological risk, transport infrastructure and smuggling:

- **Geological risk:** currently, small miners lack the capacity to finance surveys and resort to the 'hit or miss' approach. Given the risk associated with this approach, small-scale miners invest in technologies that require minimal capital outlays to minimise potential losses if the operation is subsequently found to be uneconomical. Some also move to other locations outside their claims, thereby making it difficult to effectively regulate their operations.
- **Transport infrastructure:** the roads which miners have to traverse on are in extremely poor condition, which severely affect transportation and operations costs to many firms. Interior road projects hardly cater for the building and maintenance of bridges and most of the interior access roads have bridges that are of poor quality. In addition, high shipping costs, related to the inability of large vessels to access Guyana's ports, have been identified as being of particular concern for the bauxite industry.
- **Royalties and smuggling:** royalties paid into the Surinamese state system amount to only half of the 5% per troy ounce miners pay in Guyana, allowing a much greater net profit. In 2015, the government estimated that 15,000 ounces were being smuggled out per week, worth approximately USD 900 million to USD 1 billion over the course of the year.

A.2.1.1.5. Environmental challenges

Mining is the most relevant contributor to Guyana's existing deforestation and degradation rates, as well as water pollution, with significant negative impact on the health of indigenous populations living downstream. Some issues here stand out:

- **Land conflict:** the mineral extractive industry is always in constant competition with the forestry sector and is also a major source of land conflict with indigenous

¹³ "Landlordism, patronage and power in Guyana's gold mining sector", Janette Bulkan, John Palmer; May 9th, 2016

communities. To address these conflicts, it is important to consider an integrated land use planning framework with all the other land use sectors.

- Inadequate technology: since the level of gold recovery is so low, more material must be processed, implying more deforestation, more soil disruption, more tailings be managed, and worse water quality in streams and rivers close to the active mines. Additionally, the sluice box requires the use of mercury in the gold recovery process at the primary and secondary concentration phases, to amalgamate the fine gold dust. Notwithstanding the existence of mining regulations that encourage the safe use of mercury, it is common for local minors to apply this substance improperly, with adverse environmental and health impacts.
- Advisory rules: while for small-scale miners, environmental guidelines are advisory, at medium scale the applicant should supply an Environmental Management Agreement, an approved mercury retort, a closure plan, a contingency/ emergency plan and lodge an environmental bond. It is not compulsory for small-scale miners to reclaim or re-vegetate the mine site after ceasing operations. This is in stark contrast with some countries, where progressive reclamation and re-vegetation are mandatory. Post extraction site restoration should be considered in the regulations and phased into operations.
- Monitoring capacity: in its current form the lead regulatory agency struggles with its mandate, given the number of miners who operate in the sector vis-à-vis the number of mines officers. This problem may be addressed by leveraging local actors for monitoring activities, adopting technologies such as drones and Geographic Information Systems (GIS) and increasing awareness and providing training to miners on environmentally friendly practices.

A.2.1.2. OIL AND GAS

Diagnosis Summary

Potential opportunities:

- Cheap, reliable electricity supply using associated gas;
- Small, modular refinery for supplying Guyana and northern Brazil's market;
- Agreement with larger scale refineries in neighbouring countries (for example, Trinidad and Tobago);
- Leveraging the large, skilled diaspora community to develop local content;
- PSA terms could be improved for the next concessions.

Main barriers and risks:

- Institutional (for example, Energy Department) and legal (for example, Natural Resource Fund, Fiscal Responsibility Law) frameworks yet to be approved/implemented;

- Limited cost auditing capabilities may lead to sub-optimal fiscal revenues;
- ExxonMobil may resist gas usage due to increased costs;
- Oil spill risk requires solid contingency plan.

A.2.1.2.1. Resource potential and current dynamics

It was known that the Guyana-Suriname Basin could have significant oil and gas potential. In 2000, the U.S. Geological Survey (USGS) identified the Guyana-Suriname Basin as having the second highest resource potential among unexplored oil basins in the world and estimated the mean recoverable oil and gas reserves at more than 13.6 billion barrels of oil and 32 trillion cubic feet of gas. Several international oil and gas companies (IOCs), including ExxonMobil (U.S.), Esso (USA), Repsol (Spain), Anadarko (USA), and CGX Energy (Canada), have been participating in exploration and drilling activities.¹⁴

The first effective discoveries were made recently by ExxonMobil. ExxonMobil and its partners found a “substantial” oil discovery at the Liza-1 well in the Liza 1 Field back in May 2015 and have since accelerated development activities in preparation for commercial production in 2020. ExxonMobil affiliate Esso Exploration and Production Guyana Ltd. (EEPGL) is the operator and holds 45% interest in the block, along with Hess Guyana Exploration Ltd. (30%) and CNOOC Nexen Petroleum Guyana Ltd. (25%). Exxon Mobil Corp. and Hess Corp. both made a final investment decision (FID) to proceed with the first phase of development for the Liza field offshore Guyana.

Phase 1 production is expected to ramp up quickly. The Liza Phase 1 development includes a subsea production system and an FPSO vessel with the capacity to process up to 120,000 b/d of oil from four subsea drill centres consisting of 17 wells, including eight producers, six water injectors, and three gas injectors. Production is expected to begin by 2020 and develop about 450 MMbbl of oil. Phase 1 is expected to cost more than USD 4.4 billion, which includes a lease capitalization cost of about USD1.2 billion for the FPSO facility and USD 3.2 billion for drilling and subsea infrastructure.

New discoveries are rapidly increasing proven reserves. Since the beginning of the year, the partners have made further deep-water oil discoveries in the Stabroek block with the drillship Stena Carron. In January 2018, the Payara-1 well encountered more than 29 m (95 ft) of good-quality, oil-bearing sandstone in two Upper Cretaceous reservoirs of Maastrichtian-Aptian age in 2,030 m (6,660 ft) of water. The Payara discovery is roughly 16 km northwest of the Liza discovery. Two months later the Snoek well encountered 25 m of high-quality, oil-bearing sandstones of Maastrichtian-Aptian age in 1,563 m of water. The Snoek discovery is about 9 km southeast of the Liza-1 discovery. In June, Exxon reported that the Liza-4 well encountered more than 60 m of high-quality, oil-bearing sandstone reservoirs, which will underpin a potential Liza Phase 2 development.

¹⁴ <https://www.export.gov/article?id=Guyana-Oil-and-Gas>

Other companies may further increase production in the future. Guyana's Ministry of Natural Resources (MNR) continues to process additional companies' exploration applications. The number of actors in the upstream sector is expected to increase. Several other companies have been issued licenses to explore Guyana's deep waters including: Repsol, Tullow Oil, CGX, JHI, Eco Atlantic Oil & Gas and Ratio Oil.

A.2.1.2.2. Institutional framework and governance

Managing future oil revenue should be anchored by a transparent rules-based fiscal framework. An appropriate rules-based approach would ensure that the budget and the economy do not suffer from the volatility of oil revenue. It would also limit the room for procyclical spending and economic overheating. Sound fiscal practices suggest saving a share of the oil revenue for future generations and to smooth out future shocks. Oil-financed spending should be transparent and channelled through the budget toward projects that enhance the economy's physical and human capital.

The Government of Guyana has made significant efforts to put in place a credible framework for the management of future hydrocarbon revenues. As of October 2017, Guyana became a member of the Extractive Industries Transparency Initiative (EITI)¹⁵ and its first official report is due April 2019,¹⁶ one year ahead of scheduled start of oil production. To assure proper control of the sector, the Guyanese government is also creating an Energy Department, directly subordinated to the President. Progress is also being made on the creation of a Cost Recovery Committee,¹⁷ so that the Government can audit bills submitted by the Oil operators and establish a special accounting unit within the Ministry of Finance to track oil revenues.

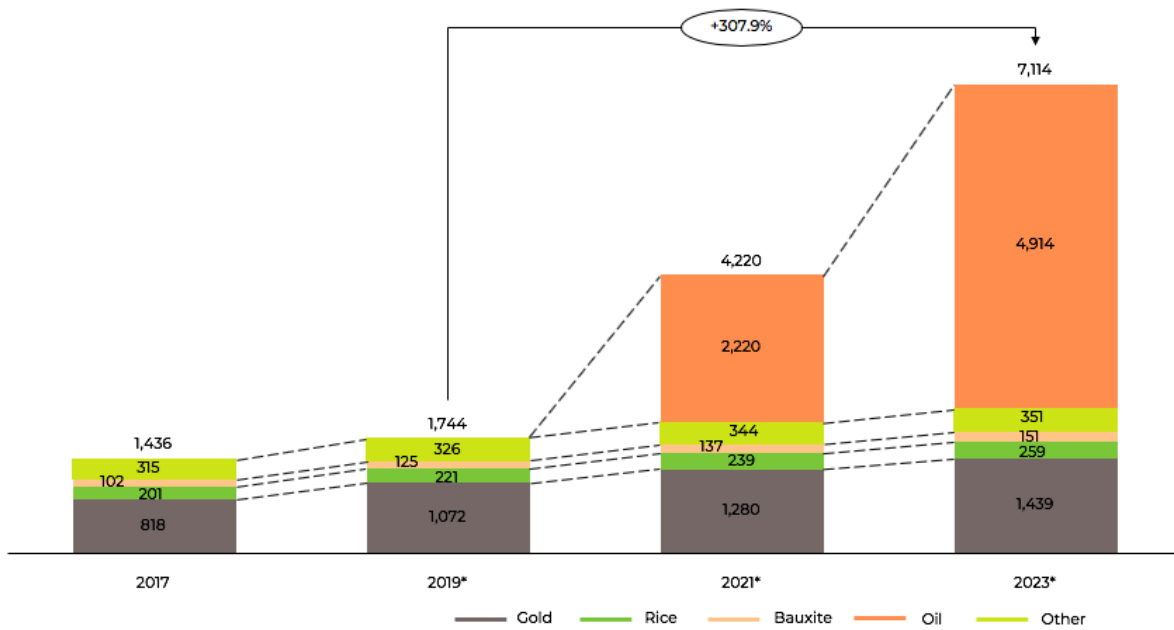
¹⁵ <http://theconversation.com/guyana-one-of-south-americas-poorest-countries-struck-oil-will-it-go-boom-or-bust-86108>

¹⁶ <https://oilnow.gy/wp-content/cache/all/featured/guyana-moving-towards-compilation-first-eiti-report//index.html>

¹⁷ 'One year later...Guyana still to implement IMF's recommendations to safeguard oil money', Kaieteur News, May 11, 2018

Figure 4: Guyana’s Commodity Exports (USD Millions)

Note: *IMF projections



Source: Vivid Economics, based on 2018 IMF Country Report

Significant progress has been made on drafting a Natural Resource Fund Act and adhering to the Santiago Principles for Sovereign Wealth Funds (SWFs). Guyana does not currently have a sovereign wealth fund, but the draft of the Natural Resource Fund Act by the Ministry of Finance will contribute toward resolving potential uncertainties regarding how these revenues will be spent and how they could affect macroeconomic developments. Once the Act and the resource management framework embodied in it are finalised, it will contribute to building confidence in the general public and financial markets.

Communication with the general public is a critical part of maintaining legitimacy domestically, as well credibility internationally. Informing the general public about the characteristics of the investment strategy and the risks that are taken should contribute to making the implementation of the strategy more robust in times of high market volatility. To this end, it is common for many SWFs to organise educational seminars, engage with the media, and maintain an active website with up-to-date information on the SWF's activities.

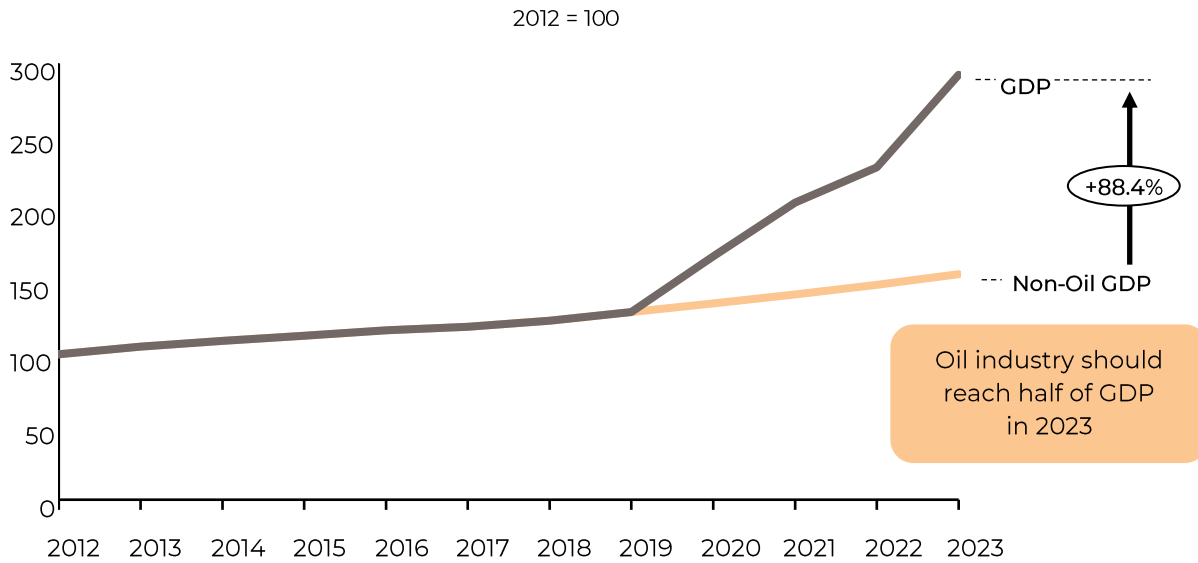
A.2.1.2.3. Long-term trends and scenarios

Currently gold is the main growth driver of the Guyanese economy, but the emergence of the oil and gas sector will represent a structural change. The IMF¹⁸ projects that, while gold exports will keep increasing, the oil and gas industry will rapidly surpass it and become dominant (Figure 4). In 2023, oil exports will be more than triple that of gold exports and will represent almost 70% of Guyanese merchandise exports (Estimate: 251,200 barrels/day x 365

¹⁸ IMF Country Report 2018

days x USD 53.6/ barrel = USD 4.91 billion). The oil industry would almost double Guyana's GDP, representing almost half of the total economy in 2023 (Figure 5).

Figure 5: Guyana's Gross Domestic Product (2012-2023)



Source: Vivid Economics, based on 2018 IMF Country Report

Even this impressive scenario of GDP growth due to oil may be an underestimate. The IMF's assumptions consider a peak production of 300,000 barrels/ day and a price of USD 53.6/ barrel, while most recent estimates are of at least 450,000 barrels/ day¹⁹ and current oil prices are at USD 72/ barrel. Considering these updated figures, we would get exports of USD 11.83 billion (450,000 barrels/ day x 365 x USD 72/ barrel), i.e. 2.4 times IMF's estimates. Projecting the same impact of GDP, we would get a 300% increase in GDP and the oil and gas sector amounting to almost 80% of Guyanese economy (USD 12 billion in a total of USD 15 billion). The IMF's assumptions are also conservative when they state that "the oil sector will have limited spill over to the rest of the economy, and its main effect will be through fiscal revenues". This need not be the case and there are many ways in which the sector can positively influence the rest of the economy. The main ones are local content, the natural gas industry and refining oil products. There could also be others if the revenues are managed well.

Shore base operations and local content

Local sourcing is critical for economic development. Historically, opportunities for local content in the upstream sector are in the areas of construction and trades, provision of goods, and general services (Table 1). The procurement of local goods and services by oil companies is very important as it bolsters local employment, production, skills-development, investment and enterprise development. This has a multiplier effect on the local economy. While some countries achieve a higher multiplier effect of investment in the oil sector (for example, Norway is 2.5), several countries can hardly attain a multiplier of 1 (for

¹⁹ <https://www.thedialogue.org/analysis/what-lies-ahead-for-guyanas-new-oil-and-gas-deposits/>

example, Kazakhstan was 0.45 as at 2003). These differences in part relate to how the oil revenue is strategically spent.

Table 1: Supply opportunities for the upstream sector in low income countries

Sector	Supply Opportunities
General services	<ul style="list-style-type: none"> • Accommodation • Basic professional services(e.g. legal and accounting) • Catering • Cleaning and laundry services • Forestry and environmental services • Landscaping and gardening • Logistics and warehousing • Mailing and courier services • Personnel agencies • Pest Control • Printing and photography • Security • Translation services • Transportation services
Construction and trades	<ul style="list-style-type: none"> • Air-conditioning maintenances • Carpeting and floor coverings • Civil works maintenance • Earthworks • Fencing and paving • Low-voltage electrical maintenance • Painting and corrosion protection • Road marking and signage • Roofing and waterproofing • Sewerage, storm water and drainage • Simple mechanical maintenance • Small vehicle maintenance • Telecommunications and data systems • Waste recycling and management
Goods (wholesale, distribution, manufacture)	<ul style="list-style-type: none"> • Appliances and electrical goods • Automotive parts • Cleaning supplies • Construction supplies and hardware • Food supplies • Fuels, lubes and greases • Furniture and fixtures • Laundry equipment • Machined tools and spare parts • Office equipment and stationery • Small motor vehicles • Uniforms

Source: "Local content strategy: A guidance document for the oil and gas industry," IPIECA 2011

ExxonMobil is moving to establish a Guyanese operations base. ExxonMobil recently announced that it will be relocating its onshore operations from Trinidad to Guyana and would put out tenders and invite proposals to provide shore base services. In order to support the Onshore Base requirements for the rapidly developing Oil and Gas Industry Infrastructure, ExxonMobil will establish an Onshore Industrial Site at Crab Island, Berbice at an estimated cost of USD 500M. The facility will be expected to create approximately 600 jobs, and could consist of components which include maintenance, fabrication, warehousing, spares, housing, and spares handling among others²⁰.

Local procurement is gradually ramping up. ExxonMobil and its partners, Hess and CNOOC Nexen, have submitted a draft Local Content Plan to the Government of Guyana and a Socio-economic Advisor is coordinating the company's local content efforts, and monitoring the activities of all ExxonMobil suppliers to ensure compliance. Guyanese have started to benefit with the awarding of tenders and employment on the Stena Caron vessel and ExxonMobil suppliers including Geolog, Hornbeck, TechnipFMC, and El Dorado Offshore. Esso Exploration and Production Guyana Limited (EEPGL), local subsidiary of ExxonMobil, has 64% of Guyanese workforce, has contracted 348 registered suppliers in 2017, spending USD 39 million²¹.

Natural gas and electricity

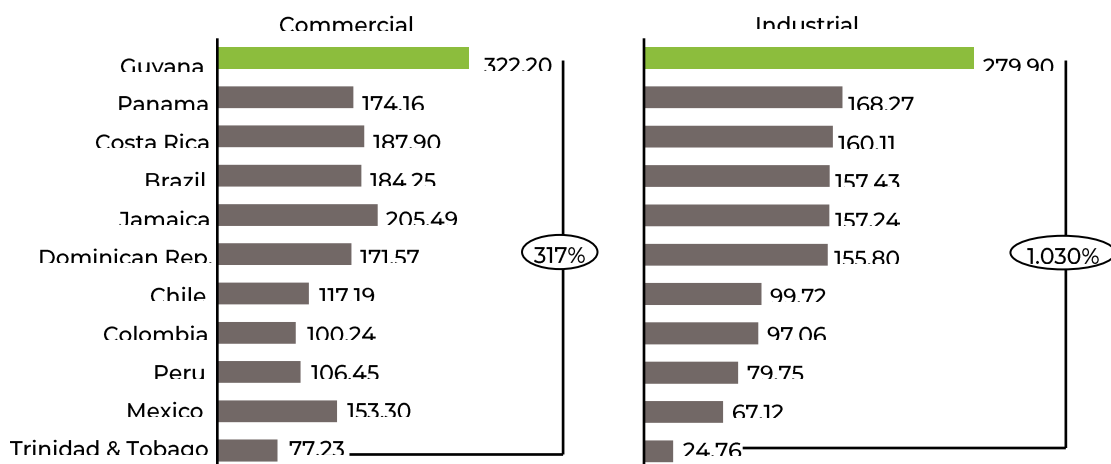
²⁰ Invest Guyana 2017/2018, Guyana Office for Investment

²¹ <https://oilnow.gy/wp-content/cache/all/news/guyana-govt-commends-exxonmobil-commitment-local-content//index.html>

Electricity is currently the main constraint to business development in Guyana: according to recent surveys, almost 60% of firms mention electricity reliability and cost as a severe or major constraint, far more than any other obstacle. Guyana has a tight and unreliable electricity supply. Facing public criticisms due to frequent power outages, the principal public supplier of electricity, Guyana Power and Light Inc. (GPL), reported in September 2017 that it does not reserve capacity. It also has chronic problems in its aged transmission and distribution system.

In addition to limited supply and unreliability, electricity in Guyana is extremely expensive. GPL generates its electricity through plants utilising heavy fuel oil (90%) or diesel (10%). This generation profile leads to the most expensive electricity costs on the continent, as we can see in the graph below. Trinidad and Tobago, the most traditional natural gas producer and user in the region, has a commercial electricity price that is one fourth of Guyana's. Due to the cost and unreliability of the electricity system, the majority of large and medium-sized firms in Guyana rely on diesel generators, which make them internationally uncompetitive and hinder business development. Natural gas electricity generation could dramatically change this scenario.

Figure 6: Commercial and Industrial electricity costs in selected LAC countries



Source: *Climatoscope*, June 2018

There are other indications of limited installed capacity and repressed demand:

- Vast rural areas of Guyana are supplied by small-scale, inefficient private energy companies which produce and distribute electricity for hinterland and rural villages;
- Guyana has one of the lowest electrification rates in the Americas. Distribution is scarce and energy does not reach a significant portion of the hinterlands. According to IADB, in some regions, up to 80% of the population lack access to electricity;
- Guyana has one the lowest installed capacity per capita in the Americas.

The oil discoveries have significant gas volumes associated with them, which Guyana could use to develop a domestic gas market. Despite the opportunity for developing LNG exports being currently low due to low-cost shale gas production and low LNG international prices,

the gas can be used for electricity generation domestically. Associated natural gas reserves may possibly reach over 2 trillion cubic feet. Annual production is currently estimated at 30 to 50 million cubic feet,²² which could be sufficient to power 200 to 300MW of gas-fired electricity capacity. Initial feasibility studies concluded that the best location for landing the natural gas pipeline would be at Woodlands (East Coast Demerara), but the characteristics of the pipeline, plant and equipment are still being studied, with the support of the World Bank.

Partial conversion of current HFO plants to natural gas should be considered. Out of the four largest GPL's power plants, responsible for 106 MW, two are newer - Kingston Two (2009) and the Vreed-en-Hoop (2014) and can be converted to use associated natural gas, with relatively limited investment. Investment for conversion would not pay off for the two older power plants, at Garden of Eden (1994) and Kingston One (1997), which could be converted to reserve capacity. GPL has also called for expressions of interest to install a 50MW gas-fired plant in Demerara,²³ which could replace the oldest plant (Garden of Eden is located on the East Bank of Demerara) and add capacity to the matrix. The conversion of the two newer plants and the new plant would represent adding about 110MW of gas-fired production in the short term. Given the expected reduction in prices and repressed demand, other new projects or the expansion of the planned Demerara project could be considered in the near term.

In addition, Guyana may explore natural gas as an option for transportation. Experience from neighbour Brazil shows that gas is a cheaper and more efficient option as a fuel for buses and passenger cars: while the cost per km is less than half of gasoline's, installed conversion kits requires an investment of around USD 1,000. Direct gas supply to residences is also probably a viable option for the largest cities, especially Georgetown.

Refinery

Given the scale of Guyana, a large, petrochemical refinery in Guyana is probably not a viable investment.²⁴ A traditional refinery with capacity of up to 200,000b/d would occupy hundreds of acres and take USD 5 billion of investments. Refinery's construction might take more than 60 months and generate a negative net present value of USD 2.5–3.0 billion.²⁵

Local investors are, however, proposing a much smaller, modular refinery. The modular refinery could be instrumental to increase competitiveness of Guyanese economy, supplying gasoline, diesel, jet fuel and other products at competitive prices, while adding value to its bauxite production. GuyEnergy's project²⁶, for example, consists of a capacity of just 30,000b/d, it would occupy only 20 acres, take only one year and USD 100 million to build. The site was already selected, and it is strategically co-located at the Alumina Facility in Linden, which was closed in 1982 because the high cost of energy made the plant unprofitable;

²² 'Guyana has 30-50 million cubic feet of natural gas', Kaieteur News, January 05, 2018

²³ 'Guyana sees gas as a 'prime component' of energy mix', BNamericas, November 28, 2017

²⁴ <https://oilnow.gy/wp-content/cache/all/news/breaking-setting-oil-refinery-guyana-not-feasible-haas//index.html>

²⁵ According to Pedro Haas, advisory services director at Hartree Partners, who led a recent study to determine the feasibility of building such a complex in the country,

²⁶ <http://demerarawaves.com/2018/02/10/guyana-to-get-oil-refinery-site-identified-at-linden/>

the new complex could deliver competitively priced energy to restart aluminium production. The project is compatible with current oil Guyanese oil consumption of 13,000 – 15,000 b/d and got expressions of interest of Guyana Oil Company (GuyOil) and a Brazilian retailer to supply gasoline and diesel to 850 gas stations in Northern Brazil.

Despite potentially useful, the modular refinery cannot be the destination for the majority of Government's oil share. Oil production should initially reach 200,000 b/d, rising to over 400,000b/d and Government's share will probably be multiples of a modular refinery's capacity. A possible solution would probably be to establish a tolling arrangement with a neighbour country, which is an agreement to have a "rationally and commercially run" refinery pay a fee per barrel processed in return for petroleum products, which would in turn be sold in the international markets. This also rules out Suriname's refinery, which is a 15,000 b/d modular refinery, almost fully utilised and configured to Suriname's heavy oil.²⁷

Currently, the most suitable option seems to be refining oil in Trinidad.²⁸ Petrotrin, Trinidad's National Oil Company, operates Trinidad and Tobago's sole remaining refinery, a 168,000 b/d capacity plant at Point-a-Pierre that has received extensive upgrading efforts in recent years. The company feeds its refinery with 60,000 b/d of domestic crudes, with the remaining volumes imported via outright purchase or via processing arrangements for foreign companies, such as Venezuela, Ecuador, Brazil, and West Africa. Utilisation of capacity is not ideal and was reported to be 65% in 2012, increasing its operational costs per barrel and leading to an operational deficit. Given the much higher refining margins with local crude, use of Guyanese oil may boost utilisation and improve profitability, despite the need for configuration investments (the refinery is currently configured to refine heavy to medium crude and would need adjustments to Guyanese sweet light crude). Trinidad and Tobago has already formally expressed interest in an arrangement and Guyana should study an option that would convert a much needed cash injection at Petrotrin into a significant equity stake on the refinery.

A.2.1.2.4. Barriers and challenges for sustainable development

Natural gas adoption may require significant negotiations with ExxonMobil and its partners. The signed PSA for Stabroek block does not place any requirements for associated gas usage, leaving the firms free to decide. ExxonMobil already indicated publicly that a primary use of associated gas may be its reinjection to the fields, in order to maximize crude production. Flaring is also a usually cheap option for excess gas, despite its environmental impact. As natural gas usage is critical to Guyana's development, the Government should insist on the negotiations. GPL's EOI on the 50MW gas-fired plant on Demerara and the studies on the pipeline that would bring the gas to the Shore (a site was already identified in Woodlands, East Coast Demerara) are part of this fact-based negotiation strategy.

ExxonMobil's PSA also presents challenges on its financial terms. Exxon's deal was procured partly because it entered Guyana in 1999, when the Guyanese coastline was not regarded as promising oil territory. Under the PSA, after the payment of 2% royalties, Exxon is authorised

²⁷ 'Suriname unprepared to refine Guyana's oil', Demerara Waves, March 6, 2017

²⁸ <https://oilnow.gy/wp-content/cache/all/news/refine-guyana-oil-still-active-discussion-trotman//index.html>

to deduct as much as 75% of the remaining 98% of the value of investments made, plus its daily cost of operations. According to the IMF, Exxon's deal with Guyana gave it the lowest average effective tax rate among nine projects in countries that include Norway, Brazil, Peru and Trinidad and Tobago. Open Oil, a Berlin-based company that advocates contract transparency, also found Guyana's share of the Stabroek was low compared with established and early-stage producing countries: Guyana would receive 52% of positive cash flow over the life of Exxon's initial project, compared with 63%-72% for developments in Liberia, Mauritania, Ghana, Senegal and Papua New Guinea.²⁹

Guyanese authorities seem to be aware of PSA template's challenge. Finance minister Winston D Jordan said, "We must revise the existing template of the production sharing agreement (PSA) to be more accommodating to changing commodity prices while maintaining a level of progressivity that is responsive to profitability." He added, "It is imperative that we safeguard the rights of our nation to a fair share of resource wealth."

Another important challenge will be assuring the availability of sufficient, skilled workforce. For a small country such as Guyana, the continuous growth of industries such as gold, rice, coconuts, tourism and BPO services would normally put a strain on available workforce. The creation from of the oil and gas industry may represent a blow on the increasingly scarce human capital. Fortunately, Guyana can leverage the large pool of resources of its diaspora by providing incentives for national citizens to return to the country.

A.2.1.2.5. Environmental challenges

Oil spilling is a major environmental concern. Indeed, the very existence of oil drilling is enough to worry some in Guyana, especially given the recent oil spills at nearest Caribbean neighbour, Trinidad and Tobago (T&T). In April 2017, a barge from T&T ruptured, discharging 300 million barrels of crude into the sea, seven miles from Venezuela. In October 2017, a "massive" spill off of T&T northwest coast was also reported, but the exact source remains unknown.³⁰

The probability of oil reaching Guyanese shore is limited. Esso Exploration and Production Guyana Limited (EEPGL), ExxonMobil's local arm, believes an oil spill is "unlikely." In its official Environmental Impact Assessment (EIA) for Guyana's Environmental Protection Agency, it notes that, "The modelling indicates only a 5 - 10% probability of any oil reaching the Guyana coast".

However, effectiveness of an oil spill response is critical. While the likelihood of an oil spill reaching the Guyana coast may be small, the Guyana's Environmental Protection Agency notes that a spill at a Liza would impact marine resources found near the well including sea turtles and other marine mammals. Air quality, water quality, seabirds and marine fish could also be impacted. In case there is a spill, modelling shows that current would take oil into the northern part of Shell Beach Protected Area. The Guyana's National Oil Spill Contingency

²⁹ <https://oilnow.gy/wp-content/cache/all/featured/guyanas-oil-deal-government-share//index.html>

³⁰ <http://theconversation.com/guyana-one-of-south-americas-poorest-countries-struck-oil-will-it-go-boom-or-bust-86108>

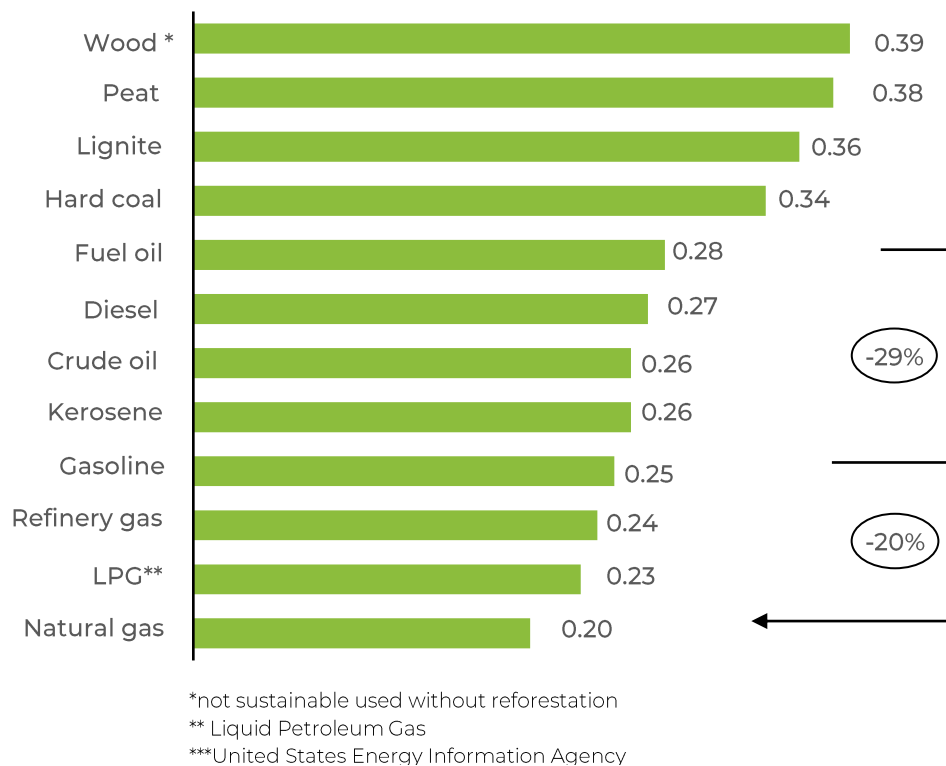
Plan has been drafted by the Civil Defence Commission and it is in line with international guidelines.³¹ As of May 2018, its draft was open to public consultations.

The proposed use of natural gas will impact Guyana's emissions. The main criticism may be the postponement of massive adoption of renewable sources, such as the Amaila Falls hydroelectric project. It is important to notice, however, that large hydro projects may also have severe local environmental impacts, such as deforestation for dam building, transmission lines and access roads, as well as displacement of local communities. Natural gas would also represent a relatively quick and inexpensive option to replace HFO and diesel³² with lower transmission infrastructure, immediately reducing emission of GHG in about 20-30%. It is also important to notice that not using associated natural gas would probably mean flaring a significant portion of it, with significant negative emission impact. Natural gas may, therefore, be a good option for base load generation, being complemented gradually by solar and wind power, as these technologies are now highly cost competitive.

³¹ <https://oilnow.gy/wp-content/cache/all/featured/guyana-oil-spill-response-plan-line-international-guidelines-cdc-director-general//index.html>

³² In terms of capital costs, natural gas also seems a more viable option in the short term: US Energy Information Administration (or EIA) estimates indicate overnight capital costs ranging from USD 700 to \$2,000 per kilowatt (or kW) for natural gas-fired power plants, depending on the technology; in contrast, the Amaila Falls project was considering an investment of more than USD 900 million for a 165MW project, i.e., around USD 5,500/ kW.

Figure 7: CO2 Emissions per Energy Source



Source: Fachbuch Regenerative Energiesysteme and UBA

A.2.1.3. FORESTRY

Diagnosis Summary

Potential opportunities:

- Replacing certification w/ accreditation of larger regions (for examples, EU FLEGT);
- Under-development of Lesser Utilised Species domestically;
- A deep-water harbour could reduce logistic costs.

Main barriers and risks:

- Land conflict with mining and other sectors;
- Low acreage fees allow land retention by unproductive firms;
- Deficient connection of SFPs with international markets;
- Lack of financing for expansion/ modernization and scale/ bargaining power for equipment acquisition.

A.2.1.3.1. Resource potential and current dynamics

Guyana is one of the world's leaders in terms of forest cover. Guyana's forest resources cover 16.5 million ha,³³ which is roughly 84% of the country (21.5 million ha). Guyana's forests form part of the wider Guiana Shield Rainforest that also covers Suriname, French Guiana, Venezuela and Brazil. This is one of the largest expanses of untouched tropical rainforest in the world. Guyana's tropical climate, unique geology, and relatively pristine ecosystems support extensive areas of species-rich rain forests and natural habitats with high levels of endemism. Approximately 8,000 species of plants grow in Guyana, half of which are found nowhere else.

The Guyana Forestry Commission (GFC) manages the forest concession system. Of the forestland, 13 million hectares have been designated as State Forests and placed under the management of the GFC, 4.5 million hectares of this land has been allocated to the forest industry for timber extraction through State Forest Authorisations. Another 750,000 hectares have been designated as protected and research areas and 3 million hectares have been marked as Amerindian Titled Lands, the largest private landownership in Guyana.

Three types of concessions are awarded based on area size and duration via a transparent, competitive process in addition to exploratory permits (6% of the total area):

- State Forest Permissions (SFPs) and Community Forest Management Agreements (CFMA) are granted for 2 years for an area no more than 8,047 ha. Current allocation of 1.8 million ha (40% of total);
- Wood Cutting Leases (WCLs) are granted for up to 10 years of an area between 8,047 ha and 24,000 ha. Current allocation of only 21 thousand ha (0.2% of total);
- Timber Sales Agreements (TSAs) are granted for a period up to 30 years for an area in excess of 24,000 ha. Current allocation of 2.4 million ha (53% of total).
- Forest production is important in terms of output, employment and foreign earnings. The forestry sector is made up of numerous enterprises involved in log production, plywood, timber, round wood, non-timber forest products, fuelwood, manicole palm, and production of value added forest products such as wooden furniture. It employs about 9,000 people, or 2.8% of the labor force.³⁴

³³ Global Forest Assessment report, FAO, 2015

³⁴ 2014 State of the World's Forests report

Table 2: Forestry Land Allocation (2016)

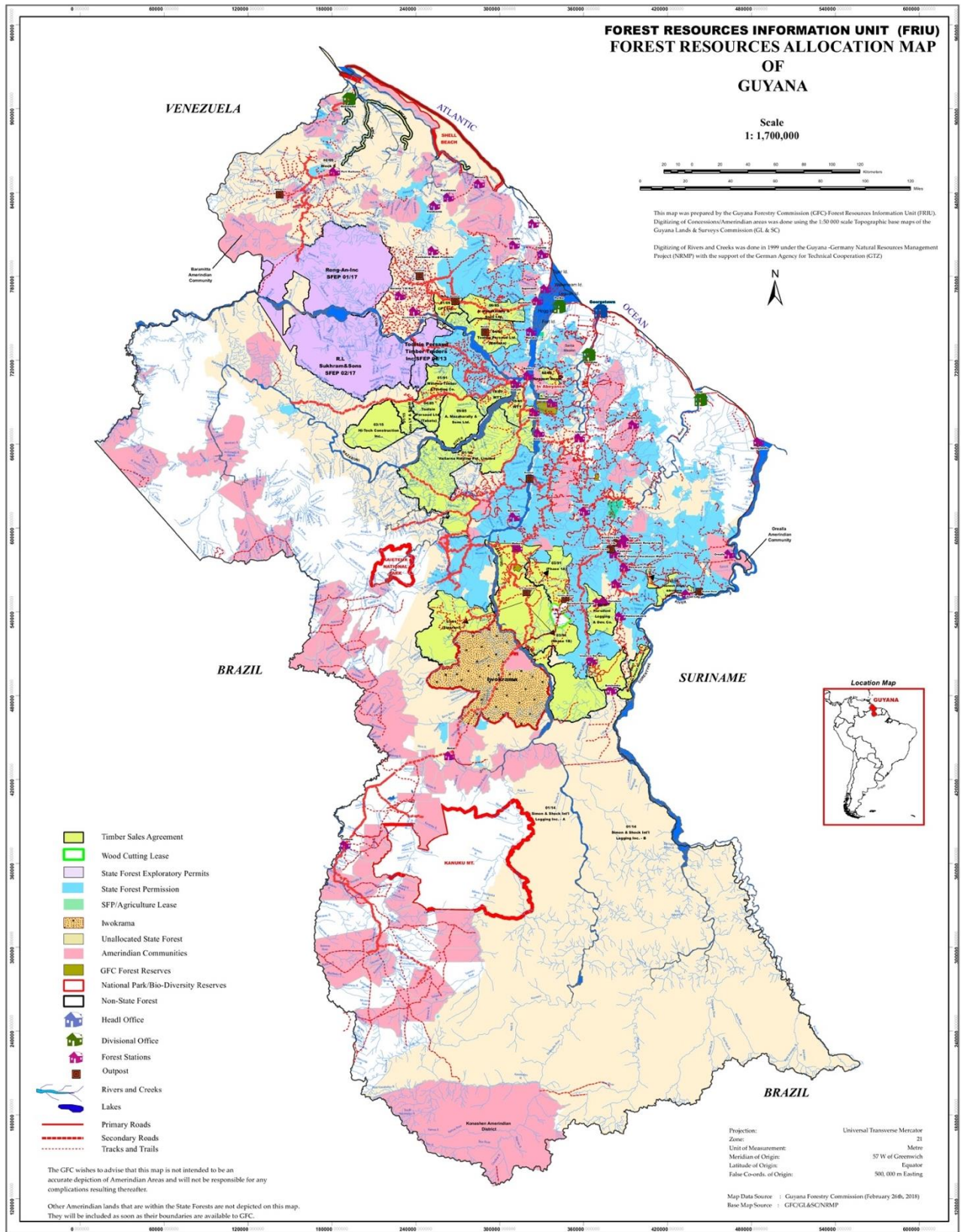
Classification	Count	Area (Hectares)	%	
			Total Allocation	State Forest
Production Lands				
State Forest Permits (SFP)	469	1,825,442	40.6	14.5
State Exploratory Permits (SFEP)	3	259,797	5.8	2.1
Wood Cutting Leases (WCL)	1	21,268	0.5	0.2
Timber Sale Agreements (TSA)	20	2,384,996	53.1	18.9
Total Production Area Allocated	493	4,491,503	100	35.7
Permanent Research and Reserves				
GFC Forest Reserves	12	17,924.92		
Other Research and Reserves	2	733,291.72		
Total Research and Reserve Areas	14	751,216.64		
Total Forest Allocated		5,242,720		
Unallocated State Forest		7,351,281		
Total State Forest		12,594,000		
<u>Iwokrama</u>		371,610.44		
Kaieteur National Park		61,091.34		

Three types of concessions are awarded based on area size and duration via a transparent, competitive process:

- Timber Sales Agreement (TSA): granted up to thirty years for areas in excess of 24,000 ha.
- Wood-Cutting Lease (WCL): granted for up to ten years for 8,000-24,000 ha.
- State Forest Permission (SFP): granted for a two-year period on no more than 8,000 ha.

Source: Guyana Forestry Commission 2016; "Forestry Section Information Report – Annual Review 2016"

Map 1: Allocation of Forest Resources of Guyana



Source: Guyana Forestry Commission

A.2.1.3.2. Institutional framework and governance

Under the national forest policy, all forest resources are owned by the state, except those on private property and Amerindian (indigenous) lands. The Forest Act (2009) made provisions for community forest management and extractive and primary processing forest operations. It established regulation for multiple forest uses, including traditional rights, and provided the basis for the declaration of protected areas. It promotes the participation of Amerindians and local communities in sustainable forestry activities and allows communities to be awarded forest concessions to operate on a commercial basis to improve their livelihood.³⁵

Guyana has developed principles, policies and guidelines for improved forest management and timber harvesting practices. Among these guidelines is the Code of Practice for Timber Harvesting, the Guidelines for Conducting Management-level Inventory and 100%-level Inventory, and the Guidelines for the Preparation of Forest Management Plans and Annual Operational Plans. The Code of Practice for Timber Harvesting, revised in 2002 and based on FAO's Model Code of Forest Practice, prescribes internationally accepted standards for exclusion areas and buffer zones, 100% pre-harvest inventory, road construction, felling, skidding, trucking, operational and camp hygiene as well as occupational health and safety.

The Guyana Forestry Commission (GFC) holds the management rights for all state forest and administers the Forest Act. This includes collecting and recovering all levies, fines, costs, and expenses related to the forest sector. Guided by a National Forest Plan, the GFC develops and monitors standards for forest sector operations, develops and implements forest protection and conservation strategies, oversees forest research and provides support and guidance to forest education and training. It also issues permits to concessionaires for the commercial harvest of timber.

GFC establishes a number of requirements for granting concessions. Before investors are granted a TSA/ WCL for commercial harvesting, they must complete satisfactorily an Environmental and Social Impact Assessment (ESIA), a Forest Inventory, and a Business Plan within a three (3) year period. All leases are renewable subject to compliance with the terms of the agreement. State Forest Exploratory Permits (SFEPs) are granted for 3 years and is the precursor to a TSA and WCL. Twice yearly, the GFC publicly advertises areas that are available for allocation as forest concessions. Only companies holding forest concessions are permitted to export logs.

GFC has also developed tracking systems and processes. In 2000, the GFC introduced a log tracking system to assist in verifying the origin of forest produce and control the level of harvesting within state forests. Log tags are assigned to forest concessionaires by the GFC at the start of their annual operations based on their annually approved harvesting quotas. GFC staff is present at all active concessions and control the use of the tags as well as compliance with the Code. Most of Guyana's forests are still intact and unthreatened by the expansion of agriculture. In its timber production forests, Guyana is pursuing a well-designed forest management and control system, and the GFC is reportedly well organized

³⁵ FAO (2015): Global Forest Resources Assessment 2015 – Country Report Guyana (<http://www.fao.org/3/a-az232e.pdf>)

with a substantial field presence. It has recently instituted improved tracking and monitoring systems and made high-quality training available to forest operators to ensure ongoing sustainable management.

A.2.1.3.3. Long-term trends and scenarios

Global trade

The trade of softwood lumber reached an all-time-high in 2017 as demand for wood was strong in key markets around the world.³⁶ An estimated 126 million m³ of softwood lumber was shipped from forest-rich countries such as Canada, Russia, Sweden and Finland to markets with high consumption of lumber, including China, the US, the United Kingdom, Japan and Germany. Since the global recession in 2008, international trade of lumber has gone up by as much as 50%. With the economy forecasted to stay healthy in the US and Europe in 2018, this might be another good year for lumber exporters.

US softwood lumber production in 2017 reached the highest level seen in ten years. The biggest increase came in the southern states, but other regions of Guyana also had healthy production gains year-over-year. The higher domestic production levels resulted in decreased demand for imported lumber as US lumber consumption was up by only one percent from 2016. The strong market for lumber in the US led to record high lumber prices in both the US and Canada in late 2017 and early 2018.

Over the past two years, prices for imported softwood lumber to China have been steadily rising and in January 2018 reached their highest levels since March 2015. Lumber supply from Russia and North America has generally been the lowest cost lumber imported to China, while lumber from Chile, Sweden and Finland typically is at the higher end of the price spectrum. Russia and Canada continue to be the major suppliers, but their total market share has shrunk from 81% in 2015 to 76% in 2017, with particularly Nordic mills increasing their presence in this fast-growing market.

Softwood lumber production in Finland reached a ten-year high of 11.9 million m³ in 2017. The higher production was driven by expanding lumber exports, particularly to China. High demand for lumber from Europe, Asia and the US in late 2017 pushed export prices in the Nordic countries to their highest levels in almost three years.

The increase in the use of lesser known species of timber is a key trend which is expected to impact the growth of the global timber logistics market. The growing concerns regarding the extinction of certain types of trees have led to the adoption of lesser known species of timber with similar properties. One of the main advantages of using these lesser known varieties of timber is the cost advantage. These varieties offer savings to the extent of 25%-30% which will lead to an increase in demand for timber products.

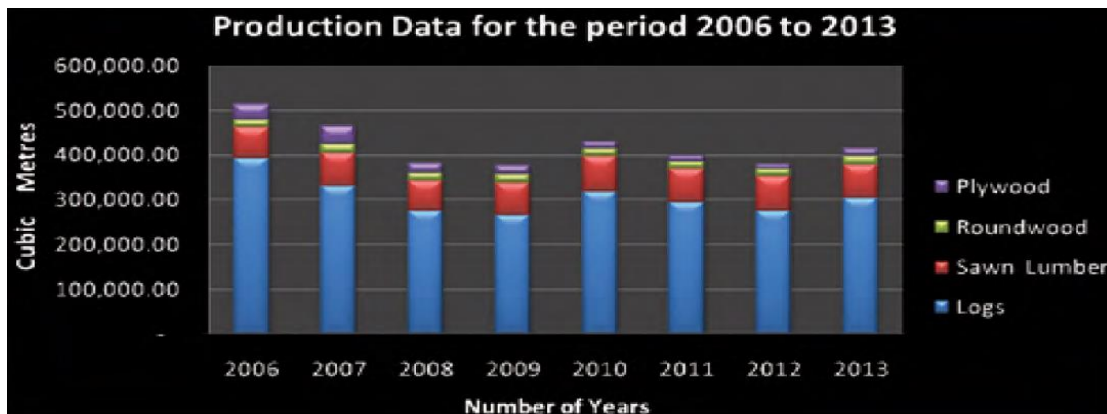
³⁶ <http://news.cision.com/wood-resources-international-llc/r/global-trade-of-softwood-lumber-reached-a-record-high-in-2017-as-demand-for-wood-continued-to-increa.c2479586>

In addition to strong global markets, potential niche market opportunities are also available such as supplying to the CARICOM market. Products include blocks or blanks, wood dimension stock (kiln dried lumber cut to size) for the kitchen cabinet and furniture industry, high-end kiln dried milled work such as moldings (for example, for chair rails and/or crown molding), doors, flooring, machined furniture components, fencing, decking, railway sleepers, smaller wood pieces such as toys, ornaments, etc. and products. The fact that Guyana’s forestry resource is so much larger than the rest of the other CARICOM countries should signify that Guyana can take advantage of the CARICOM region’s considerable forest product-related demand, especially the demand of the substantial and growing Caribbean tourism industry.

Production and exports in Guyana

Guyanese timber has stagnated in the last decade (Figure 8). Commercial harvesting in Guyana is selective due to the dispersal of valuable tree stocks over a wide area, and as a result logging rates remain low. On average, 2–3 trees are felled per hectare, with an average yield of about 7 m³. This extraction rate is less than half the maximum allowable cut of up to 20 m³ per hectare on a 60-year cycle, as listed in the national forest plan guidelines. With relatively low extraction rates and relatively stable allocated areas, production has fluctuated in the range of 350,000 to 450,000 m³, without any visible growth trend.

Figure 8: Timber Production (2006-2013)



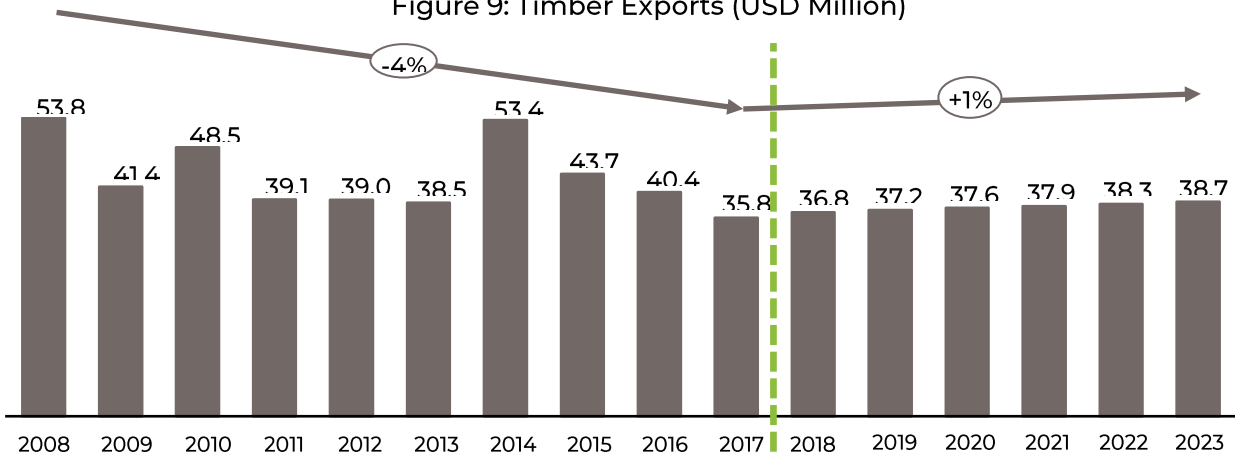
- Total production for Timber (not including Plywood and Veneer) for 2016 was 353,495m³ and this is 22% lower than that of 2015 when the volume reported was 452,954m³.
- Log production of 272,309 m³, Roundwood of 14,894m³, Sawnwood totalling 42,082m³, along with Plywood of 15,131m³ and Veneer 12,033m³, all contributed to forest production for 2016.

Source: GUYANA Timber Trade & Investment Magazine, 2014; “Forest Section Information Report – Annual Review 2016”, GFC

Similarly, timber exports have fluctuated between USD 36 and 43 million, despite peaks in specific years (for example, 2008, 2014) According to the latest IMF projections, exports will grow only marginally (1% p.a.) over the incoming years, from a level of USD 35.8 million (2017) to 38.7 million (2023) (Figure 9). Without further actions, forestry contribution to Guyana’s foreign-exchange earnings should continue to be limited, despite growth on global demand. Guyana’s leading wood trade partners are China, USA, India, Columbia and the

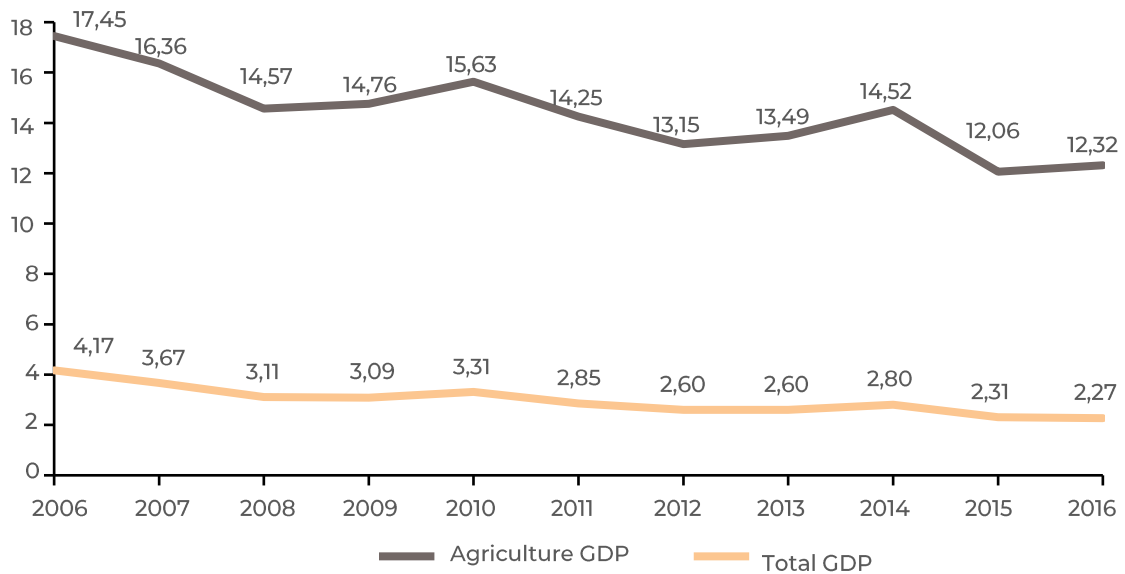
Caribbean. In 2012 China became Guyana's leading trading partner, accounting for around 40% of all exports.

Figure 9: Timber Exports (USD Million)



As other economic sectors keep *Source: IMF Country Report, 2018* forestry in the economy has been declining (Figure 10). In the decade 2006-2016, forestry's contribution to agriculture production has fallen from 17 to 12%, while participation in the overall economy was reduced from 4.2 to 2.3%.

Figure 10: Forestry as a % of Agriculture GDP and Total GDP



*Note: Calculations based on constant 2006 prices
 Source: Bureau of Statistics in "Forest Section Information Report – Annual Review 2016"; GFC

A.2.1.3.4. Barriers and challenges for sustainable development

A number of constraints have been blocking the sector's development. Key factors that determine Guyana's potential to export value-added wood products are the availability of timber, the cost of production, the cost of transformation and transportation, and the technological ability to produce to tight specifications. Transactions have been done on the basis of volume rather than value addition to the product; sales have been concentrated on dressed lumber of poor finish quality rather than properly finished kiln dried products. Lack

of consistent supply also threatens the viability and sustainability of forest enterprises that concentrate on value added products. Hence, improvements at the extraction end will be crucial to the long-term viability of the industry. Some of the areas for improvements include:³⁷

- Logistics: The underdevelopment of the road infrastructure in the rural areas leads to high logistics costs and excessive reliance on water transport. The absence of a deep-water harbour in Guyana reduces the ability of vessels to be filled at 100% capacity; in any instance, vessels move off from Guyana at 75% capacity. A vessel can only carry approximately 10,000 tons or 1000 containers due to the draft in the channel. This forces the cost per container to increase, directly affecting export costs.
- Species: Traditionally, the forestry industry focused on the supply of marketable timbers, such as Greenheart and Purpleheart and few other well-known species, due to its relatively high concentration in some areas, and special characteristics. This emphasis, however, is leading to the exhaustion of these more commercial species and low extraction performance per hectare (low tree concentration per hectare; wide range of varieties). Modern practices that involve a market-driven process, which harvests more lesser utilised species and higher production scale must be gradually introduced.
- Marketing/ sales: In most instances, smaller enterprises (i.e. SFPs) have operated on a “produce to sell” system with no contractual arrangements, commitments or networking to ensure the best prices and more reliable supplies to the local lumber market is available.
- Finance: The undeveloped nature of local equity markets coupled with the local banks regarding SFPs and WCLs as short-term, non-tradable and non-exclusive leases make it difficult for local firms to use their cutting rights to attract joint venture capital. In addition, there are no export credit guarantee schemes in place in Guyana, and loans for working capital and export financing are difficult to obtain from local banks, which affects the negotiating ability of exporters.
- Milling equipment and process: Obsolete equipment and mill designs: sawmills tend to be using old, fully depreciated equipment and 80% of the domestic market is met by chainsaw milling production. Low conversion efficiency of the sawmilling, with only 45% of the volume of a log currently ends up as usable lumber. Many experts maintain that, with the right policies and appropriate milling technology, the current recovery rate yield could reach 65-70%. A few small-scale loggers could establish associations and are now able to access portable mills, improving their production.
- Training: Lack of trained staff and poor management techniques. Inability to attract skilled labour and management adversely affects productivity: untrained workers tend to frequently misuse equipment and often fail to carry out maintenance activities, resulting in unnecessary and extensive downtimes and costly repairs.

³⁷ Factors affecting competitiveness of tropical timber in Guyana, International Tropical Timber Organization, February 2013

- Acreage fees: Studies have revealed that Guyana's forest fees are internationally among the lowest even after allowance is made for the relatively lower quality and productivity in commercial timber species. Due to low acreage fees these concessions holders are able to hold the land even with low extraction performance. Internationally, charges have been levied upon the standing timber rather than the harvested timber, which provides a basis of encouraging concessionaires to harvest more timber in order to dilute costs over large production. An advantage of a system based on estimates of standing timber in concession areas is that they discourage attempts to acquire over-sized concessions. That is, if loggers are aware that fees will be paid on the concessions' total harvestable timber (whose volume also accords with plans for sustainable management of each area), then bids for concessions will conform to realistic harvesting capabilities.

A.2.1.3.5. Environmental challenges

Although still among the most forested countries in the world, Guyana continues to face the challenges posed by deforestation, land degradation and watershed siltation. These threats and their associated impacts on biodiversity, are among the biggest environmental issues facing Guyana and its forests. These threats primarily stem from activities outside of the Forestry sector but have direct impacts on the health of the forest and its ability to provide goods and services to the Guyanese people. As such, any effort to address these issues will require multi-agency planning, collaboration and joint monitoring across Guyana's extractive sectors.

Guyana's forests, and the ecological threats they face, span a variety of tenure arrangements and fall under multiple agency mandates. As such, there is need for a systematic approach to spatial planning and decision-making that go beyond discussions around timber, along with an improved understanding of Guyana's forest biodiversity and its spatial dynamics. This information is needed to inform both preventative and restorative measures aimed to improve the health and sustainability of Guyana's forests. Objective and scientifically grounded approaches are needed at the national level to identify and conserve high diversity forests, threatened hotspots, rare habitats and vulnerable ecosystems (including areas at risk from climate change). Addressing Guyana's lost, or degraded forests, will also require an expanded, country-specific data set on reclamation, reforestation (both natural and human assisted); agroforestry; and afforestation in abandoned agricultural lands and urban areas. Opportunities exist to link these preventative and restorative interventions to payment/offset systems, environmental performance standards and incentive schemes.

Enterprises have not been able to acquire international certification such as the Forest Stewardship. The inability to meet requirements of organisations such as the Forest Stewardship (FSC), allowing their products to be standardised and recognised worldwide, has constrained firms on the international market. Iwokrama is currently the only operation in Guyana with an FSC forest-management certificate. Given the difficulties and costs associated with certification for individual enterprises, the Government of Guyana has advanced on several initiatives which further demonstrate to the global community the commitment to forest legality and sustainability, social and environmental best practices.

These include, Independent Forest Monitoring (IFM) and Reducing Emissions from Deforestation and Forest Degradation (REDD+).

Additionally, in 2012 Guyana embarked upon a strategy that replaces individual certification for accreditation of larger regions, through the EU Forest Law Enforcement, Governance and Trade (EU FLEGT). EU FLEGT action plan was initiated by the EU in 2003 to curb illegal logging and facilitate legal timber trade; the Voluntary Partnership Agreement (VPA) is a bilateral trade agreement and is a component of this initiative. Guyana commenced formal dialogue with the EU with the intention of entering into a VPA governing the trading of timber products between Guyana and that trading bloc. The intention of this agreement is that timber products entering the EU are from legally verified origins and that they meet prescribed harvesting conditions. When these negotiations are completed this would enable Guyana to secure a greater market share for its forest products in that part of the world.

EU FLEGT assessments place deforestation at around 0.06% annually, one of the lowest in the world.³⁸ To date, four national annual assessments have been conducted; the first assessment period covered 01 October 2009 to 30 September 2010 (Year 1), the second (Year 2) covered the period 01 October 2010 to 31 December 2011, the third assessment covered the calendar year of 2012 and the fourth assessment covers the calendar year of 2013. Based on Year Four Interim Measures Report (fourth assessment), the forest cover estimated as at 1990 (18.47 million ha) was determined using manual interpretation of historical aerial photography and satellite images. This area was determined during the first national assessment (GFC 2010) and verified independently by the University of Durham. By 2011 (year 2), the forest cover had reduced to 18.38 million ha due to deforestation. In 2012 (year 3), the forest cover was re-assessed using high resolution imagery and the baseline figure increased to 18.48 million ha. Finally, in 2013 (year 4), the total forested area was estimated as 18.47 million ha. More specifically for Year 4, the total area of deforestation over the 12-month period was calculated at 12 733 ha which is a decrease of about 1 922 ha when compared to Year 3. As a result, in Year 3 the deforestation rate increased relative to previous years to 0.079%, but however decreased to 0.068% in year 4. It should be noted that mining, a significant driver, accounted for 90% (11 518 ha) of the deforestation reported for the most recent assessment (year 4). Based on the results, Guyana is recognized as having a low deforestation rate compared to the rest of South America, which according to the FAO 2010 forest resource assessment is tracking at an annual deforestation rate of -0.41%/yr.

³⁸ Draft Legality Definitions for EU – Guyana Voluntary Partnership Agreement, June 2015

A.2.1.4. FISHERIES AND AQUACULTURE

Diagnosis Summary

Potential opportunities:

- Deep water fishing and MSC certification may open new markets;
- Fisheries can increase profitability through the development of by-products (for example, aquaculture fishmeal);
- A large-scale FDI on aquaculture could impulse industry growth;
- Adoption of aquaculture by rice farmers may improve profitability of both industries.

Main barriers and risks:

- Fishing industry is reaching exhaustion of marine resources and a sustainable modus operandi has been hard to achieve;
- Lack of biological surveys restricts the exploitation of pelagic and deep-sea fish species (for example, deep water snapper, prawns, swordfish and tuna);
- Aquaculture producers have low bargaining power, limited access to production inputs and finance.

A.2.1.4.1. Sector structure and current dynamics

Marine fishing

Guyana has ideal conditions for a dynamic seafood and fisheries sector. Guyana enjoys vast fishery resources in the Atlantic Ocean, both in its coastal areas - 459 km-long Atlantic coastal area - and its Exclusive Economic Zone (EEZ), about 138,240 square kilometers, the equivalent of 64% of Guyana's landmass. This area contains highly productive marine fisheries that include prawns, shrimp, seabob shrimp and a variety of commercial finfish.

The fishery sector is of critical importance to the economy and to the social well-being of Guyana. It has contributed 1.7% of the national GDP in 2016³⁹; it is also an important element of Guyanese trade: In 2015, exports of fish and fishery products were valued at USD 87.3 million (with a significant share of crustaceans) or 7.6% of total merchandise exports, while imports were worth USD 2.5 million. Fish is the major source of animal protein in Guyana. It is estimated that per capita annual consumption of fish was 25.8 kg in 2013 (down from 40 kg in 2003). In 2014, the fishery sector employed about 7,500 people, of which 6,250 persons were in marine coastal fishing, 1,125 in inland water fishing and 131 in aquaculture and a further 6,000 people in processing, with many more benefiting indirectly through fishing related industries such as boat building and gear supply and repair.⁴⁰

³⁹ Bank of Guyana

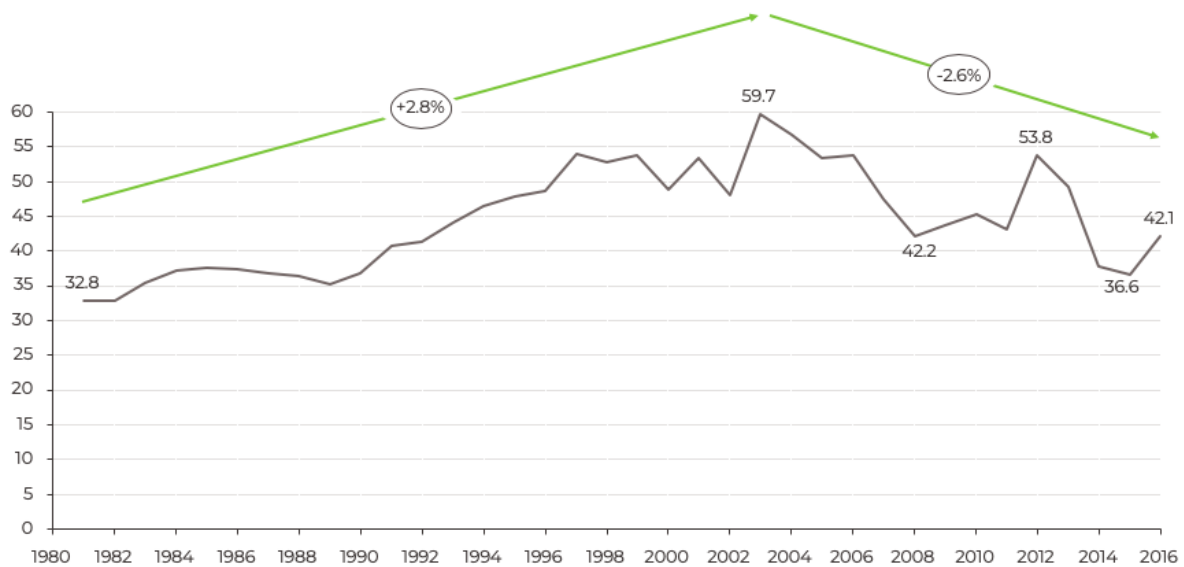
⁴⁰ <http://www.fao.org/in-action/globefish/market-reports/resource-detail/en/c/989532/>

The main legislation regulating the sector is the Fisheries Act No. 12 of 2002. The Act provides for the registry of fishing boats with the Chief Agricultural Officer, the inspection of vessels and the licensing of fishing operations, both domestic and foreign. Foreigners may obtain a licence to engage in fishing if they set up a local company, or If they engage in test fishing. There have been no changes to the Maritime Boundaries Act of 1977, which establishes a territorial sea and a fishery zone that extends 200 miles from the baseline of the territorial sea.⁴¹

In Guyana, marine fishing is undertaken by artisanal fishers and by an industrial fishing fleet composed of trawlers and hand-liners, including some foreign flagged, licensed vessels. Most of Guyana’s fishing effort occurs in the relatively shallow waters of the continental shelf. In 2014, the small-scale fishery fleet reported to FAO consisted of over 600 vessels ranging in size from 6 to 24 m, of which the majority (51%) were gill netters. The fishing industry employs around 15,000, with 4,000 to 5,000 directly employed and many more benefitting indirectly through fishing-related industries.

Fishing output has been in decline for a while. Total capture has increased over the 1980s and 1990s and reached its peak at 60,000 tonnes in 2003 (Figure 11), thanks to good catches of shrimps that are the major fishery resource. Since then, it has gradually decreased and reached its floor in 2015, at 36,000 tonnes. It has recovered some ground in 2016, at 42,000 tonnes, but the production is still 30% lower than its 2003 peak.

Figure 11: Fisheries Total Capture ('000 Tonnes)



Source: Vivid Economics, based on FAO FishStat (<http://www.fao.org/fishery/facp/GUY/en>)

Aquaculture

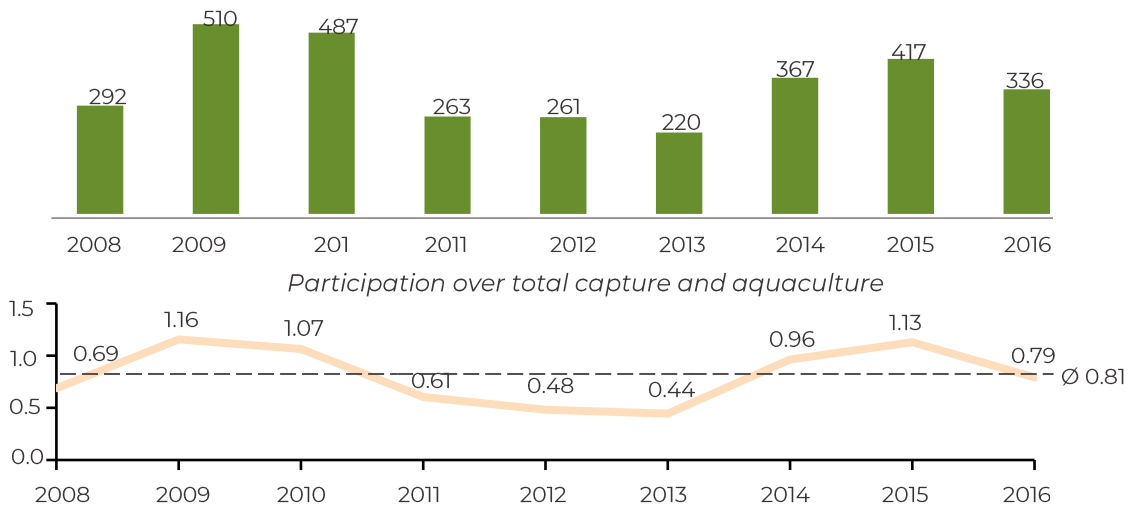
Commercial aquaculture is one of the most promising economic activities in Guyana, with high potential for rapid export and job creation growth. Aquaculture also has great potential

⁴¹ Guyana Business Law Handbook – Volume I: Strategic Information and Basic Laws; International Business Publications; 2015

for improvements in food security status of rural communities, especially as other farming systems (in particular rice) can be adapted to incorporate aquaculture production, thereby increasing production endowments.

Despite being an important growth avenue for the industry, aquaculture is still nascent. Aquaculture has been practiced for many years using mostly low-input culture method in brackish water and freshwater pond employing cachama (tambaqui), tilapia, and white leg shrimp as the major target species. Aquaculture production was only 336 tonnes in 2016, or about 0.8% of total fish production and has fluctuated, without any clear trend. In the wider context of regional production, Guyana’s output is still low and made up only 0.02% of the total production of Latin American and Caribbean Countries. The Guyana Aquaculture Association, formed in 2006, with guidance and assistance provided by USAID/GTIS, has worked on strategies for industry growth, but the results have been lower than expected.

Figure 12: Aquaculture Production (Tonnes)



Source: Vivid Economics, based on Bank of Guyana, FAO FishStat

A.2.1.4.2. Market opportunities for growth and increased value added

A number of lucrative opportunities exist, particularly in terms of under-exploited species and deep-sea fishing. Although some species are widely fished within 80 km of the coastline, a number of species further offshore are yet to be fished commercially. These include pelagic and deep-water species such as deep-water snapper, prawns, swordfish and tuna. Currently the seafood industry is not adequately developed to exploit these species, meaning that lucrative opportunities exist for first movers. Thus far, Pritipaul Singh Investments Inc. (PSI) with its Atlantic Tuna Plant is the only firm that has pursued deep sea fishing and, given the positive outlook, signalled an investment of USD 15 million to process tuna. Although there are interested international investors for Guyanese deep-water fishing, the absence of information on the availability/location of marine resources (requiring further biological studies) and an adequate licensing/monitoring process (currently inexistent), are serious obstacles to further investments in the activity.

Another opportunity is the development of by-products, especially fish food. The seabob shrimp industry produces significant quantities of waste that could be used as fishmeal for aquaculture, adding to the overall value of catches. One of the main challenges for the development of the aquaculture is the availability of inputs, especially fish food. The marine fishery sector produces significant amounts of by-product that can be used as inexpensive fishmeal to fish farms.

Aquaculture

Commercial aquaculture, especially in regard to tilapia and shrimp farming has been growing dramatically. According to the FAO,⁴² aquaculture is the fastest growing food production sector in the world, with output growing at 10% per annum. This is coupled with the fact that there has been a sharp decline in the world's ocean captures. In the past decade total world capture fisheries has reached maximum sustainable yield in terms of volume. Thus, with increasing demand for fish products the price for fish products has seen a general increase worldwide.

Tilapia is also one of the best market opportunities in Guyana, due to a number of key factors including climatic suitability, high productivity, hardiness, high growth rates, disease resistance and market accessibility. Estimates of local pioneer investors have shown that Tilapia production can be a very profitable operation; estimates indicate that net revenue per acre in the sector is approximately USD 3,400 which is considerably higher than the margins for producing rice in Guyana that amount to between USD 80–120 per acre.

The US market is very promising for Tilapia exports from Guyana. With Guyana having achieved the necessary Sanitary and Phytosanitary Standards (SPS) for the export of fish products, there should be no problem in accessing the US market. The US import demand has also been rapidly increasing, and annual imports of Tilapia into the US increased from 113,000 metric tonnes in 2004 to 197,000 tonnes in 2016. China supplies about 73% (144,000 tonnes) of total US tilapia imports. The market weakened in 2016 both in volume and value largely due to the significant decline in supplies of Chinese frozen tilapia fillets. In terms of prices, the average import price declined by 20% for frozen fillets and 15% for whole frozen in 2016 compared with 2015. Demand is now growing due to strong sales expectations during the Lenten season, with a likely increase in imports in the first quarter of 2017. Improved production from China in 2017 due to milder weather has also strengthened growth in US imports. In general, prices are not likely to see much increase, especially as production levels have already started growing in China.

The EU is a large market, but it is not growing currently. Total imports of tilapia into the EU during 2016 were 15% lower volume to total 34,400 tonnes. The largest suppliers, China and Vietnam, supplied 10% and 17% less during 2016 compared with the previous year. Despite depressed overall demand, it is firm for premium tilapia as reflected in the higher imports of frozen tilapia fillets from Indonesia, Thailand and Taiwan Province of China. Frozen tilapia fillets from these countries are known to be premium quality meaning higher prices when

⁴² <http://www.fao.org/in-action/globefish/market-reports/resource-detail/en/c/989532/>

compared to imports of frozen fillets from other origins. The EU market looks positive for premium tilapia, although this product is unlikely to ever develop into a significant market.

Access to growing export markets in the Caribbean may also present an interesting opportunity, where demand is likely to increase to satisfy a growing regional tourism industry. Exports to the Caribbean region will benefit from the protection of the Common External Tariff, with an average tariff rate for fish products at 31%.

Leveraging rice infrastructure for aquaculture is may be promising. It is important to notice that infrastructure developed for rice production can be easily adapted for commercial aquaculture. The cost per acre of converting an existing rice field to aquaculture is estimated at USD 1,500. This is compared to the development of a “Greenfield Site” which would entail costs of between USD 3,800 and USD 5,500. There is already established technical support within Guyana in the form of the Mon Repos Aquaculture Station, which conducts research, provides training and supplies seed stock. Moreover, there have been successful experiences of rapid growth of Commercial Aquaculture in neighbouring countries. Brazil, Chile, Ecuador and Colombia are all showing impressive growth in production and have become leading aquaculture producers in the world.

A.2.1.4.3. Barriers and challenges for sustainable development

Deficient management of fisheries is leading to dwindling marine resources. Some relatively consolidated segments of the marine sector (for example, prawns, shrimp, and seabob shrimp) face clear sustainability risks. An illustration of this was the collapse of the prawn industry in the 1990s due to over-fishing and seabob is currently presenting decreasing catch sizes. Human and technical constraints in the Fisheries Department have limited capacity for monitoring and conduction of scientific surveys of the resources; as an example, Government has not been able yet to set sustainable Total Allowable Catches for prawns and seabobs.

Illegal, Unreported and Unregulated (IUU) fishing contributes to overfishing.⁴³ IUU fishing can lead to the collapse of the fishery industry or seriously impair efforts to rebuild stocks that have already been depleted. The adoption of port state measures, including vessel inspections, denying defaulters use of ports and adhering to port entrance best practices, leads to the decommissioning of vessels, a tactic that severely affects illegal fisherman. The Ministry of Agriculture is currently acceding to the Port State Measures Agreement, which should help to tackle IUU fishing.⁴⁴

A growing challenge for Guyanese fishing exports has been the increasing requirement for sustainability certification by the importers, especially the Marine Stewardship Council. Adoption has been slow given limited availability of technical advisory and prohibitive implementation costs for small and medium scale fisheries. There are reported cases of fisheries that are going out of business due to growing restrictions for international sales.

⁴³ ‘Fish exports total \$15B annually – Holder says Guyana committed to sustainable practices’, Guyana Chronicle, April 7, 2016

⁴⁴ ‘High Production Costs Affecting Aquaculture - Minister Holder’, Ministry of Agriculture, April 11, 2016

While the implementation process can be expensive and bureaucratic, alternatives can be explored to achieve economies of scale on small fisheries: multi-species fisheries can apply for MSC certification as a single unit of assessment, and fisheries can cooperate with neighbouring fisheries that target the same fish stock to share assessment costs. This sort of alternative obviously requires overarching coordination from associations or the public sector.

The aquaculture subsector is struggling to take off commercially, due to numerous challenges.⁴⁵ Guyana's production costs are above those of Asian producers for frozen fish and shrimp. Supply of inputs is unreliable and expensive, including imported feed and fingerling production. Smaller producers face challenge for maintaining freshness throughout the distribution chain due to deficient land transport and limited cargo services at airports. Technical support provided by the Government is also currently limited, due to the limited human capacity of the Mon Repos Aquaculture Station. Developing the value chain will require significant start-up costs; however the industry, once established, would allow Guyana to tap into large and growing markets in fresh fish, frozen and processed product.

Access to finance is also a major constraining factor. Financial access is a challenge for the agriculture sector in general, with banks offering only restrictively high interest rates and short pay-back periods. This issue is exacerbated due to industry's early stages of development and small producer's size. Banks do not have previous experience in lending to the sector and this has led to pioneer investors experiencing problems in obtaining credit.

A.2.2. Sustainable, productive, climate resilient and diversified agriculture and value-added processing

Agriculture is one of the most important productive sectors of Guyana's economy. Agriculture contributes to approximately 21% of GDP, accounts for approximately one-third of Guyana's employment and almost 40% of Guyana's export earnings. However, in recent years, the sector has been affected by volatility in international commodity prices and extreme weather events, which have contributed to a challenging environment for agricultural sector development.

Although Guyana's mature sugar and rice industries will continue to play an important role in Guyana's economy, fruits and vegetables are beginning to show growth potential. Guyana's favourable conditions for growing rice and sugar cane, combined with historical development patterns that have resulted in specialization in these crops, are an asset and could represent a feasible option for continuing expansion. Nevertheless, through investments in production, facilities, quality assurance, and processing, fruits and vegetables could also become an engine of export growth.

A.2.2.1. SUGAR

⁴⁵ 'Aquaculture—a struggling industry that begs for relevant technology', Kaieteur News, March 16, 2014

Diagnosis Summary

Potential opportunities:

- Rise of global demand for premium rum w/ molasses requirements
- Diversification opportunities, such as paddy, aquaculture and coconuts
- Under-utilisation of mechanisation and other cost saving equipment
- Private sector participation in GuySuCo should align incentives for profitability and longer term sustainability

Main barriers and risks:

- Cheaper beet sugar flooding the European market
- Irregular terrains with inadequate drainage and irrigation drive up production costs
- GuySuCo's assets divestiture creates uncertainties to the rum industry
- High cost of GuySuCo's social infrastructure

A.2.2.1.1. Sector structure and current dynamics

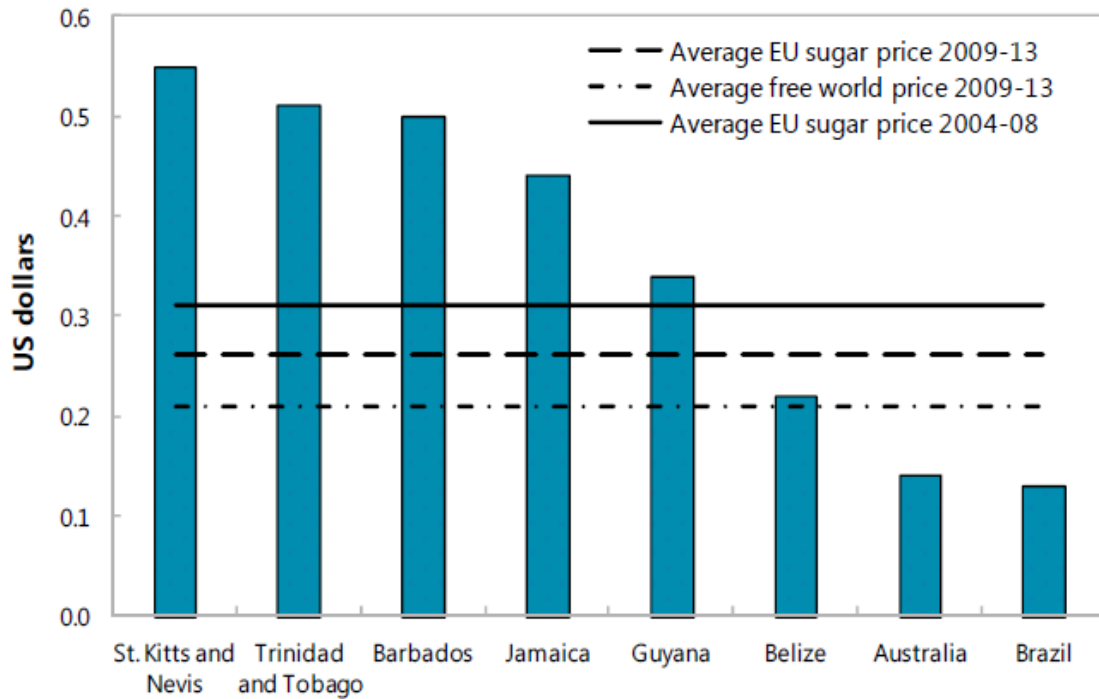
Sugar is an industry in long decline in Guyana. The *Guyana National Competitive Strategy* of 2006 states that sugar accounted for 18% of GDP, 57% of agricultural GDP and 30% of merchandise exports in 2006. However, in 2016, the industry accounted for 2.6% of GDP (3.3% if sugar manufacturing is considered), 18% of agricultural GDP and 5% of merchandise exports. These levels are significantly lower than what was reported a decade earlier.

Britain long offered the industry tariff protection, which was formalised by a Commonwealth Sugar Agreement in 1951. After Britain joined the European Economic Community in 1973, it ensured Caribbean producers had access to the EU market at guaranteed prices. Under the terms of the Sugar Protocol, the EC guaranteed to buy 159,000 tonnes of sugar from Guyana at a fixed price of €523.7 per tonne for raw sugar from 1993/94 to 2006. Since then, the European Commission started to implement phased reductions on quota import prices. and, further, the EU has embarked on a liberalizing reform of its sugar regime. In November 2005, the European Agriculture Council (EAC) decided to reduce the guaranteed price for sugar by 36% over a four-year period that began in 2006. Export prices converged with international markets in 2009 and EU production quotas were finally dismantled by September 2017.

EU reform has compressed the sugar market premium due to increased competition from EU beet sugar producers. The region's irregular terrain and volatile weather make it hard to compete against the mechanised sugar operations; average production costs in the Caribbean exceed the world price. Some Caribbean countries have already closed their structurally uncompetitive sugar industries, given their significant cost disadvantage relative to large-scale producers like Brazil and Australia. Trinidad closed its last sugar factory in 2007,

which was absorbed by growth in gas-related businesses. St Kitts shut its last factory two years earlier, after the debts of its state-owned enterprises approached a third of GDP; a railway that trundled cane now carries tourists. Only in Belize, where sugar still provides a quarter of export earnings, the industry remains reasonably competitive due to lower production costs; a Guatemalan firm opened a factory there producing high-value white sugar in 2016.

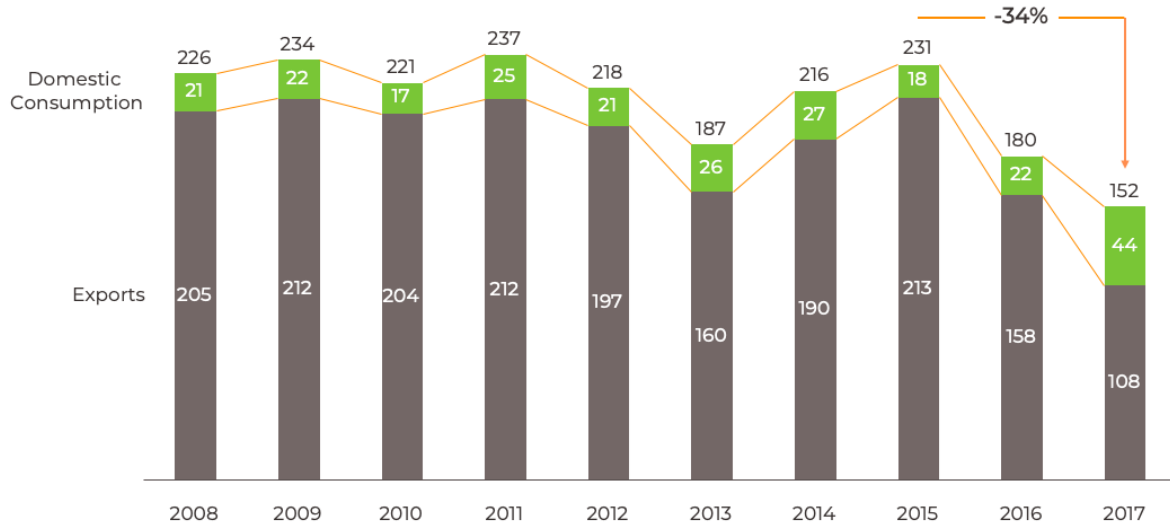
Figure 13: Sugar Production Costs in the Caribbean (per pound)



Source: IMF Country Report 2017

In Guyana, production has been declining steadily: from a peak of 360,000 tonnes in 2004, production fell to 152,000 tonnes in 2017, a 17% decline over the last year's output (after a 19% decline in the previous year).

Figure 14: Guyana’s Sugar Production ('000 tonnes)



Source: Vivid Economic, based on GuySuCo 2015 annual report; clippings

Guyana is currently not competitive for sugar production, implying in losses for GuySuCo. With production costs of almost USD 0.35 per pound, double of sugar price in international markets, Guyana’s total revenue from sugar sales is lower than the employment cost, which makes up more than 60% of total cost. GuySuCo incurred total losses of GYD 40 billion with sales of GYD 230 billion from 2008 to 2015. In order to compensate for GuySuCo’s net losses, the Government of Guyana has provided subsidies on an annual basis. From 2011 to 2017, a total of GYD 55 billion was provided; there is a budget allocation of GYD 6.3 billion in 2018 and another GYD 2.3 billion estimated for 2019 (Table 3).

Table 3: Government Transfers to GuySuCo, 2011 – 2019

Year	GYD Billions
2011	0.7
2012	4.0
2013	5.3
2014	6.0
2015	12.0
2016	9.0
2017	18.0
2018 (budget)	6.3
2019 (est.)	2.3
Total 2011-19	63.6

Source: GuySuCo, clippings

In addition to the continuous bailouts from the government, GuySuCo is in a poor financial condition. GuySuCo’s debts amounted to more than GYD 82 billion in 2015; the Skeldon

sugar processing factory, a GYD 47 billion project commissioned in 2009, accounts for much of that debt. The Skeldon Sugar Modernization Project (SSMP) has been largely unsuccessful: significant investment has been made in the new Skeldon Factory which, to date, has experienced numerous technical problems and the Corporation does not have the resources required to correct the technical problems. The associated co-generation plant was sold for GYD 5.1 billion and these revenues were used to meet current operating costs and a small amount of capital expenditure.

The Ministry of Agriculture appointed a Commission of Inquiry to assess the company's viability and to propose recommendations for sugar sector reform, in order to address the problems of GuySuCo and the growing burden the sugar sector poses for the government's budget. Its report, officially released in July 2016, depicts a negative picture of the sugar sector and concludes that GuySuCo finds itself in a "present state of insolvency". It places special emphasis on the high labour costs – 65% of total production costs – and questions how it could increase by GYD 6.3 billion (43%) in the 2010 – 2014 period, while the company was running at a loss. The Report's recommendations included the privatisation of GuySuCo within 3 years and the divestment of all assets, activities and operations by the State; meanwhile, the government would need to maintain its financial support and management should focus on lowering the operational cost in order to reduce losses.

The Commission envisioned GuySuCo with reduced losses and cash deficits in sugar, coupled with a separate and profitable diversified enterprise where poorly performing estates should shift away from sugar.⁴⁶ From six estates, GuySuCo would then consist of three estates and three sugar factories; Skeldon Estate would be divested along with its factory. Apart from restructuring the estates and factories, GuySuCo should transfer to the State the drainage and irrigation and health services that it provides to the communities, and around the estates. GuySuCo should also surrender land for leasing to employees to enable them to engage in agricultural production.

The government has set up a Special Purpose Unit (SPU) to manage the divestment of GuySuCo, based on the Commission's recommendations. Advertisements have been placed for Expressions of Interest (EOI) in the sugar factories and estates and GuySuCo has already started the cultivation of rice on lands once used by the Wales Estate, where production has ceased. In January 2018, Price Waterhouse Coopers was hired and started to carry out the valuation of all assets of GuySuCo aiming at partial divestiture, a process that should take 8 months.

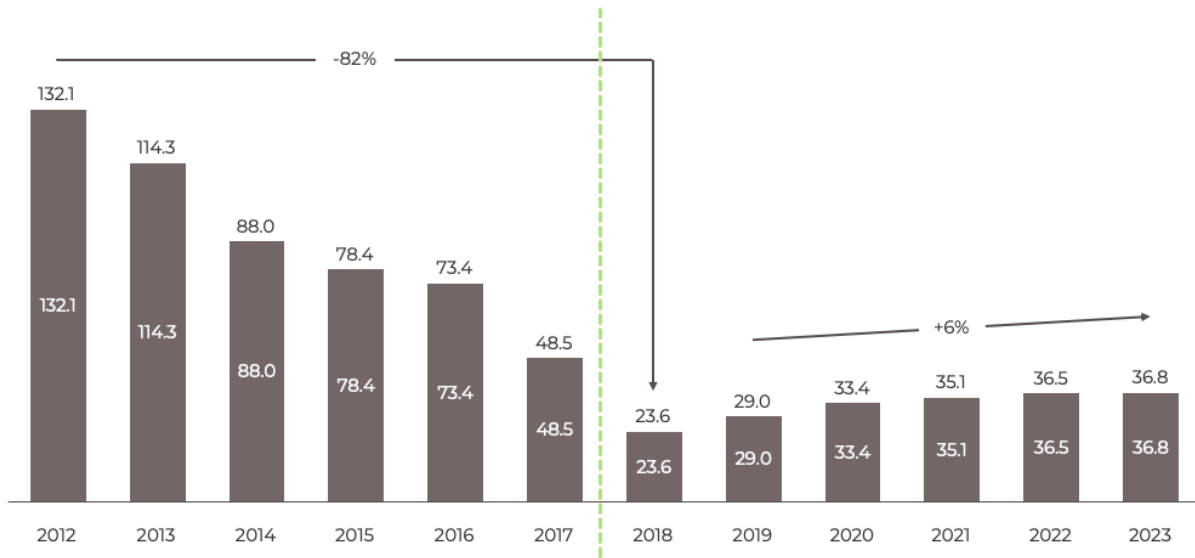
A.2.2.1.2. Market opportunities for growth and increased value added

Many elements on the proposed market goals above are doubtful. The State Paper on the Future of the Sugar Industry also indicates that production should stabilise around its current value of 150,000 tonnes/year, which would be enough to satisfy demand in the local markets (25,000 tonnes), CARICOM and regional (50,000 – 60,000 tonnes), North America (12,500 tonnes) and the World Market (50,000 tonnes), with a focus on production for direct consumption, value-added sugars and providing electricity to the national grid (co-

⁴⁶ State Paper on the Future of the Sugar Industry, published in May 2017

generation). GuySuCo still exports nearly all its sugar in bulk, but it has tried over the last few years to generate higher profit margins through strategies such as selling retail-sized sugar bags directly to supermarkets, penetrating the North American market with value added sugars and processing the raw product into crystallised sugar and brown sugar for the CARICOM region. All these strategies, however, have presented limited success so far, and it is not clear whether they could yield better results in the coming years. Projections of entities such as the IMF are not optimistic for the near-term future (Figure 15).

Figure 15: Guyana’s Sugar Exports (USD million)

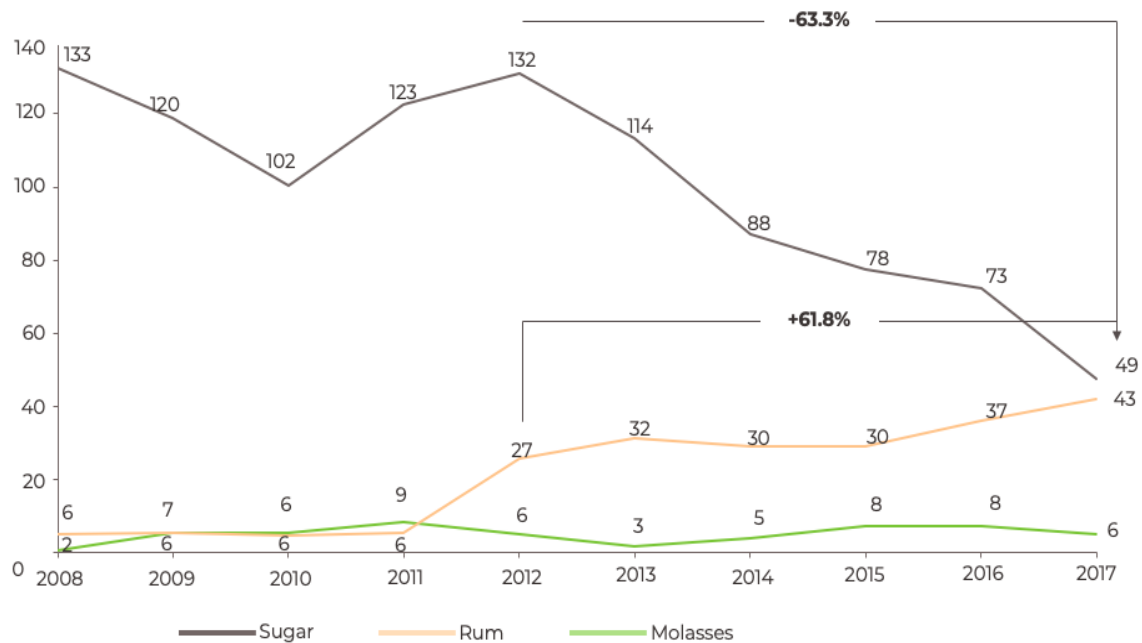


Source: IMF Country Report 2018

Nevertheless, there are promising areas for growth on some sugar cane related sectors, particularly the rum industry. Since 2011, a structural transformation is occurring in the global spirits markets, with aged, premium Caribbean rums dominating the rum industry and “gaining ground” over other spirits, such as whiskies, bourbons and Armagnac. Guyana is well positioned for these changes with its award-winning El Dorado (DDL) and XM (Banks DIH) brands. Together with competent marketing and management strategies from local producers, these changes led to a significant growth in rum exports, partially compensating the fall in sugar exports (Figure 16). With total exports exceeding USD 550 million for CARICOM⁴⁷ (including Haiti) and Dominican Republic, there is scope for significant further growth.

⁴⁷ ‘Rum producers from Region meeting in Guyana today’, iNews Guyana, November 30, 2016

Figure 16: Guyana's Exports of Sugarcane Products (USD million)



Source: Vivid Economics, based on Bank of Guyana and IMF Country Report 2018

The contraction of sugar cane production and the expansion of rum production have exposed a challenge related to the sourcing of molasses. Molasses makes up 40% of total rum production costs. While regional supply is preferable given logistical costs, availability and high production cost could make such an option unfeasible. As the main sugar cane producer still operating in the region, GuySuCo is the natural source of molasses for Guyana's industry and of its neighbours (Barbados, for instance, sources more than 50% of its molasses from Guyana). As explained before, however, GuySuCo is downsizing: by the end of 2017, it has set a production target for 2018 of 115,000 tons, with molasses production pegged at 52,000 tonnes. Meanwhile, DDL rum production grew 30% over 2016, is projected to increase 25% in 2018 and has a molasses requirement of about 70,000 tonnes.

A long-term supply agreement between GuySuCo and rum producers is required. Given the challenge for assuring supply, DDL has been "actively exploring" its potential role in the future of the sugarcane industry.⁴⁸ In March 2018, DDL finalised a deal⁴⁹ with the SPU⁵⁰ to use the canes on the estates that would be closed during the year to temporarily sustain its operations. This is obviously not a long term solution, GuySuCo's production costs are still too high and even this supply seems not to be enough (in June 2018, DDL reported starting to import molasses from Nicaragua⁵¹). The direct involvement/support of professional, global players such as DDL and Banks DIH may bring a new role to Guyanese sugarcane

⁴⁸ 'DDL molasses supply threatened by GuySuCo's production cuts- contemplates entry in sugar industry; wants estates remain operational', Kaieteur News, Dec 31, 2017

⁴⁹ 'DDL, SPU seals deal on molasses for 2018 rum production', Guyana Times, March 17, 2018

⁵⁰ Special Purpose Unit, set up under the National Industrial and Commercial Investment Limited (NICIL) to manage the divestment of GuySuCo's assets following its downsizing last year.

⁵¹ 'DDL importing molasses from Nicaragua', Stabroek News, June 30, 2018

production and lead to sustainable productivity increases in GuySuCo's estates and operational assets.

A.2.2.1.3. Barriers and challenges for sustainable development

Farmers from African, Caribbean and Pacific (ACP) countries face an uncertain future. In the light of EU policy changes, it is likely that cheaper beet sugar from European producers in Germany, France, Poland and the United Kingdom will flood the European market.

It is clear that there is scope for some productivity improvement in Guyana. Owing to underinvestment, companies have not sufficiently modernised and practices in agriculture have not changed much over time. Farmers use labour-intensive techniques and have not invested in mechanising their processes. These are some of the areas targeted for intervention in GuySuCo's productivity improvement plans.

However, it is unclear whether sugar (or ethanol) production will become competitive in Guyana in the near future. Even with planned interventions to increase GuySuCo's productivity, limited scale, irregular terrains and high drainage and irrigation costs will drive up production costs. Much of Guyana's several hundred thousand hectares of non-forested land available for higher-value agricultural development requires either costly drainage and irrigation (for example, the Canje Basin) or significant road and utility investments to provide access (for example, the Intermediate Savannahs). Infrastructure in Guyana remains generally inadequate and unevenly maintained. Frequent and unpredictable electrical outages, high electricity costs, low percentage of paved roads, relatively high telecommunication costs, and an under-developed transportation system complicate commercial operation. This makes Guyana's non-forested land less attractive than available land in other countries such as Brazil.

A.2.2.2. RICE

Diagnosis Summary

Potential opportunities:

- Good quality reputation of Guyanese rice and repressed demand on international markets
- Under-utilisation of mechanisation and cost saving equipment such as grain carts
- Technical quality of GRDB service offer to farmers

Main barriers and risks:

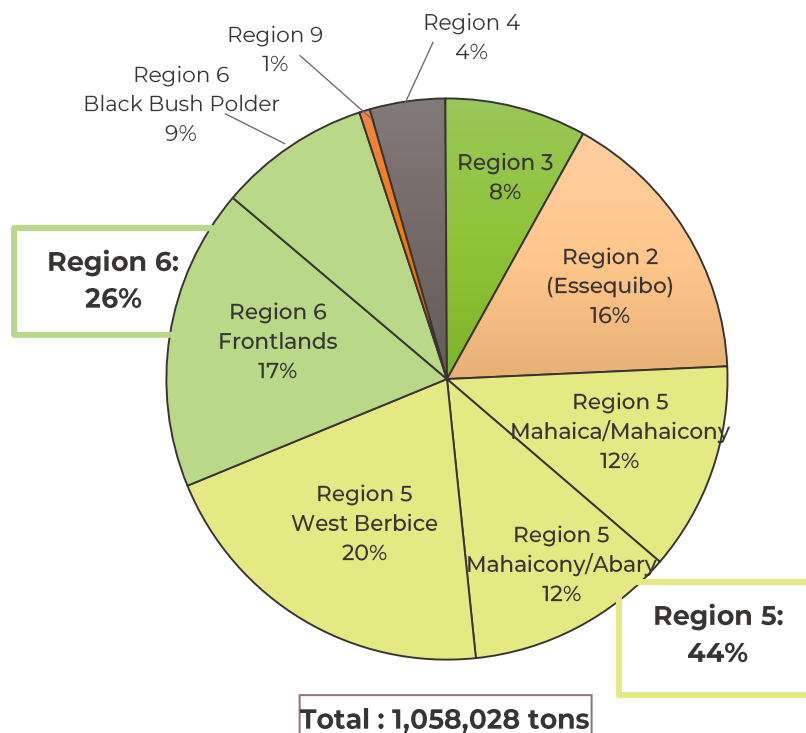
- Growing scarcity of new, suitable areas, with adequate infrastructure
- Landlordism: lands cannot be used as collateral for loans

- Limited access to finance reduces bargaining power of farmers towards millers, who provide cash advances
- Given limited margins and limited training, there is not enough supply of new farmers/workers to sustain growth
- Many damaged cultivation dams
- Poor port infrastructure and channel shallowness limits size of vessels

A.2.2.2.1. Sector structure and current dynamics

Rice is currently the most important agricultural sub-sector. Paddy rice was first introduced into Guyana around 1750, brought from South Carolina during the Dutch occupation and is one of the Guyana agricultural sector’s traditional crops. Paddy production takes place along the coastal plains in Guyana in the irrigated fields of the Pomeroon, Demerara and Berbice regions (administrative regions Pomeroon-Supenaam, Mahaica-Berbice and East Berbice-Corentyne respectively, see Figure 17). This is a fertile, flat strip of land 5 to 7 km wide that runs along the seashore. The coastal plain lies about 1.4 m below sea level at high tide; in order to avoid flooding from sea waters, it is protected by a sea wall. It currently accounts for 4.8% of GDP (6.6% if rice manufacturing is considered), a quarter of agricultural GDP and 19% of merchandise exports in 2015.

Figure 17: Paddy Production by Region, 2015 (tonnes)



Source: Vivid Economics, based on Guyana Rice Development Board – 2015 annual report

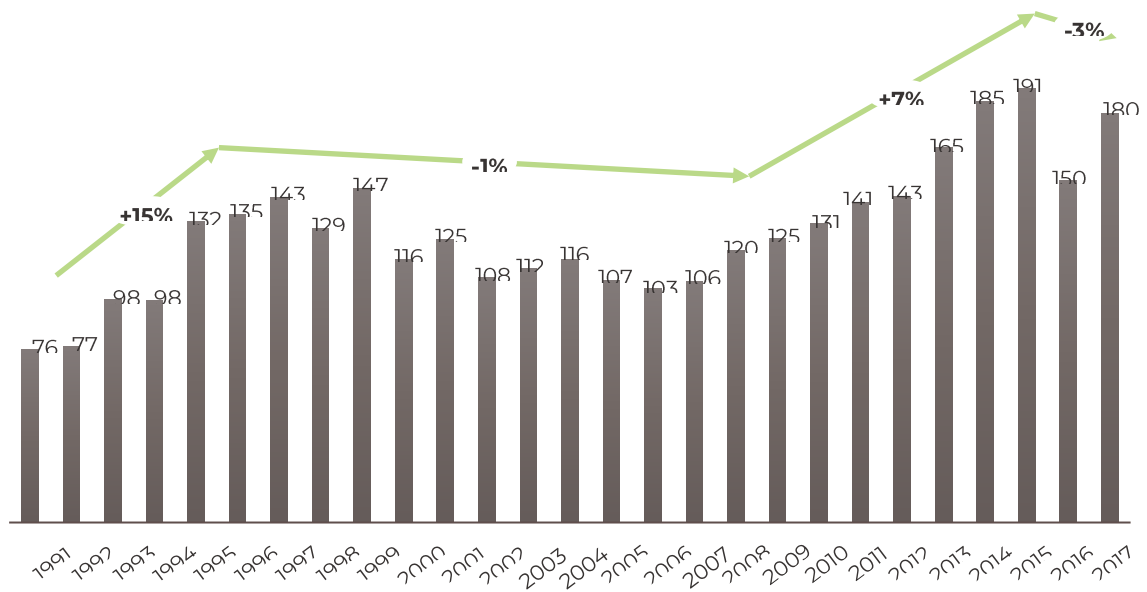
The majority of rice production is cultivated by farmers with over 10 acres. Of the 16,000 rice farming households, approximately 93% are small-scale farmers with farms of 30 hectares or less. All production and processing are privately owned and operated. Over the years, rice farming has seen a decline in the number of farmers but an increase in the average farm size. Currently, 40% of the farmers cultivate over 10 acres each and account for 86% of the total paddy acreage, while the other 60% of farmers cultivate under 10 acres each and account for 14% of total paddy acreage.

After the problems experienced in the 1980s, initial recovery was partly as a result of improvements in productivity facilitated by GRDB in the beginning of the 1990s. GRDB's technology transfer programme, allowed simultaneous growths in area and yields: harvested areas increased from 76,000 (1991) to 132,000 hectares (1995) (Figure 18) and yield increased from 3.3 to 4.0 tonnes/ ha in the same period; as a result, paddy production grew 109% to 525,000 tonnes in four years (Figure 19).

This period was followed by a long stability, in which areas, productions and yields have not changed much. It was a protected period, in which Guyana has benefitted from preferential access for its rice exports: in 2007, 50% of rice was exported to CARICOM countries (particularly Jamaica and Trinidad and Tobago) and 34% to the EC under preferential conditions.

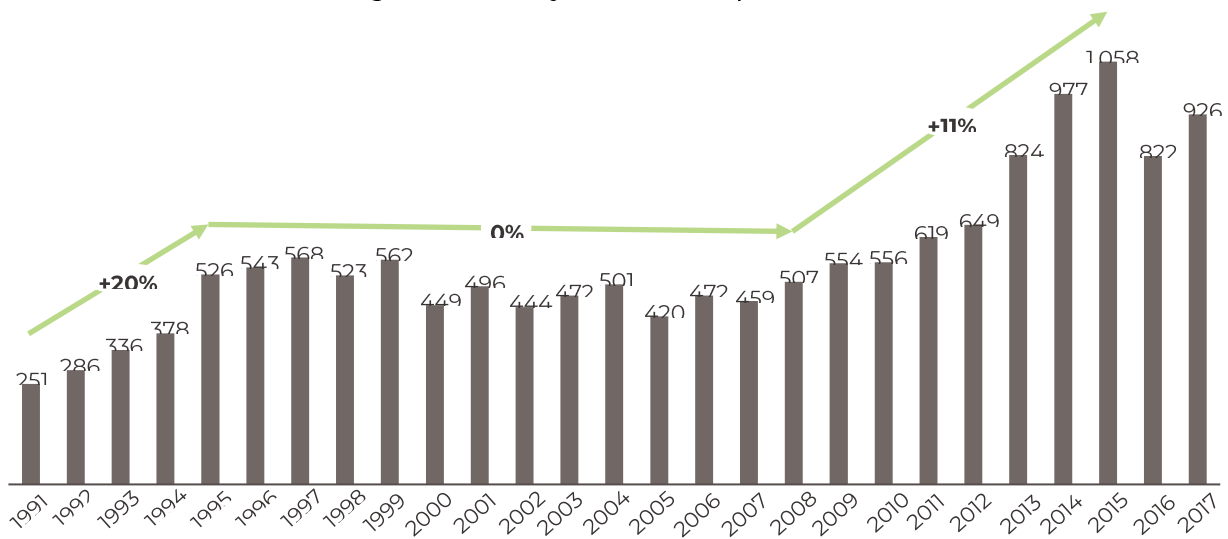
As EC preferential conditions started to be phased out, they were replaced by the PetroCaribe deal with Venezuela in 2008, under which, the latter country sold oil to Guyana on soft terms, provided incentives for investment in the rice sector as a result of an agreement to which Guyana paid part of its debt to PetroCaribe in the form of rice. The PetroCaribe deal resulted in a significant increase in export prices, from USD 255/ ton (1998-2007) to USD 521/ ton (2008-2015) (Figure 18), which was followed by an increase in harvested areas from 120,000 (2008) to 191,000 hectares (2015) (Figure 19) and paddy production, which grew another 109% to 1.06 million tonnes in 2015.

Figure 18: Area Harvested for Paddy Production ('000 hectares)



Source: Vivid Economics, based on Guyana Rice Development Board – 2015 annual report; clippings

Figure 19: Paddy Production ('000 tonnes)



Source: Vivid Economics, based on Guyana Rice Development Board – 2015 annual report; clippings

The PetroCaribe deal was also associated with productivity growth as well: the yield increased from 4.2 (2008) to 5.5 (2015) tonnes/ha in the same period. This is significantly higher than in rainfed rice production systems, such as in Thailand, where yields per hectare average between 2.5 and 3 tons. It is also higher than in neighbouring Suriname, which has more extensive production systems and larger plots, with yields averaging 4.4 tons/ha in 2014. Likewise, export levels also increased significantly, doubling in volume and tripling in value between 2007 and 2015; Guyana exported 537,000 tonnes at USD 221 million in 2015.

However, Venezuela cancelled the rice-for-oil deal under the PetroCaribe agreement in November 2015, amid an escalating dispute between Venezuela and Guyana over the sea border between the countries in the Essequibo region following the discovery of oil reserves. As a result, rice exports to Venezuela halted and an important export market disappeared. Venezuelan exports reduced from 188,000 tonnes in 2014 (38% of the total) to 81,000 tonnes in 2015 (15% of the total) and 35,000 tonnes in 2017 (6% of the total).

The end of the PetroCaribe deal resulted in an aggressive marketing strategy spearheaded by the GRDB and the private sector, with support from the Ministry of Agriculture. GRDB not only guided farmers to incorporate best practices, but also played a lead role in quality control and pest and disease management. Even in 2015, Venezuelan exports were replaced by old and new destinations, especially within the European Union. The year of 2016 was a difficult one, with decrease in paddy production (from 1.06 to 0.82 million tonnes), rice export volumes (from 537,000 to 500,000) and export prices (USD 358/ton) but, with the introduction of new export markets, such as Canada, United States, Cuba, Mexico and Peru, the industry witnessed a partial recovery of all variables in 2017. As an example, the GRDB, through Nand Persaud and Company Limited, had offloaded 7,500 tonnes of rice to be exported to Cuba in the last quarter of 2017; it was recorded as the first rice shipment to Cuba in 40 years.

Box 1 – The Guyana Rice Development Board

The key rice sector support institution is the Guyana Rice Development Board (GRDB), a government agency that reports to the Ministry of Agriculture.⁵² The GRDB was established in 1994, and its mandate is to enhance the industry's development in terms of research, technology transfer, marketing, and product quality control. The GRDB's Burma Rice Research Station releases Guyana's own high-yield and disease-resistant varieties; between 1997 and 2015, the GRDB released 14 varieties of paddy contributing significant increases in productivity over the last decade, from 3.8 tonnes/hectare (24 bags/acre) in 2000, to 5.5 tonnes/hectare (35 bags/acre) in 2017. The GRDB also provides extension services to farmers on seed rates and treatment, fertilizer management, weed management, water management, and pest and disease management.

The GRDB provides a series of services to farmers, such as farm extension, capacity building, hybrid seed development etc. It closely monitors rice quality throughout the supply chain. It has agents at each buying station to ensure that quality requirements are maintained, and it operates its own rice lab for monitoring the quality of all export orders. It also provides a mandatory fumigation service for all exported rice. GRDB appears to have been successful at ensuring that Guyanese rice maintains its strong reputation for quality with international buyers, with almost no occurrences of rejected orders based on quality issues. GRDB provides a series of critical services to the industry, including seed production and distribution, quality assurance, monitoring and auditing, extension services, and fumigation of exports.

The GRDB is funded through a direct levy on rice sales for both export and the domestic market. The fee amounts to USD 8 per ton of rice and USD 4 per ton of paddy. All activities and services of the GRDB are funded from the levy. Beyond research, these also include extension services and farmer field schools. Inspection services, fumigation on ships, and the administrative handling of exports are also provided. The GRDB operates as an independent agency and has so far made no payments into the government treasury. The GRDB holds a strong financial position. In 2013, it made a profit (revenue minus costs) of GYD 158.5 million, which increased to GYD 189.3 million in 2014. Its total assets in 2014 amounted to nearly GYD 2.2 billion, of which GYD 1.38 billion were in cash and deposits.

A.2.2.2.2. Market opportunities for growth and increased value added

After significant effort to build a quality reputation and open new markets, some importers are aiming to significantly increase purchases. For instance, both Cuba's and Mexico's annual rice imports almost match Guyana's annual rice production levels and their demand for Guyanese rice has been increasing significantly.

There is still opportunity to infuse efficiency-related technology. Burma Rice research station has released a new, high yielding variety this year, which should increase industry yields even

⁵² <http://grdb.gy/about-us/>

further to three new varieties of paddy, including one aromatic and two hybrids, by 2019 via the Malaysia Rice Production Reverse Linkage Project.

Moreover, there is an opportunity to introduce mechanization and cost saving equipment, such as grain carts, a mode of transportation for paddy that eliminates the use of bags for moving the crops from fields to mills. Those machines are usually too expensive to be acquired for single farmers and its acquisition is not cost efficient, since they are usually used for relatively short periods of time. Massive adoption depends on building equipment-sharing arrangements, which allow high utilization rates and dilution of capital costs.

There is an opportunity to convert land and workers into the rice industry. Guyana still has high unemployment and low occupation rates and there is still a contingent of potential workers that could be incorporated by the rice industry; similarly, there are still significant tracts of potentially usable land. Rice farmers have already begun to recruit some displaced sugar workers for spraying rice fields and more than 1,200 farmers were trained in 2017 in various disciplines within the industry including paddy grading, management of pest and disease and improved production practices.

Vertical integration is common in the Guyana rice supply chain, with the larger millers now beginning to export directly and the exporters entering the milling business. The last remaining rice exporter that deals exclusively in rice is Sea Rice (earlier known as Nidera), which now also owns part of a Guyanese rice mill and has long-term relationships with existing third-party mills. A decade ago, the rice export sector was very concentrated, with just two exporters (Mahaicony and Sea Rice) accounting for more than 70% of the total export market share. Today, rice exports are less concentrated, with eight active exporters handling 90% of rice exports from Guyana.

Opportunities exist to improve productivity by upgrading milling facilities for export, so that they can manufacture value-added rice products, such as breakfast cereal and quick cooking rice. Some millers have also begun to package their rice in branded retail-sized packages, which they are exporting to Caribbean markets through recently established distribution channels. Their aim has been to add more value and better compete with other rice-producing countries.

A.2.2.2.3. Barriers and challenges for sustainable development

The rice industry most critical challenge is continuing to increase the harvested area. The reduction of export prices has resulted in a stagnation of harvested areas in the range on 180-190,000 ha. With the expansion to new markets, such as Mexico and Cuba, Guyanese exporters have now insufficient rice to meet their demand. Some exporters, such as Nand Persaud, have reported that they are stopping their search for new markets or taking new orders from current ones, due to lack of rice to sell⁵³. As Guyana has limited room to influence prices since the end of the PetroCaribe deal, the incentives to bring new lands into cultivation should come from operational cost reduction. Areas with critical challenges include:

⁵³ "Nand Persaud purchasing rice from Suriname to fulfill int'l commitments", Stabroek News, July 15, 2018

- Labour: The industry is already experiencing a shortage of skilled workers. The advent of an oil industry could create new onshore employment options that could leave the rice sector critically short of manpower and seriously threaten the viability of the industry;
- Landlordism: most cultivated land is rented from the State at relatively low charges and is concentrated in the hands of informal “landlords”, who then rent at higher prices to the actual farmers. This leads to several derivative problems:
 - higher production costs and compressed margins, reducing the incentives for expansion of harvested areas;
 - as the charges are low, “landlords” do not return unproductive land, reducing yields and leading to low availability of lands to new farmers;
 - actual farmers do not have proper claims on the lands and, therefore, cannot use them as collateral for bank financing, making it harder to finance equipment and inputs;
 - lack of ownership reduces incentives to investment in long-term preservation of soil and maintenance of associated infrastructure, such as irrigation, drainage, airstrips and access roads
- Bargaining power between farmers and millers: with no access to finance, farmers turn to millers for production financing. Farmers, that are generally smaller than millers, have their bargaining power further reduced by financial terms, leading to even lower margins. Delayed payment and, in many cases, non-payment to the farmers by the millers are also critical issues. Cash payment on delivery is limited, and payment terms of three to eight weeks after delivery are the norm in the industry. The situation has worsened in recent years, creating significant cash-flow problems for the farmers.
- Drainage and irrigation: The fact that the vast majority of agricultural activities takes place in the coastal plain that lies below sea level means that, at high tide, agricultural production has to rely heavily on drainage systems. A comprehensive drainage and irrigation system, currently managed by the National Drainage and Irrigation Authority (NDIA), was constructed more than 150 years ago. Currently, drainage throughout most of Guyana is poor and river flow sluggish because the average gradient of the main rivers is only 1 m in every 5 km. Due to persistent flood problems, many of the rice farmers are unable to sow paddy, and significant acreage is rendered unfit for paddy cultivation. Furthermore, vast acreage of standing crops is frequently lost and farmers also regularly suffer yield losses.
- Shipping: All Guyanese rice is exported via the port of Georgetown, which is a relatively shallow port. Poor port infrastructure and shallowness limits size of exporting vessels to 6,000 tonnes, increasing logistic costs.

A.2.2.3. FRUITS AND VEGETABLES

Diagnosis Summary

Potential opportunities:

- Booming global demand for coconut products, with limited expansion capacity of neighbour countries;
- Growing demand for organic products, with lower pressure on production and logistic costs;
- Emerging Guyanese organic fruit processing industry (for example, AMCAR).

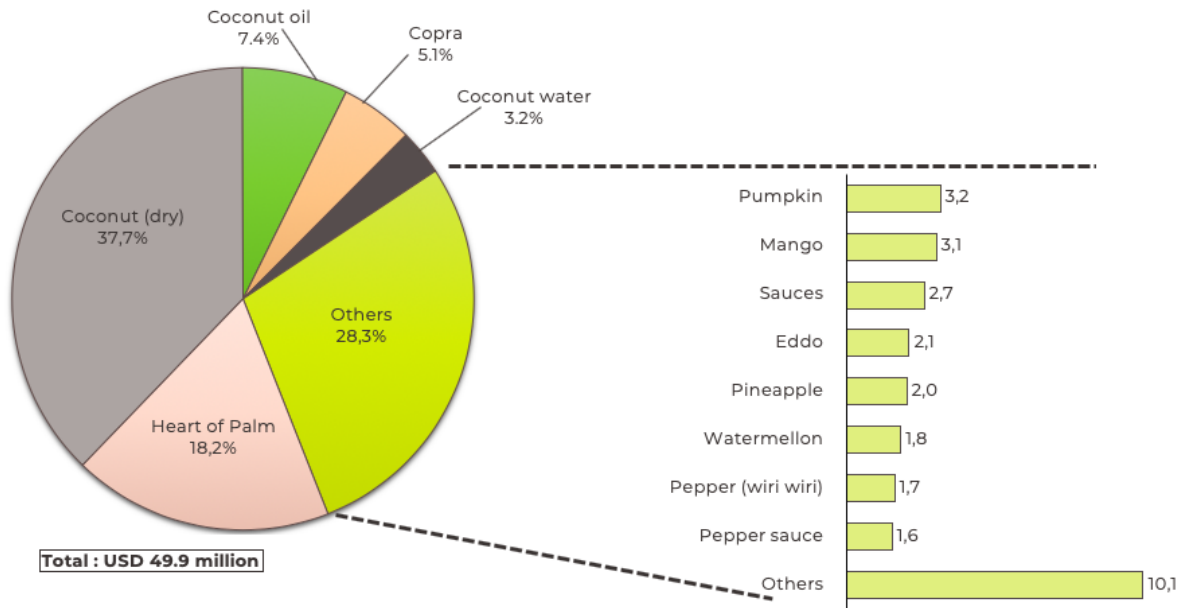
Main barriers and risks:

- On Coconut production, investment on replanting and productivity techniques is restricted by access to finance;
- Coconut and organic producers lack access to finance and technical advisory for increasing production;
- Caribbean neighbours give strong financial incentives for processing which reduce Guyana's competitiveness and overall market attractiveness;
- Limited farmers moving to organic fruit supply, due to restrictions on technical skills, inputs and access to finance.

A.2.2.3.1. Sector structure and current dynamics

Despite some growth in recent years, exports of fruits and vegetables are still limited and concentrated in Guyana. In 2016, the exports totalled about USD 10 million (0.7% of total Guyanese exports) vis-à-vis USD 179 million for rice and USD 73 million for sugar, Guyana's main agricultural commodities. These exports are highly concentrated in coconuts, which were responsible for more than half of those exports, followed by heart of palm (18% of the total) (Figure 20). The rest of the exports are fragmented in several products, such as pumpkins, mangoes, sauces, eddo, pineapples and watermelons.

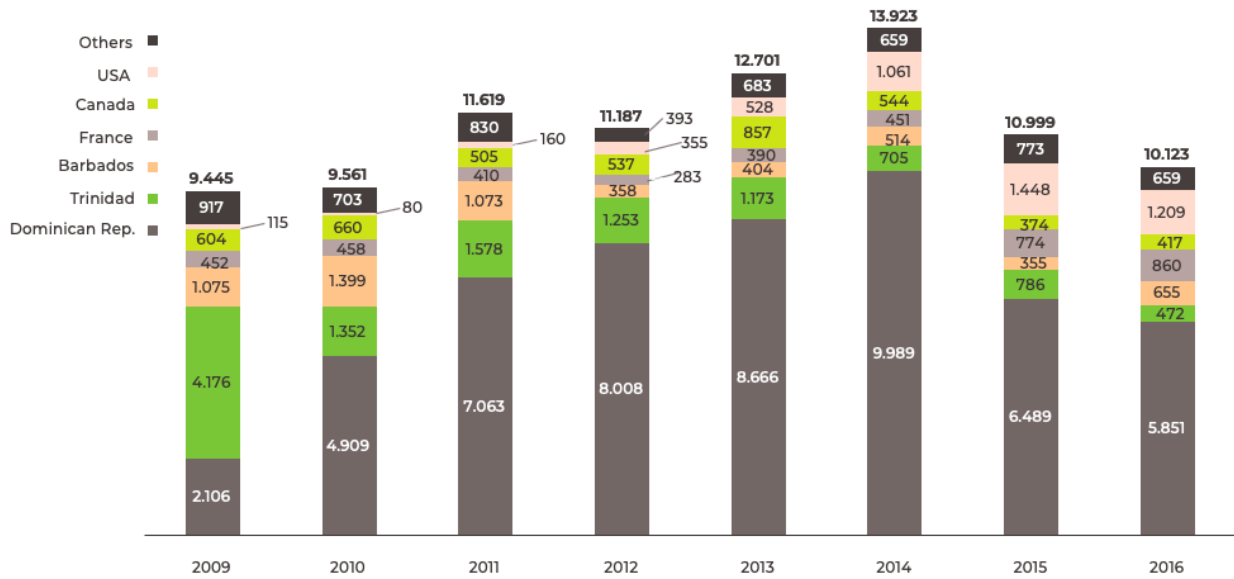
Figure 20: Exports of Fruits & Vegetables by Production (% 2011-2016)



Source: Vivid Economics, based on Annual Reports from Guyana Marketing Corporation

The main export markets are within the region, with strong leadership by the Dominican Republic (59.3% of the 2009 -2016 exports), followed by Trinidad and Tobago (12.8%), and Barbados (6.5%). These countries– especially the Dominican Republic - have strong coconut processing industries, which could not be supplied by local production, given recent increases in demand for the product. Other destinations include France, Canada and the USA.

Figure 21: Exports of Fruits & Vegetables by Destination (tonnes)



Source: Vivid Economics, based on Annual Reports from Guyana Marketing Corporation

Coconuts is the third most important agriculture product in Guyana. The database of the National Agricultural Research and Extension Institute (NAREI) registers around 1,600 active coconut farmers with the size of holdings varying from less than 1 ha to 1,500 ha, in a total of about 10,000 ha; 80% of the farmers with areas ranging from 1 to 3 ha. Coconut ranks third after rice and sugar in terms of acreage cultivated (the leader is rice, with around 180,000 ha). The sector produces over 90 million nuts annually and exports about USD 5 million annually. With the increased production of coconuts in 2017, exports of dried coconut have increased 30% from 7,000 in 2016 to 9,000 tonnes. Exports of other coconut products such as coconut water, copra and coconut crude oil have all increased as well when compared to the previous year.

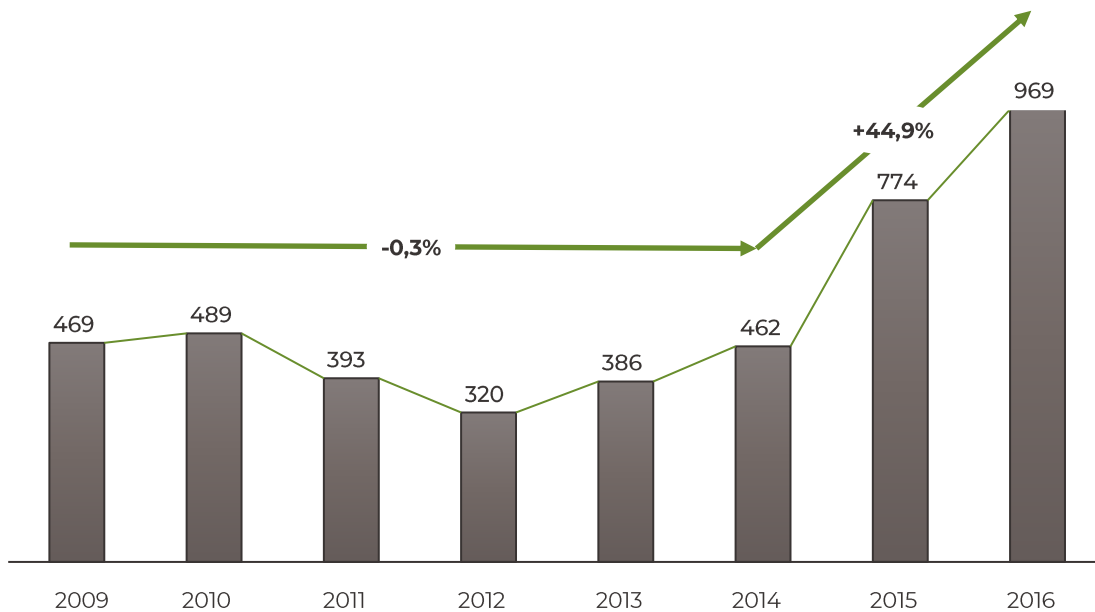
Coconuts are grown widely in the coastal regions of Guyana, primarily along the Pomeroon River, the Essequibo Coast, East Demerara, West Berbice and on the Corentyne Coast. The major oil extraction mills are the Pomeroon Oil Mill, National Edible Oils and Fats Incorporated and the Maharaj Oil mill. The sector is starting to receive more foreign investment, including a new processing factory (from Canadian Precision Global) with capacity of 100,000 dried nuts/day at Marudi Creek) and Pomeroon Trading – a British, vertically integrated coconut producer and processor, which has a 300 ha estate and is building the Caribbean’s largest coconut nursery.

The second largest export product is heart of palm. Amazon Caribbean Guyana Limited (AMCAR), responsible for the almost all of those sales (Figure 22), is a 30-year old French-owned company that operates on a 45,000 ha concession and employs 160 direct staff and 500 Amerindian families. The company exports over 70 containers of 32,000 cans of organic heart of palm annually; each can have approximately 0.3 kg).⁵⁴ This has been a very dynamic

⁵⁴‘At the ‘heart’ of it all’, Guyana Chronicle, April 8, 2018

market lately, with exponential growth in exports: from 462 tonnes (USD 1.30 million) in 2014 to 969 tonnes (USD 2.68 million).

Figure 22: Exports of Heart of Palm (tonnes)



Source: Vivid Economics, based on Annual Reports from Guyana Marketing Corporation

AMCAR has tried to grow, but has been constrained by supply. During most of its history, AMCAR's reputation and demand has been strong and exports have been constrained by limited supply, which was associated with sustainable exploitation of wild hearts of palms, leveraging the local communities. The recent growth may be associated with the beginning of systematic cultivation of the product. The first phase of the venture was completed with the development of 100 acres of land close to the company's first factory in Rosignol (Region Five). AMCAR is now investing USD 2 million in developing a 500-acre organic farm for Açai and pineapples, mangoes, watermelons and papaws, which will be processed and bottled for export, with technical support from the National Agricultural Research and Extension Institute (NAREI). This is the company's second attempt on processed fruits: previously it attempted to export pineapples in jars but it was forced to abort the initiative due to an insufficient supply to run the factory, which was located in Mainstay. According to the company's management, there are many opportunities for the export of juice, jam, dried fruit and more.

A.2.2.3.2. Market opportunities for growth and increased value added

Coconut is a large and growing market. With a world market of about 70 billion nuts (Guyana produces about 90 million nuts annually), global demand for coconut products is growing at a rate of 10% annually, driven by change on consumption patterns. With current sales of about USD 3 billion, the global coconut market should double to USD 6 billion until 2020. Thanks to health-conscious consumers, the markets for high-end products such as coconut water and virgin coconut oil are seeing an exponential growth. Strong niche markets are also emerging for coconut-based snacks, milk, yoghurt and ice cream, as well as coconut

flour and sugar, while demand for the traditional desiccated coconut is as solid as ever. The USA is the number one importer, absorbing about 16% of the global imports.

Global supply is dominated by Indonesia, Philippines and India and just a measly one per cent comes from the Caribbean. In recent years, supply has not followed the demand, as over 90% of the nuts produced come from smallholding farmers, with ageing trees and unproductive estates.

Guyanese coconut industry is poised for accelerated growth. With booming demand – globally and from neighbours – land availability at lower costs, and proximity to North American markets, the same scenario is valid for associated agroindustry, if Guyana can match incentives given by neighbours such as the Dominican Republic, improving conditions to investments in Guyana. The largest market for Guyanese coconuts currently is the Dominican Republic, absorbing almost 60% of Guyanese fruits and vegetable exports (in tonnes) in the period 2009-2016, which represent almost the totality of coconut exports. There are 18 agro-industrial companies that operate under the free zone regime to produce coconut products, and the Dominican Republic exports more than USD 30 million of coconut-based products, of which 70% are by-products such as cream, milk and ground husk; other exported derivatives are gourds, crude oil, grated coconut without sugar and cream or milk, as well as a dozen of other products. The Dominican Republic has specialised in coconut cream to the point of being the world's largest producer, with sales of more than USD 15 million⁵⁵. The Dominican Republic's plantations, however, are declining due to age, lack of titling (which halts access to credit), pests, use of low yield varieties and high cost of land in traditional planting regions, which today are mostly set aside for tourism; this leads to growing dependence on raw materials from other countries, such as Guyana.

Coconut intercropping – growing another crop alongside coconut trees – is also an interesting opportunity, since it increases yields by doubling up on available growing space. It increases economic stability as, while waiting for coconuts to grow, other crops can be grown, reducing cashflow shortfalls. Some of the intercrops identified for planting with coconuts include cassava, bananas, black pepper and ginger.

There may be a solid, profitable niche for Guyana on organic production, despite having higher production costs than its neighbours for regular fruits and vegetables. Guyana has large tracts of land free of agricultural chemicals, providing a unique opportunity to meet a growing demand for organic products in North America and Europe. In most cases, organic products receive a premium price compared to their conventional counterparts. Organic cocoa, pineapple, and heart of palm are already being grown for export. The example of Dominican Republic shows how large the organic market can be: the Dominican Republic's exports of organic agro products reached USD 300 million in 2017 (USD 100 million in cocoa); according to the Organic Agriculture Control Office, there were 128,481 hectares planted with organics in 2016, with 16,089 producers.

Guyana may be able to develop an agro-processing industry, leveraging AMCAR's 30-year expertise and reputation on certified, organic products. Developing the sector is crucial in

⁵⁵ https://www.centralamericadata.com/en/article/home/Coconut_Production_in_the_Dominican_Republic

the drive to add value to the expanding production of raw non-traditional agricultural products; this will provide greater job creating opportunities while diversifying the economy. The sector has many linkages with other sectors in the value chain, such as agricultural inputs, transportation, packaging, marketing and distribution. Hence, the indirect impacts of development of the sector are significant and if additional value can be added through further processing then actual economic impact will be substantially higher.

A.2.2.3.3. Barriers and challenges for sustainable development

With a booming coconut industry, the main constraint for development in Guyana is associated with assuring a stable supply. It is an extremely fragmented industry composed of cash-strapped, limited scale-small farmers, has difficult access to finance for investment, resulting in several problems: lack of fertilisation, poor drainage, access to high-yield coconut seedlings, inadequate crop management and farming. All those issues together lead to high and rising production costs, as well as limited and unstable yields.

With ageing trees, rehabilitation of the coconut industry can be costly. Machinery is required for excavation and the drainage system. There are also considerable costs associated with fertilising and replacing old trees with improved varieties. This kind of investment represents major challenges for modest investors.

For coconut processing, the challenge is attracting investment. Despite lower salaries and availability of raw material, Guyana presents a comparative fiscal disadvantage. Dominican Republic, for instance, applies a free zone regime on its coconut agro-industry, which entails exemption of Corporate Income Tax, exemption of Customs Duty and Value-Added Tax for equipment and raw materials. There are also differences on labour costs: while pay-as-you-earn (PAYE) tax in Guyana can vary from 28% (salaries below GYD 180,000/ month) to 40%, the Dominican Republic has a differentiated regime: employers must simply share 10% of their net profits with their employees, capped at maximum of 60 days' salary (which means a range of 0-16% of employee's salary, but variable according to company's profits).

On fresh fruits and vegetables, however, the obstacles may be too complex to be solved within a reasonable timeframe. Exporters must be able to establish modern post-harvest handling and quality systems to prevent spoilage in transit and must meet international phytosanitary controls. Guyana's ability to supply international markets is currently hampered by the time required to transport its products to market. Additional value can be achieved by shipping selected fruits to destination markets by air, but the limited airlift capacity and difficult connection to airstrips also create enormous obstacles for this sector. Finally, scale is also needed to ensure reasonable production costs and stable supply, which is difficult in a very small, fragmented industry (no product reaches exports of USD 0.5 million, with the exception of coconut and heart of palm).

Effectively competing in export markets will require Guyana to find niches in which the cost disadvantage is less important than finding paths to meet the price, quality and delivery requirements demanded by the market. The numerous competitive constraints that currently hinder the expansion of the agro-processing sector, are associated with the obstacles of fresh produce, including limited quantity and quality products, poor product

consistency, expensive and unreliable transportation, fluctuating local prices and lack of cold storage. Moreover, in order to be successful, the processed foods industry requires an adequate supply of quality agricultural raw materials, which is where improvements in the fruits and vegetables supply chains are required for future success of the sector. Focusing on processed, organic markets leveraging the leadership of AMCAR may be the most effective solution to boost fruits and vegetable export markets.

A.2.3. Green, inclusive and high value-adding service industries

A.2.3.1. TRAVEL AND TOURISM

Diagnosis Summary

Potential opportunities:

- Potential to develop domestic market through better connections and information;
- Significant diaspora segments that visit regularly Guyana for extended periods, but do not leave friends & family homes;
- Growth of business tourism allows extension of stays through convenience packages.

Main barriers and risks:

- No secondary attractions developed around primary touristic sites; little incentive to stay and explore
- Limited ancillary services (accommodation, restaurants, entertainment) on touristic regions
- Limited connectivity of road transport to and surrounding the main touristic regions

A.2.3.1.1. Sector structure and current dynamics

Despite prioritising the sector for development for more than a decade, the economic contribution of the tourism sector is still relatively modest. In 2017, international arrivals amounted to 249,000, while tourism directly contributed an estimated 2.6% to Guyana's GDP. Dividing the international arrivals number by the total population (750,000)—a measure of potential tourism pressure—the ratio is one third⁵⁶. The figures for many neighbouring states are generally much higher: Costa Rica, one of the leading nature-based tourism in the Latin America and Caribbean region, has ratio of two thirds⁵⁷ and a direct contribution to the GDP of 5.0%. Moreover, the evolution of the sector in the last decade has been disappointing: contribution to the GDP has been fluctuating in the range of 2.5 to 3.5% of GDP.

Sector's employment is also not growing. For Guyana, the sector generated 8,500 direct jobs (2.9% of total jobs) and the employment level is about $\frac{1}{4}$ lower than the decade's peak (2011).⁵⁸ This includes employment by hotels, travel agents, airlines and transport services but excludes commuter services. Many of the jobs are part-time or shared jobs, especially in the interior. Many ecolodges in the interior have a small permanent core of employees and then allow others to work alternatively in 2-week stints to accommodate other gainful activities

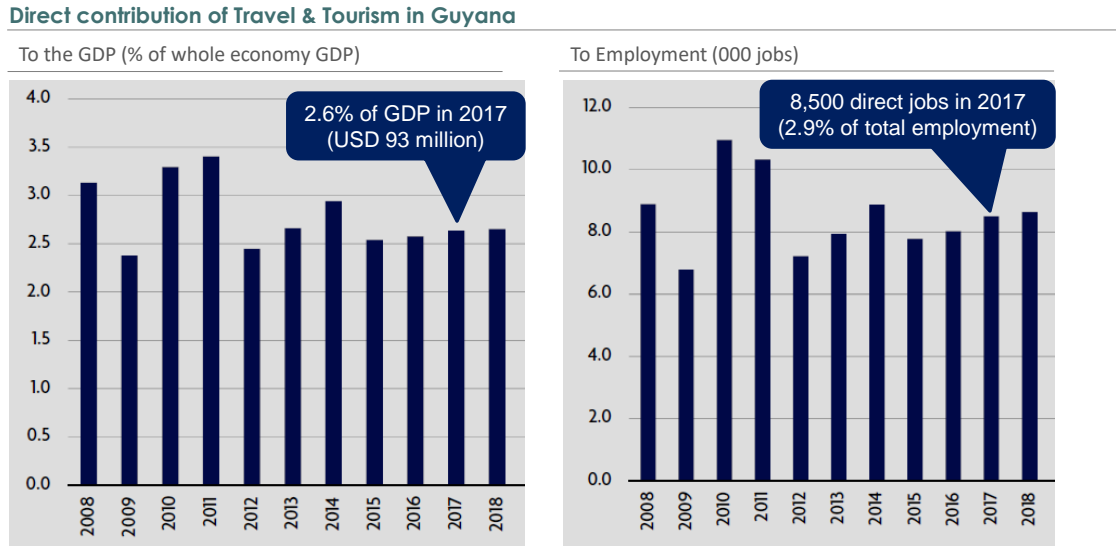
⁵⁶ Wenner, Mark; Johnny, Teneisha; *Tourism and Ecotourism Development in Guyana: Issues and Challenges and the Critical Path Forward*; Inter-American development Bank; December 2015, p. 3

⁵⁷ Costa Rica is expected to receive 3.3 million visitors in 2018 and has a population of 4.9 million

⁵⁸ *Travel & Tourism – Economic Impact 2017 – Guyana*; World Travel & Tourism Council

such as farming and fishing, or to work only in the peak season. The main employers are approximately 60–70 hotels/ lodges/ guesthouses/ aparthotels, 20 tourist-class restaurants, 10–20 gift stores, 12–15 tour operators, and 10–15 airlines and travel agencies.

Figure 23: Travel & Tourism Contributions to GDP and Employment (2008-2018)



Source: *Travel & Tourism: Economic Impact 2018 Guyana*; World Travel & Tourism Council

Over the past decade, some improvements were pursued in Guyana, especially in air transport. A major push has been made to improve international airlift capacity and airport infrastructure, which are undeniably important. At present, seven carriers provide international service (Caribbean Airlines, COPA Airlines, Dynamic Air, Gum Air, Insel Air, Liat Airline, and Surinam Airways), the Cheddi Jagan International Airport is in the process of modernisation (improvement of lounge/instrumentation and widening of the road between the airport and the capital), and some of the major interior airstrips have been upgraded (Lethem, Annai, Orinduik, and Kaieteur). This is a major improvement over the state of affairs in 2005, when there were only three international carriers. There was also an upgrading of Lethem-Annai and Bartica-Linden roads.

The other main initiative was the construction of a USD 51 million, 197-room Marriott hotel, which opened in April 2015. Guyana as a nascent tourism market has occupancy rates below world benchmarks,⁵⁹ which tends to force owners/ operators to emphasize cross-subsidies from other income sources or to depend on restaurants/catering/banquets/meetings/retail space rental to make their hotels profitable. In the case of the Marriott hotel project, a USD 8 million entertainment complex offering a casino, nightclub and movie theatres was intended as the main revenue generating component, however the complex has not yet been completed, and plans for completion are unclear given the change in government

⁵⁹ its occupancy in the first three years of operation is expected to range between 50 and 60%, which will still be lower than the typical industry range of 70-80% for a five-star property in the Caribbean

priorities. The business model of this luxury property seems to hinge more on ancillary services and not solely on occupancy.⁶⁰

Despite the positive developments, a critical mass of improvements and reforms has not yet been achieved that would help to accelerate the growth and development of the sector.

A.2.3.1.2. Market opportunities for growth and Increased value added

Guyana, a country of 215,000 km², has comparative advantages in nature-based and adventure tourism relative to its neighbours in the Caribbean. Ecotourism is defined as a nature-based form of specialty travel defined by The International Ecotourism Society as “environmentally responsible travel to natural areas which conserves the environment, has low negative visitor impact, and sustains the well-being of local people”. Compared with the island states of the Caribbean, Guyana has much larger extensions of forests (77% of territory or about 15,000,000 ha), many more waterways and waterfalls (32 major rivers and 70 waterfalls), and much more diverse flora and fauna.

Guyana’s rainforest is home to one of the world’s most pristine habitats. The interior of Guyana (approximately 169,000 km²) remains minimally disturbed by human activity. As one of four intact rainforests left in the world, Guyana is host to more than 800 species of birds from 72 different families, hundreds of species of mammals, and thousands of species of insects. These include the largest bird of prey (Harpy Eagle), largest otter (Giant River Otter), largest anteater (Giant Anteater), and largest freshwater fish (Arapaima) in the world, as well as the largest species of cat native to the Western Hemisphere (Jaguar).

The Caribbean islands are well known for “sun, sand, and surf” tourism and only Belize, Dominica, St. John, US Virgin Islands, Bonaire, La Désirade and Petite Terre Islands (in the Guadeloupe island group), and Tobago (in the twin-island nation of Trinidad and Tobago), have established themselves as nature-based tourism destinations that cater to persons who want to observe wildlife, hike, fish, camp, go kayaking/ canoeing, etc. Many of the other islands in the Caribbean archipelago have some of the highest ranked beaches in the world according to various travel publications and websites, such as Travel and Leisure and Traveler’s Choice TripAdvisor. However, because of their very small size, they do not boast a high degree of land-based biodiversity. Nonetheless, some of these same “sun, sand, and surf” Caribbean islands are starting to market nature-based activities in an attempt to diversify their market segments.

English language could be an advantage. Compared with its South American neighbours, Guyana has similar humid tropical forests but stands out as the only English-speaking country on the continent. Since nature-based tourism attracts an older, highly educated, more affluent, environmentally conscious segment of the travel market, many of the potential travellers to Guyana are likely to hail from high-income English-speaking countries since they are the ones likely to prefer locales that are English speaking, all else equal. However, it should be noted that ecotourism is a specialty market with limited demand and

⁶⁰ Wenner, Mark; Johnny, Teneisha; Tourism and Ecotourism Development in Guyana: Issues and Challenges and the Critical Path Forward; Inter-American development Bank; December 2015, p. 20

the standards required for international certification and branding are quite high. Box 2 contains a profile of the international ecotourist.

Box 2 - Main Ecotourism Attractions⁶¹

- **Kaieteur and Orinduik Falls:** Kaieteur is the highest single drop waterfall in the world (226 meters), and the conditions created by the falls support a unique microenvironment with some species endemic to the locale. Orinduik, near the Brazilian border, in contrast with Kaieteur, is a set of staircase falls with jasper beds. Both falls are very picturesque, and the environs around the falls are well maintained.
- **Rupununi:** It is a vast area of dry grasslands and wooded hills, called “Serengeti of South America”. The combination of savannahs, abundant fish in navigable rivers, and wide variety of wildlife that can be viewed, beautiful scenery, and indigenous peoples and cultures makes the Rupununi the premier spot for ecotourism and ethno-tourism. There are several community-run ecolodges in this area; accommodations, however, are limited, with fewer than 100 rooms. The range of activities consists mostly of hiking, fishing, bird watching, visiting Amerindian villages, and purchasing handicrafts.
- **Kanuku Mountains:** The range is notable for its exceptionally diverse bird and mammal species—approximately 80% of the known species of mammals in Guyana are found here. The Kanuku is bisected by the Rupununi River, one of the primary tributaries of the Essequibo. The mountains boast many trails and are very appealing to naturalists and hikers.
- **Iwokrama Rain Forest:** located in central Guyana, between the Essequibo, Siparuni, and Takutu Rivers and just north of the Rupununi savannah. Approximately 360,000 hectares of pristine rain forest have been set aside in a protected park. The park has a suspended walkway through the rainforest canopy that covers close to a half mile in length, 30 m off the ground.
- **Bartica and Marshall Falls:** Bartica is located at the confluence of the Essequibo, Mazaruni, and Cuyuni Rivers and has great potential for the development of a yachting tourism product as well as ethnohistorical tourism. Not far from Bartica, past the ruins of the ancient Dutch Fort of Kyk-Over-Al and up the Cuyuni River, are the Marshall Falls. Once the seat of the Dutch government of the county of Essequibo, Kyk-Over-Al was built in 1616 to guard the junction of the Mazaruni and Cuyuni Rivers; only the ruins remain.
- **Mainstay Lake:** A large recreational lake with resorts. Very popular with domestic tourists.
- **Shell Beach:** Extends for about 90 miles along Guyana’s northwestern shore in the area between the Pomeroon and Waini Rivers. The beach consists of tiny shells, and four of the world’s eight sea turtle species come here each year between March and July to dig nests among the shells, lay eggs, and return again to the water.
- **Mt. Roraima:** The mountain is the highest peak in Guyana at 2,180 meters and straddles the border with Venezuela. It is a spectacular table-top mountain with a unique microclimate. It appeals to mountain climbers.

⁶¹ Wenner, Mark; Johnny, Teneisha; *Tourism and Ecotourism Development in Guyana: Issues and Challenges and the Critical Path Forward*; Inter-American development Bank; December 2015, p. 8

Box 3 - Profile of Ecotourism Visitors⁶²

Age: 35–54 years

Gender: 50% male, 50% female

Party composition: 60% couples; 17% families; 23% other

Education: 82% college educated

Trip duration: 8–14 days

Expenditure: USD 1,001–1,500 per trip (1994)

Principal activities: (1) wildlife viewing (2) hiking/trekking

Motivations: (1) enjoy scenery, (2) have new experiences

However, Guyana is still far from having a good positioning for ecotourism markets. At present, Guyana is offering natural attractions that are high priced and do not compare favourably with other “natural attraction” competitor markets in Asia, the Pacific, and Central America, and even competitors in the Caribbean (Dominican Republic, Dominica, Guadeloupe, Suriname, Trinidad and Tobago, USVI-St. John) in terms of service and cost. To truly appreciate the price competitiveness gap, the average daily expenditure is USD 71 for ecotourists in Costa Rica, the leading and most mature ecotourism destination in the region, while the average in-country ecotourism daily expenditure in Guyana is USD 175⁶³. In order to be competitive in such a demanding segment, the offer can only be expensive if the attraction is unusual and the surrounding travel experience is superior to outstanding. For making the travel experience superior, the quality of service at all levels in the tourism value chain must be consistently above average. As traveller’s experience is far from this level, Guyana’s offer and infrastructure need to evolve significantly to be competitive for the international ecotourist.

In line with this assessment, the international ecotourist does not seem to be a relevant market segment nowadays for Guyana. According to the Caribbean Tourism Organization (2010), the majority of the international arrivals are from Visiting Friends and Family segment: they stayed in private houses (85%) and stated on their immigration forms that their purpose of visit is holiday or leisure (64%). The average length of stay is 19 days.

Current foreign visitors seem to be already related to Guyana. Because the majority of visitors stay in private homes and the average length of stay is so long, it is likely that about 70% or more of the visitors are either Diaspora Guyanese⁶⁴ or their children who have been born abroad. Guyana has an emigrant stock of approximately 430,000 (2011), which is almost 60% of the total population⁶⁵. The peak season for visits is during summer months, when it would

⁶² Ecotourism Statistical Fact Sheet, The International Ecotourism Society (TIES) 2000.

⁶³ Wenner, Mark; Johnny, Teneisha; Tourism and Ecotourism Development in Guyana: Issues and Challenges and the Critical Path Forward; Inter-American development Bank; December 2015, p. 24

⁶⁴ expatriate Guyanese who hold foreign passports/ permanent residency cards

⁶⁵ Wenner, Mark; Johnny, Teneisha; Tourism and Ecotourism Development in Guyana: Issues and Challenges and the Critical Path Forward; Inter-American development Bank; December 2015, p. 14

be most convenient for families with school-age children to travel to visit relatives. Most of these emigrants live in Canada, United States, and the United Kingdom.

Diaspora visitors do not consume much but are in large numbers. The expatriate visitor returns to Guyana to visit relatives and friends and/or attend important social functions such as weddings, funerals, and reunions. The expatriate generally stays in the home of relatives or—if traveling in a large group—may stay in an urban lodge or short-stay apartment. Accordingly, expatriate Guyanese visitors are assumed to make less expenditures on a per capita basis than the business or vacation traveller, because a large part of food and beverage consumption occurs in homes of relatives or friends. However, because there are many more Diaspora visitors, in the absolute, they generate a large share of expenditures.

The domestic segment, however, is even more important: 58% of total spending in the segment is domestic, vis-à-vis 42% of foreign visitor spending.⁶⁶ It is important to notice that domestic tourists could be a less demanding segment to be cultivated, allowing service providers to improve capacity and quality of service with less discriminating and more tolerant customers.

Business travel is expected to grow faster over the next decade, even though it is still a relatively small segment (12% of total spending is business travel vs. 88% of leisure spending); this is partially because of the advent of the oil and gas industry. A critical objective for this segment would be stimulating those business travellers to stay on, to add excursions or to spend extra time in Guyana for leisure purposes.

In synthesis, Guyana should focus in those three “low-hanging fruit” segments, diaspora, domestic and business tourists, instead of focusing on the relatively small and highly demanding international ecotourist, which would require significant investments and upgrades in service standards. The attractions would still be the same, since Guyana has comparative advantages in nature. The offer, however, should be customized for each segment:

- **Diaspora tourists** stay many days in Guyana, but the majority of time is spent within the homes of relatives and friends. They should be encouraged to leverage their travel for visiting the Guyana's key touristic attractions. When going back to North America and Europe, this segment will be key for diffusing the natural beauty of the country, stimulating the travel of foreign friends and colleagues;
- **Domestic tourists** should be targeted in the local media, which should build the desire to leave the coast and penetrate into the hinterlands. GTA should work with the local tourism agencies to build excursions to main touristic attractions, as well as accessible “weekend adventures”, which could include rafting, trekking, fishing and mountain biking, among others;
- **Business tourists** should be stimulated to extend their stay in Guyana. Guyana Tourism Authority should work with key business hotels to build all-inclusive tourism packages with different lengths, customised to clients with varied time availabilities.

⁶⁶Travel & Tourism – Economic Impact 2017 – Guiana, World Travel & Tourism Council

Availability of information and convenience (for example, hotel pickup, including costs in the hotel bill, trained guides) should be important decision factors for this segment.

A.2.3.1.3. Barriers and challenges for sustainable development

Currently, tourism product offerings are limited: accommodation capacity is relatively small; standards of service are subpar compared with international benchmarks; occupancy rates tend to be low, contributing to low profit margins or even losses; and the amount of inbound expenditures minus tourist outbound expenditures suggests a negligible net economic contribution.

The most interesting sites for a foreign visitor are outside of Georgetown, as can be seen from the list of attractions. Because of a limited road network, travel to the interior is primarily by plane or boat, which can be expensive or time consuming. With few exceptions (among them Kaieteur Falls and Iwokrama), most sites in the interior lack interpretative signage, high-quality ancillary facilities, and a density of supplementary entertainment activities. Most nature sites are in raw or primary form. In short, the site has one or two features such as a waterfall, bird life, or Indigenous community life, but boasts limited dining and entertainment offerings (such as shows, dancing, and music).

In general, accommodations are basic and service standards are rudimentary. At present, there is only a handful of three, four, and five-star establishments and they are located in the capital. The estimated number of room accommodations ranges from 720 according to the Caribbean Tourism Organization (2010), to 3,200 according to the government of Guyana (2012). The recent opening of the Marriott Georgetown in April 2015 added another 197 rooms to the stock. Moreover, in the interior, telecommunications and electrical service can be intermittent, sourced by diesel generators for a number of hours per day. For example, most of the lodges in Rupununi and the central region have limited or no cell phone service or Internet connection. Subsequently, many of the ecolodges in the interior cannot accept credit cards forcing tourists to pay in cash or to make cumbersome arrangements with agents in the capital to pay by credit card.

Guyana is still in the infancy stage of tourism development where it relies on primary factors, namely the sheer beauty of natural attractions. However, these natural attractions suffer from access difficulties, and many elements of the touristic product are not competitive in price and quality compared with other nature-tourism destination markets. Despite efforts from previous administrations for relieving the international airlift constraint and the shortage of internationally branded hotel rooms that would cater to business and international leisure visitors, much less effort and resources were devoted to vital elements needed to develop the sector such as building hospitality training programs to address human resource constraints (poorly trained workers, staff turnover); providing tax incentives comparable to other Caribbean and Central American jurisdictions (i.e. exemptions or VAT reductions for all classes of hoteliers and uniform tax incentives for hotel/ attraction development, so as to enhance cost competitiveness); upgrading cultural/scenic attractions

and associated infrastructure; beautifying areas likely to be frequented by tourists in main cities; and engaging in sustained domestic and international marketing.

A.2.3.2. BUSINESS PROCESS OUTSOURCING (BPO)

Diagnosis Summary

Potential opportunities:

- Industry is already growing due to English skills, labour costs and time zone;
- Technology parks can improve offer of modern commercial space with adequate utilities.

Main barriers and risks:

- Limited, expensive commercial offices;
- Unreliable and expensive utilities;
- Limited technical and tertiary skills;
- Lower labour and payroll taxes, and stronger fiscal incentives given by neighbours.

A.2.3.2.1. Sector structure and current dynamics

The global market of Business Process Outsourcing (BPO) is growing quickly globally. BPO industry is currently valued at an impressive USD 1 trillion, and the size of the cross-border outsourced services trade between countries was estimated at USD 88.9 billion per year in 2015. The largest share of this revenue goes to the Asia Pacific (APAC) region. This region dominated the outsourced services market share by nearly 70%, followed by Europe (10%), Canada (9%) and Latin America (9%).

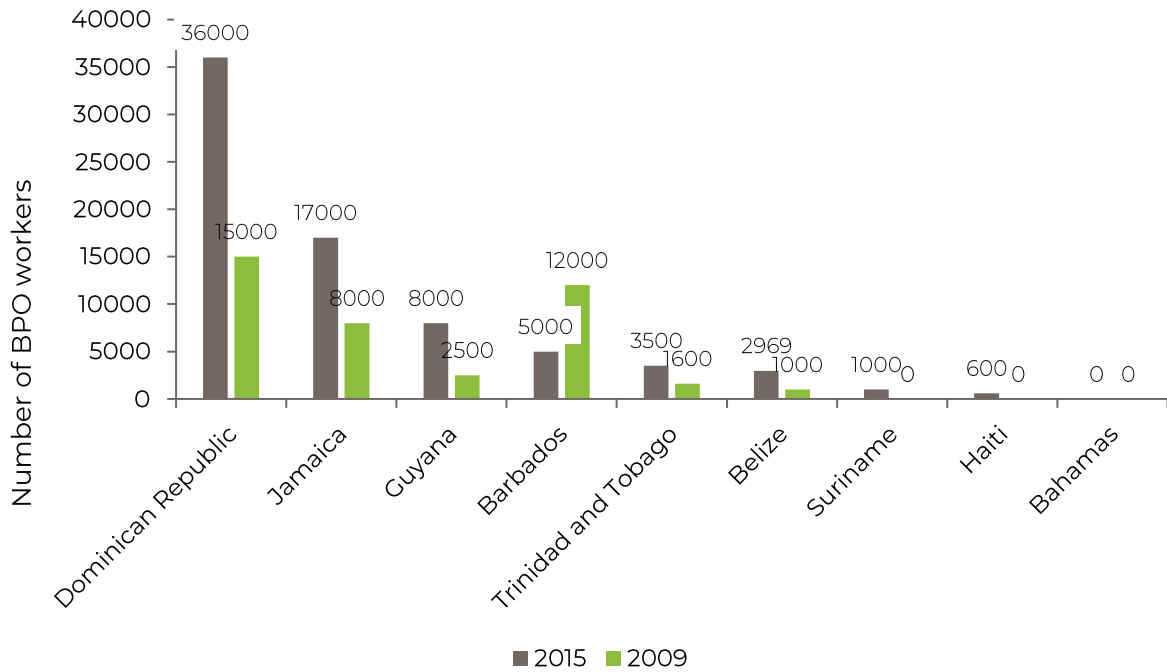
Novelty offerings are permeating the industry. Among the noticeable trends in the global BPO industry is the focus on new, innovative offerings, for example, in contract structuring, with BPO providers becoming more creative in landing mega-sized, multi-year outsourcing deals; smaller BPO engagements, with clients splitting a deal into smaller, more specialist providers, as opposed to using one large provider; more flexible location solutions, for example, agents working from home, on-site, near-shore or off-shore, now possible thanks to technology advancements.

Globally, call centres are consolidating, while new segments are rising. Customer Services Outsourcing represents the highest market penetration and its growth is projected to decline over the coming five years. Instead, new interesting business segments representing higher added-value services are taking off. Finance and Accounting, Human Resources, Legal Process, Governance, Risk and Compliance and Insurance Related Outsourcing are leading the way, while Robotic Process Automation is predicted to take over more and more of low-skill tasks. The growth of these new BPO segments is mainly driven by clients wanting to focus more on core business areas, increase operational efficiency and, at the same time, find the right balance between quality and cost.

The Caribbean region is emerging as one of the most attractive destinations for BPO. The region offers competitive cost levels, a well-educated workforce with extensive language capabilities, flexible labour regimes as well as time-zone advantages and geographical proximity to its key source market, North America. The global trend of BPO clients shifting their focus from cost savings to more high-quality services is also likely to further boost the investment opportunities in the region.

For the past 15 years, the BPO industry in the Caribbean has been developing at fast pace. This accelerating growth is expected to continue over time, with destinations like the Dominican Republic, Jamaica and Trinidad and Tobago starting to claim their rightful position in the global value chain. The Caribbean BPO industry in the nine selected countries is composed of more than 200 delivery centres and 74,000 agents (2015), showing an increase of 44,700 workers in only five years. During this period the industry has grown at an impressive Compound Annual Growth Rate (CAGR) of 17%. BPO and other professional services generated over USD 2 billion in revenue in 2014. Calculations show that companies in the region generate close to USD 25 million in revenue for every 1,000 agents. The level of profit is around 7% for call centres and close to 15% for non-voice, back-office shared services.

Figure 24: BPO Industry Workers in Selected Caribbean Countries



Source: Investing in the BPO Sector in the Caribbean, IDB, Sep 2016

The Caribbean region has attracted more than 20 new foreign-owned call centres during the 2014 - 2016 period, with a total investment value of USD 170 million, creating close to 15,000 new job opportunities. The table below presents the ten largest investments from well-known brands, in terms of capital investment.

Table 4: Ten largest Call Centre FDI projects in the Caribbean, 2013-2016

Year	Investing Company	Destination Country	Sector	Capital Investment (US\$ million)	Est number of jobs
2015	Qualfon	Guyana	Business Support Services	37.8	6,000
2016	Acquire BPO	Dominican Republic	Business Support Services	30	700
2015	DHL	Jamaica	Freight/Distribution Services	30	20
2015	Health Benefits Centre	Dominican Republic	Insurance	9.7	225
2015	Teleperformance	Guyana	Business Support Services	9.5	1,500
2014	Open Mobile	Dominican Republic	Communications Equipment	7.1	439
2015	Xerox	Jamaica	Business Support Services	6.3	1,000
2015	Xerox	Jamaica	Business Support Services	5.7	900
2015	IBEX Global Solutions	Jamaica	Business Support Services	4.6	725
2015	Cable and Wireless Worldwide	Jamaica	Wireless Communication	3.9	300

Source: FDI Markets, in investing in the BPO Sector in the Caribbean, IDB, Sept 2016

Guyana has experienced strong growth in foreign direct investment in the ICT sector over the past decade. This has primarily come from BPO and telecommunications investments, but investors have also discovered opportunities in web hosting and internet provision, data warehousing, internet service, software development and web page maintenance. As an emerging location for BPO and ICT investments, Guyana's attractive cost proposition has resulted in a number of companies locating in the country. BPO operations have been established by companies such as Qualfon Guyana Inc. and Nand Persaud International Communications have in Guyana and have resulted in BPO being the fastest growing component in the countries ICT sector.

The largest investment so far comes from Qualfon. Qualfon, a company that specialises in back-office support and has offices in the US, the Philippines, Mexico, Costa Rica and China, employs over 1,700 people in Guyana's capital, Georgetown. The firm invested in building a new 800-seat call centre in Providence, which included the construction of a call-centre, an accredited university and a medical facility; this call centre could potentially be expanded to up to 5,000 seats. According to Qualfon's management, its operating costs in Guyana are 10% lower than in Philippines and 30% lower than in Costa Rica.

A.2.3.2.2. Market opportunities for growth and increased value added

The Caribbean region is now strengthening its service portfolio by moving beyond voice-based services by expanding the offer into new BPO segments, building on a strong track record of delivering professional services for customer services to BPO clients worldwide. Call centres for customer services represent the largest BPO segment in the Caribbean, with operations in all countries and with the Dominican Republic and Jamaica taking the lead with 53,000 agents employed. Based on the region's cost-effectiveness and proficiency in English, the Caribbean has managed to attract a large number of call centre investments over the years.

Leading companies have established centres in the Caribbean, such as Xerox, Convergys, Alorica, Teleperformance, Vistaprint and Acquire. Trinidad and Tobago has attracted investments from the banking sector, with the Royal Bank of Scotland and Scotiabank operating their customer services from the island. Canadian Imperial Bank has been offshoring parts of their operations to Barbados since 2006. There is still a large potential for investments in Contact Centre Operations in the region, offering services to clients in the USA, Canada, United Kingdom and other countries in the Western Hemisphere.

English language skills lead to strong and affordable capabilities for both outbound sales and inbound customer support. It also offers opportunity for growing niche areas such as medical records transcription, legal process outsourcing, even online gaming support, and all within a highly competitive cost structure.

Box 4 – Example Of Montego Bay Free Zone (Mbfz)⁶⁷

Jamaican Free Zones were created under the *Jamaica Export Free Zones Act* and were initially used to promote textile manufacturing and related industries. Most zones are owned and operated by the government, but the Cazoumar Free Zone is privately owned. Companies outside the zones can apply for free zone status as Single Entity Free Zones. The program was expanded to include information technology, with addition clauses added to the act in 1996. Under the Free Zones Act, companies in the Free Zones are guaranteed the following incentives in perpetuity:

- a. **Tax Exemption:** There 100% tax holiday on profits in perpetuity
- b. **Customs:** Companies operating in the Zones are not subject to import licensing and customs procedures have been reduced to a minimum.
- c. **Repatriation of Profits:** There is no restriction on the repatriation of profits and Free Zone companies are permitted to operate foreign currency accounts.
- d. **Duty Free Capital Equipment:** All Free Zone companies are allowed to import a range of goods and equipment free of customs, consumption and stamp duties, including capital/consumer goods, raw material, articles imported for the construction of premises and for equipping premises (for example, office equipment).

There are five Jamaican Free Zones, from which the oldest is the Kingston Free Zone (KFZ): established in Kingston in 1976 on land adjacent to the Kingston Container Terminal, it has 180,000 m² with 72,835 m² of factory space. Montego Bay Free Zone (MBFZ) in Montego Bay was established in 1985 on a 380,000 m² site southwest of the city. It has 45,347 m² of factory/office space, but an additional 9,600 m² of space were added specifically for information technology. The space is currently divided in a ratio of 56% and 44% between ICT activities and warehousing/ manufacturing, respectively. The MBFZ provides employment for over 7,000 persons, 95% of whom are employed in the ICT sector.

Facilities can be customised to clients' needs. Buildings are available in flexible units, which may be rented as multiple, open units. There are two canteens, modern telephone, data and broadband services facilities and proper ground transportation. The Zone is committed to supply 25 KVA to each office unit and provides potable water. The buildings may be wired to suit investors' specific needs and the Jamaica Public Service Company supplies electricity service and transformers. MBFZ has a Client Relations Division that assists investors to establish contact with recruitment agencies and training institutions and Customs Posts, in order to facilitate the speedy movement of raw material, capital goods and finished products between the Zones and the transshipment port or airport.

Jamaica's BPO sector has experienced significant growth over the past few years, carving out niches in healthcare, telecoms, retail, finance and accounting, and tech support. Jamaica is hoping to evolve beyond its core, voice focus into higher-level knowledge process outsourcing (KPO). With more than 25,000 employees, the BPO industry is currently the

⁶⁷ Montego Bay Free Zone website (<http://www.mbfz-jamaica.com/>)

largest employer on the island and contributes USD 400 million annually to the local economy.

After a significant success, there were adjustments in the framework. Export Free Zone Act (Free Zone Act) was repealed on August 1, 2016 with the passing of the Special Economic Zone (SEZ) Act. The main difference between the regimes are the establishment of the SEZ Authority as a stand-alone autonomous regulator – funded by annual fees payable by the companies – and the reintroduction of the Corporate Income Tax (CIT) of up to 12.5%, which can be reduced to 7.5% based on tax credits (under regular regime CIT is up to 25%, reducible to 17.5% on tax credits). Companies which were operating under the Free Zone regime may continue to accrue benefits, but must transition to the new SEZ regime by the end of 2019.

Guyana possesses a number of advantages that make it an ideal location for BPO services:

- **Low Labour Costs:** Investment decisions by offshore services companies are often highly influenced by the cost-saving impact, as BPO is a cost-sensitive business with increasing pressure on margins. Being a labour-intensive industry, the cost of labour is therefore crucial to any company in the assessment of new, potential investment opportunities. The Caribbean offers a significant wage differential compared to the USA, the region's key source market, as labour costs are between 88% (Haiti) and 55% (The Bahamas) lower than in the USA (USD 2,700 average monthly salary). Guyana is one of the lowest cost locations in Latin America for ICT and BPO. The annual salary of a customer service representative is USD 3,600 while the average annual salary of a software developer is almost USD 18,000.
- **Solid Secondary Education:** The Caribbean, with its young, well-educated, trainable and multilingual population is well positioned to step up to the highly set requirements of BPO operators when in search of proficiency and talent. The educational system is well developed with many Caribbean nations ranking above Latin American destinations. Youth literacy rate exceeds 95% and the average gross rate of students enrolled in secondary education is around 85%. With gross enrolment rates of 101% for secondary education respectively, there is sufficient talent to support new investments in the sector in Guyana, especially on call centres.
- **English Speaking Capabilities:** Guyana has an English-speaking workforce of over 300,000, with a neutral accent to cater to other English-speaking markets. About 70% of Guyanese pass the Versant English language proficiency test, compared to only 25% of bilinguals who pass the test in Latin American countries. As an English-speaking country, there are few language barriers for providing voice or data services to customers in the U.S. and Canadian markets.
- **Connectivity and Cultural Affinity:** Geographical proximity, connectivity and cultural affinity are also important factors to take into consideration. One of the main competitive aspects of the Caribbean as a BPO destination is the physical closeness to North America, with Guyana sharing the same time-zone as New York. This makes it so much simpler to manage daily communications and day-to-day operations, as opposed to working with more distant BPO destinations in the Asia-Pacific or African

countries (depending on source market). Additionally, same language, cable channels and music bring cultural affinity, facilitating the work of call centre representatives.

In addition to those advantages, Guyana offers a range of incentives to investors in the ICT and BPO sectors,⁶⁸ including:

- Exemption from Customs Duty on a wide range of ICT equipment including computers and their hardware accessories, integrated circuits, micro assemblies and apparatus;
- Zero rate of Value-Added-Tax on Computers and hardware accessories, routers, switches and hubs for networking computers, toner cartridges and ink cartridges for computer printers;
- Tax holidays;
- Exemption from duties and taxes for items covered under an Investment Agreement;
- Unlimited carry over of losses from previous years;
- Double taxation treaties with the UK, Canada, Kuwait and CARICOM countries;
- Zero rate of Value Added Tax on exports.

A.2.3.2.3. Barriers and challenges for sustainable development

Guyana's investment climate remains hampered by poor telecommunications infrastructure, slow and costly internet connectivity, and a single international voice and data gateway. Limited fibre optic capacity and sub-standard telecommunications infrastructure make the cost of bandwidth and other telecommunications services among the most expensive in the world, impairing Guyana's ability to develop its business process outsourcing enterprises. The high cost of bandwidth and electricity impacts initial competitiveness when dealing with fierce competition from rivals in the Philippines and India, where these costs are relatively low. Call traffic management, poor internet connection, unclear phone lines, power shutdowns etc. may result in disrupting the various processes. BPO companies usually work in 24/7 schedules and are expected to be available at all times. Such disruptions can cost the companies a lot and can be very challenging to the industry. Throughout the Caribbean region, countries have invested in modern telecoms infrastructure with high redundancy, supporting all the requirements for global connectivity. Most Caribbean countries have at least two submarine cable systems connecting their jurisdiction

Commercial real estate is relatively scarce and expensive in Guyana. Real estate is an important cost driver for any offshore centre and cost of commercial property in the Caribbean can be very competitive, although limited. With an average rental rate from USD 2.80 in Haiti, compared to the US, companies can save up to 92%. A company can benefit

⁶⁸ ICT AND BPO – Opportunities in Guyana, The Guyana Office for Investment

from Class A office space rental rates per square meter/ month as low as USD 11.20 in Suriname and USD 11.70 in Jamaica⁶⁹. In contrast, office rental space has limited availability in Georgetown area and costs are higher, ranging USD 20 - 30 per square meter.

In addition, countries such as the Dominican Republic and Jamaica offer additional advantages:

- Free zones, with exemption of Corporate Income Tax (CIT), of import taxes on equipment and raw materials and of other taxes (for example, municipal, consular). Jamaica is gradually reintroducing CIT, although in a much lower level than the general tax regime (7.5 – 12% vs. 17.5 – 25%);
- Technological parks installed into the free zones, with modern installations for rental, with adequate telecom/ energy/ sanitation and services such as recruitment and customs support;
- Ample training and recruitment programs for industry agents.

Guyana offers tax advantages, but they are not sufficiently competitive.⁷⁰ Guyana does offer a long tax holiday (BPO companies enjoy a full exemption from corporate taxes for a 10-year period) but, after it is finished, the CIT returns to usual corporate levels (27.5%). There is a significant difference in labour taxes as well. While social security taxes are comparable, payroll taxes may vary a lot. While pay-as-you-earn (PAYE) tax in Guyana can vary from 28% (salaries below GYD 180,000/month) to 40%, in Costa Rica the range goes from 0 to 15% and the Dominican Republic has a unique regime: employers must simply share 10% of their net profits with their employees, capped at maximum of 60 days' salary (which means a range from 0 -16% of employee's salary, but variable according to company's profits). Jamaica offers the lowest social costs at 2.5% and in Suriname the responsibility falls on the employee.

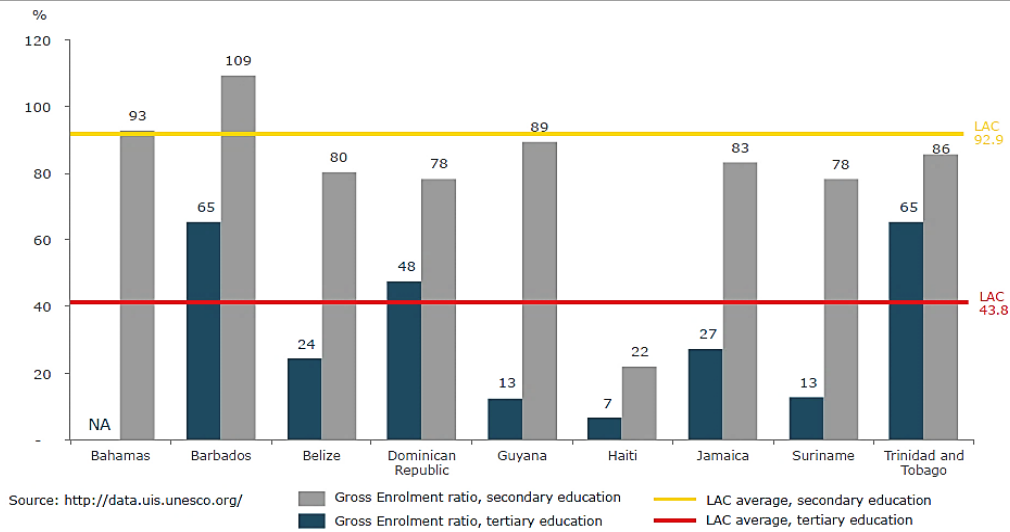
There are also restrictions on high-skilled labour supply. Regarding the educational system, while gross enrolment rates are high for secondary education (101%), they are relatively low for tertiary education (12.9%) (Figure 25). This, alongside the well-known Guyana "brain drain" problem, leads to shortage of high-skilled professionals, providing restrictions for a more sophisticated offer of BPO services.

Figure 25: Gross Enrolment Rate by Education Level (2015)

⁶⁹ Investing in the BPO Sector in the Caribbean, IDB, Sep 2016, p14

⁷⁰ <http://taxsummaries.pwc.com/ID/Guyana-Corporate-Other-taxes#>

Gross Enrollment rate by education level; 2015



Source: Bank of Guyana, in *Investing in the BPO Sector in the Caribbean*, IDB, Sep 2016

Cyber security and secure data centres are important concerns in the sector, but the Caribbean region is working towards developing harmonised cyber security legislation and the supporting regulations.

A.2.4. Business Environment

Guyana consistently ranks below the regional average in ease of doing business, governance and competitiveness assessments, which all have an important impact on the overall business environment. Across the five aggregate scores presented in Table 5, Guyana scores between 50% and 60% in four and below 40% in one, consistently behind regional averages by a range of 1%-6%. Guyana performs comparatively well in the Index of Economic Freedom, which measures the degree to which the right for every human to control their own labour and property is respected and upheld, and the Legatum Prosperity Index, which measures to what extent the conditions required for prosperity are met. An aggregate score of 56/100 in the World Bank Ease of Doing Business Index places Guyana 126th out of 180 countries, or in the 66th percentile.⁷¹ Guyana's performance in the World Economic Forum Global Competitiveness Index is considerably worse, placing 121st out of 140 or in the 86th percentile.

In almost all cases, Guyana is performing better over time and some common strengths are emerging. In Ease of Doing Business, Guyana gained 11 positions, from 137th to 126th between 2016 and 2018. The trend is explained by key improvements in getting credit, registering property and enforcing contracts, indicators which have shifted from some of the most pressing barriers to doing business in Guyana to comparative strengths. Although Guyana's World Competitiveness Index has been falling since 2014, all other rankings show a consistent positive trend. Across the assessments as a whole, labor regulations and business licensing and permit processes are viewed as relative strengths.

⁷¹ The 1st percentile is the best-performing and the 100th percentile is the worst-performing.

Table 5: Guyana's Performance Across Different International Rankings*

Assessment	Aggregate score	Regional average	Rank	Latest Data	Trend	Strengths	Weaknesses
World Bank – Doing Business Index	56/100	59/100 (LA&C)	126/190	2018	Positive	Getting credit, starting a business, enforcing contracts	Dealing with construction permits, resolving insolvency
Index of Economic Freedom	58.7/100	60.1/100 (Americas)	102/170	2018	Positive	Government spending size, labour regulations	Access to finance, government integrity
Legatum Prosperity Index	57.9/100	61/100 (Americas)	74/149	2017	Positive	Social capital, governance, natural environment	Economic quality, education, health
Transparency International – Corruption Perceptions Index	38/100	44/100 (Americas)	91/180	2017	Positive	-	-
World Economic Forum - Global Competitiveness Index	3.6/7	4/7 (LA&C)	121/140	2016	Negative	Health and primary education, goods market efficiency	Market size, infrastructure, technological readiness
PROTEqIN Survey	-	-	-	2014	-	Labour regulations, business licencing and permits	Electricity, corruption, taxes
World Bank – Enterprise Surveys	-	-	-	2010	-	Business licencing, losses during exports	Poorly educated workforce, informal sector, tax rates

Note: * with the 100th percentile as the worst-performing. LA&C = Latin America and the Caribbean. Transparency International CPI is an index of 9 international rankings on corruption.

Source: World Bank; Transparency International; WEF; The Heritage Foundation; Legatum Institute; Compete Caribbean

Despite recent improvements, significant and damaging barriers to doing business remain. There is a wide range of weaknesses identified across the sources Table 5. Within Ease of Doing Business, Figure 26 demonstrates that Guyana performs worst in the reliability and cost of electricity, the ease with which businesses can trade across borders, procedures to resolve insolvency and accessing construction permits. In 2017, 30% of electricity was lost through transmission and distribution and households and businesses experienced an average of 133 hours of blackouts. The World Economic Forum’s most recent Executive Opinion Survey identified the most problematic factors for doing business as corruption, tax rates, inefficient government bureaucracy, inadequate infrastructure, crime and theft. The PROTEqIN firm-level survey, funded by Compete Caribbean, identified electricity, telecommunications, and tax rates, with more than half of all firms reporting these issues as major or severe obstacles.

Figure 26: Guyana’s Ease of Doing Business Ranking



Note: 2018 data. Red indicates a rank of 125 or higher (poor performance), yellow indicates a rank between 100 and 125 (moderate), and green indicates a rank of 100 or below (good).

Source: World Bank Ease of Doing Business Index

The remainder of this section focusses on the quality of public institutions and regulations directly affecting businesses. Elements of the business environment related to infrastructure are discussed in Annex A(5)⁷² while the cost and reliability of electricity and wider energy are discussed in Annex A(4)⁷³.

⁷² Annex A(5): Resilient Infrastructure and Spatial Development.

⁷³ Annex A(4): Transition to Renewable and Clean Energy.

A.2.4.1. INSTITUTIONAL QUALITY AND PUBLIC SECTOR SERVICES

A.2.4.1.1. Corruption and transparency

Guyana is a signatory to key international anti-bribery and corruption conventions. Guyana ratified the Inter-American Convention against Corruption in 2000, the United Nations Convention Against Corruption (UNCAC) in 2008, and bribery is recognised as a criminal offence under Guyanese law. Both conventions encourage signatories to develop and maintain effective coordinated anti-corruption policies and UNCAC specifically refers to the establishment of an independent body to promote effective anti-corruption practices. However, Guyana is neither a member of the OECD nor a signatory to OECD Anti-Bribery Convention.

These conventions are translating to domestic legislative action and improving international perceptions. In the latest Corruption Perceptions Index (CPI), Guyana's rank improved 17 positions to 91 out of 180 countries. A key initiative behind the country's recent progress is the ascension of the State Assets Recovery Act and establishment of the State Assets Recovery Agency (SARA) in 2017. The SARA has a mandate to identify, trace and eliminate any form of corruption in relation to state-owned property and assets, and raise awareness of the dangers and costs of corruption and bribery. Through this role, it aims to hold public officials accountable and protect government resources.

A Public Procurement Commission (PPC) has been established to tackle corruption in public procurement though it suffers from low capacity. The Procurement Act of 2003 provides for the establishment of an oversight body whose aim is to ensure transparency and accountability throughout the government procurement process. 13 years later, the government appointed five members to the PPC. Widespread concerns remain about corruption in public procurement, particularly with respect to collusion and non-transparency, and the PPC can be slow to react due to a shortage of staff and outdated processes. The Auditor General's annual report noted continuous disregard for the procedures, rules, and the laws that govern public procurement systems. The Criminal Law Act classifies both corruption and bribery as illegal, and offences carry a penalty of three to seven years imprisonment yet reports of high bribes to secure public contracts continue.

Though corruption and bribery remain a serious concern and have damaging impacts on businesses. The World Economic Forum's Global Competitiveness Report 2015-2016 identified corruption as the second most significant obstacle to doing business in Guyana. Corruption discourages foreign direct investment, as investors cannot be assured of fair competition or that their rights will be upheld. Furthermore, high corruption and low accountability support the maintenance of sometimes lucrative 'red tape', raising costs for entrepreneurs and undermining economic development.

A.2.4.1.2. Dispute resolution

The judicial system remains a key bottleneck for business operations. Guyana's legal system follows the English Common Law system, but traces of the Roman-Dutch legal system remain in certain areas, such as land tenure. Criminal and civil matters, including property rights issues, are heard by Guyana's Supreme Court of Judicature. The low quality of its judicial processes, including outdated paper-based record keeping, is a barrier for settling investment or contractual disputes. In 2006, the government established a Commercial Court to overcome this barrier and attract foreign investment though problems persist.

In particular, judicial processes are slow and public institutions face little incentive to improve them. In the 2017 Ease of Doing Business rankings, enforcing a contract was estimated to take 581 days. The majority of this time is attributed to the enforcement of the judgement, which can take as long as 320 days. The critical issue is, however, the low perceived quality of judicial processes. Set time standards are not respected and extensions are common. Judicial processes are not subject to performance measurement efforts. Proceedings are not digitised or automated, impacting both efficiency and accountability. To improve the functioning of the judicial system, the government adopted a new code of civil procedure regulating time standards for key court events. In addition, the advent of oil discovery has prompted interest in the development of an arbitration service industry, indicating an important step towards international best practices.

Insolvency proceedings are costly, time consuming and often ineffective. In 1998, the Guyana Insolvency Act established a clear framework for insolvency proceedings. In 2017, an insolvency proceeding took an average of 3 years, costed 28.5% of the debtor estate and resulted in a recovery rate of just 18.4%. This placed Guyana 162 out of 190 countries for the efficiency of its insolvency proceedings in the 2018 Ease of Doing Business rankings. A key barrier to rapid and effective procedures is the lack of reliable information recorded when new businesses are established, which makes accurately identifying liabilities a challenge.

A.2.4.1.3. Property rights

Land/building

Efforts to modernise and streamline the land administration system have made good progress though the market for lots remains heavily regulated. Guyana has a dual registry system of property rights with distinct requirements, processes, and enforcement mechanisms. The two types of registry systems are deeds (Deeds Registry) and title (Land Registry). The registries operate in separate jurisdictions, which in theory help to avoid the problem of double entry and dual registration. However, Guyana's property rights system can be overly bureaucratic and complex, with regulations that are overlapping, competing, and not transparent. In addition, residential land lots are allocated to applicants via a lottery system and based on a fixed means-tested pricing schedule. This has some clear social and development benefits in terms of protecting low-income citizens. However, it also affects the efficiency of all property-based

markets, such as housing, land and commercial property. To offer a more transparent and effective land administration system, the government has developed web-based land administration portals, improved registration infrastructure and assistance services. However, businesses still report that it can be difficult and slow to work with the Lands Registry.

Intellectual property

Guyana lacks a comprehensive and updated intellectual property rights framework. Upon independence in 1966, Guyana adopted British law on intellectual property rights (IPR). Numerous attempts to draft a comprehensive update to the 1956 Copyright Act and 1973 Trademark, and Patents and Design Acts have been unsuccessful. Several laws have made piecemeal amendments to offer additional protection to local companies such as the 2005 Geographic Indication Act and the 2006 Competition and Fair Trading Act. No modern legislation exists to protect the intellectual property rights of foreign-registered investors.

Intellectual property registration can be time consuming and there is a lack of effective enforcement mechanisms. Registering a patent or trademark can take six months or longer, but even with a completed registration, there are no direct enforcement mechanisms to protect intellectual property rights. Patent and trademark infringement continue to be common. Piracy is a key issue across television, music, videos, software and books. In 2001, the then-Ministry of Foreign Trade and International Cooperation and the Ministry of Legal Affairs drafted Trade Related Intellectual Property Rights (TRIPS) legislation, but efforts to move the draft forward have been unsuccessful.

A.2.4.2. BUSINESS REGULATION AND PRIVATE SECTOR SERVICES

A.2.4.2.1. Taxes

Effective corporate tax rates are relatively low for the region, in part because a variety of tax holidays are available. Statutory corporate income tax is 45%, 40% and 27.5% for telephone, commercial and non-commercial companies respectively. The total tax and contribution rate for medium-sized business in Guyana in 2017 was 32% of commercial profits,⁷⁴ compared to 46% in Latin America and the Caribbean. Tax holidays of 5-10 years are offered to new enterprises either established in priority regions or operating in priority sectors. However, businesses can find it challenging to adjust at the end of tax holidays due to the large shift in marginal tax rates.

Guyana's tax system imposes a high administrative burden on businesses. Despite relatively low rates, administrative costs are high with an average of 35 payments per year, compared to 28 across the region. Businesses struggle to fully understand their tax obligations, efforts to digitise

⁷⁴ Commercial profit differs from conventional profit before tax because when computing commercial profit, all taxes are treated as non-deductible. Commercial profit is therefore larger than profit before tax and presents a clearer picture of the actual profit of a business before any taxes or contributions are paid.

application and filing systems have not been successfully implemented, and there is a lack of effective front-line support.

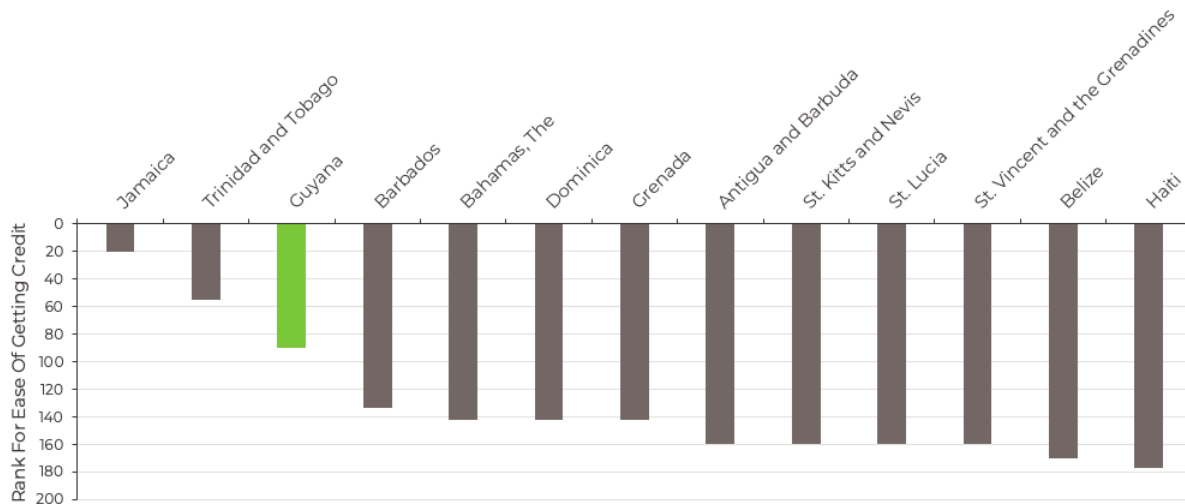
Import tariffs are largely set by CARICOM. CARICOM's Common External Tariff (CET) ranges from 5% to 20%, depending on the good or service, except for agricultural products which are subject to a tariff rate of 40%.

Customs duty exemptions are used to promote investment but applications are often rejected. The Ministry of Finance and the GRA can award exemptions and waivers from customs duty, excise tax, and value added tax on plant, equipment, machinery, and spare parts. However, many applications for customs duty exemptions are rejected by the Guyana Revenue Authority (GRA) as the purchased goods are not deemed eligible. This suggests there is either a misunderstanding of the legislation or a misapplication of processes and that they are not working effectively as investment incentives.

A.2.4.2.2. Access to credit

Relatively few firms in Guyana report access to credit as a limiting factor to doing business (Figure 27). According to a 2013 firm-level survey funded by Compete Caribbean, only 19% of firms in Guyana indicated that access to finance is an obstacle to doing business, compared to a world average of 40% of firms. Stakeholder consultation has indicated that most large-scale firms operating locally rely on government facilities to raise finance rather than private capital markets. This might somewhat alleviate the dependency of businesses on private sector creditors.

Figure 27: Ranking of Selected Caribbean Countries in Ease of Accessing Credit



Note: The ranking is based on four sets of measurable indicators: strength of legal rights, depth of credit information, public registry coverage and private bureau coverage.
 Source: WBG, Ease of Doing Business Rank, 2017

To some extent, private sector borrowing is constrained by the high cost of capital and uncertainty related to a weak legal system. Interest rates on capital loans are around 10% and

banks have difficulty in finding suitable local applicants. This is illustrated by the fact that Guyana has a high share of non-performing loans (12.2%). Improving due diligence processes and credit rating systems can help reduce the risks private creditors face and bring down the effective cost of lending, allowing creditors to charge lower interest rates stimulating more borrowing activity. In addition to this, structural barriers, such as the lack of availability of registries of movable property, legal frameworks regulating the use of financial instruments, and limited property rights for miners and farmers, impose restrictions on lending.

New businesses find it difficult to borrow due to the strict requirements on the need for collateral. At the end of the first quarter of 2013, 20 borrowers accounted for 15.9% of the total loan portfolio of the banking sector. Commercial banks require up to 150% collateral and have difficult loan application processes. The regulatory system is biased towards the exclusive use of real estate as collateral, and the banking system offers only a limited supply of financial products such as leasing, factoring and the use of movable property as collateral.

Trading volume on the Guyana Stock Exchange is very low due to the limited number of listed companies and shares offered. While developing a deep domestic stock market is not a priority in the short to medium term, it is another vehicle for finance which can help Guyanese businesses secure finance on the most attractive terms in the long term.

A.2.4.2.3. Labour market regulation

From a regulatory perspective, Guyana's labour market performs relatively well. In the Index of Economic Freedom and the PROTEqIN Survey, Guyana's labour regulation is cited as a relative strength. Guyana presents some features typical of more advanced economies, for example, it does not impose a fixed term on contracts, it restricts night work, it remunerates over-time work at a higher rate and mandates paid maternity leave for women. Guyana has also ratified a high proportion of ILO conventions. Examining structural characteristics, the minimum wage is not prohibitively high such that it prevents firms from hiring additional workers, there are no overtly discriminatory policies that inhibit the participation of women or other people, and there are adequate protections in place to ensure safe working conditions.

Most forms of employment discrimination are prohibited, but legislation is not effectively enforced. The law prohibits any form of employment discrimination based on sex, race, disability, language, social status, and ethnical background. The law does not, however, prohibit discrimination based on gender identity, and existing laws are not reliably enforced. Sex, sexual orientation and gender identity have been grounds for discrimination in the past, and workplace access remains limited for special-needs workers. It is possible that due to social norms and discrimination, the labour force participation rate for women is lower (female economic participation is low with only 44% of working age females engaged in the labor force relative to 79% of males). Measures to challenge social norms and to ensure that women are not discriminated against could help improve this statistic.

Unemployment has remained relatively static at 12% over the last decade and has clear skills-related and geographic dimensions. Guyana has a shortage of skilled engineers, doctors, and

other technical professionals. Labour market regulation cannot do much to fix a systematic skills mismatch apart from providing incentives for educated Guyanese with high-skills to return to the country. Another aspect of unemployment is poverty. Living in poverty can make it extremely challenging to find a job leading to long term unemployment. This is particularly the case for rural areas, especially in the interior.

In addition, Guyana has a relatively large and persistent informal sector which leads to an increased risk of poor working conditions and lost tax revenue. According to estimates, the size of Guyana's informal sector relative to GDP is 29 to 33%. An informal economy first emerged due to controls on foreign exchange and a poorly implemented tax system. A key feature of the illegal economy was foreign currency trading, spurred by government restrictions on legal access to foreign exchange before the liberalisation of 1989. This informal sector grew in size, became embedded in the economy and persisted even after liberalisation. Some firms chose to join the informal economy to avoid tax and lengthy processes for registration. Experts believe that simplifying the procedures for registering small firms would help incorporate microenterprises into the rest of the economy and speed up their rate of creation. There is also a case for improving the capacity of local tax authorities to ensure that it is easy for businesses to pay taxes and ask for rebates when necessary.

A.2.4.3. CONCLUSION

Despite a consistent upward trend in business environment rankings, Guyana lags behind regional comparators and businesses continue to face significant constraints. Across several of the most well-known assessments, including the World Bank Ease of Doing Business Index and the World Economic Forum Global Competitiveness Index, Guyana scores between 50% and 60%, typically 5% behind Latin America and the Caribbean. Recent progress has been attributed to improvements in accessing credit, registering property and enforcing contracts. However, common barriers such as the cost and reliability of electricity, corruption, construction, the judicial system and corporate taxes raise the cost and complexity of running a business.

Perceptions of institutional quality are low, with widespread corruption, key bottlenecks in the judiciary and an outdated property rights framework. Despite some legislative progress in promoting anti-corruption and transparency, the Government of Guyana lacks a system or institution to ensure policies are followed and agencies work effectively. The judicial system relies on inaccurate and cumbersome processes and is not held accountable for the quality of service it provides. The property rights system has historically struggled to meet demand and lacks cross-sectoral coordination affecting the efficiency of all property-based markets.

Competitive tax rates, public lending programs and non-distortive labor market regulation support business operations though public administration could be improved. Due to the availability of tax holidays, effective tax rates are generally low for the region however, a high number of payments and lack of front-line support drive high administrative costs. While

businesses do not report access to credit as a key constraint, financial markets are relatively underdeveloped, especially for small to medium enterprises. Labor market regulation is simple and efficient though its impact is limited by Guyana's large informal sector.