

United Nations Economic Commission for Latin America and the Caribbean

Policy Brief
LC/CAR/2019/24
23 December 2019

Policy actions to facilitate upgrading of the agricultural sector in Trinidad and Tobago

Introduction

For many countries, the acceleration of integration into the global economy and multilateral trading system provides an opportunity to access a wider range of goods and services as well as export markets, increasing their economic incomes, and improving the welfare of the citizenry. In particular, preferential trade agreements tend to increase export market access opportunities for the agro-industrial products of developing countries.

While increased market access offers many opportunities for enhancing the economic growth of exporting countries, developing countries are often unable to seize these opportunities due to supply-side constraints and other challenges. Among these are bottlenecks in production and distribution networks, intense competition from other global exporters, quality standards, Sanitary and Phyto-Sanitary (SPS) requirements and other non-tariff measures (NTMs) erected in major export markets. Expansion in global production and trade has increasingly been fueled by global value chains (GVCs), thereby fragmenting the production process and offering up opportunities for participation in segments. If the intended benefits of the liberalization of international trade in agricultural products are to accrue to small developing economies like Trinidad and Tobago, there is need for the adoption of a comprehensive approach to value chain management.

Key recommendations

- **Expand and modernise ports of entry and exit.**
- **Develop and maintain national road networks.**
- **Increase collaboration between the port authorities and the business community, especially the haulers who seek to retrieve cargo.**
- **Upgrade all components of the national standards infrastructure to improve capacity to lead compliance with international standards and regulations.**
- **Develop a standards architecture (registration and certification) for targeted professionals involved in international trade, directly or indirectly.**
- **Upgrade national laws to harmonise local standards with international standards and regulations.**
- **Enhance the authority of the national standards bodies to enforce compliance with legally-mandated standards and regulations.**
- **Benchmark trade facilitation agencies and institutionalise international best practices.**

The value chain in agriculture consists of the set of activities performed by various actors which bring an agricultural good from the field to final consumption, while adding value along each stage of the production process (WTO and OECD 2013). For small developing economies, the development of agro-industrial value chains presents an opportunity to capture more value added from domestically produced agricultural products, offers more sustainable employment for farmers, and creates business opportunities for small and medium enterprises (SMEs) (Giuliani et al. 2005; Kowalski et al. 2015; Pathikonda and Farole 2017).

The Government of the Republic of Trinidad and Tobago (GORTT) has articulated, in its National Development Strategy 2016-2030 and its 2018 Midyear Budget Review, the country's intention to transition towards a more diversified economy, which produces a broad spectrum of export competitive, high-value products and services. In this regard, the government has identified agriculture and agro-processing; as well as fish and fish processing among seven (7) economic areas for the establishment of new business clustering.

Accordingly, this policy brief takes a look at the structure and performance of the agriculture industry in Trinidad and Tobago; and considers policy action to facilitate upgrading of the sector where necessary to improve its competitiveness and participation in global and regional value chains.

Background

In 1985, Trinidad and Tobago's agriculture sector constituted approximately 3.02 per cent of GDP. This share gradually decreased, falling and staying below one per cent of GDP from 2003 onwards. To a large extent the structure and performance of Trinidad and Tobago's agricultural industry has been shaped by the country's colonial history. Under colonial rule, the country specialized in the production and export of sugar, cocoa, coffee, and citrus fruit to the United Kingdom (UK). Sugar, however, was the primary cash crop. During the 1880s, there were more than three hundred sugar

plantations in Trinidad. The country's agriculture model was comprised of large plantations for the cultivation of crops for export; and multiple small farms, on plots less than 5 acres, which produced agriculture output for families, and the domestic market.

Given the relatively small-scale of the enterprise, sugar export was only profitable for Trinidad and Tobago due to non-reciprocal preferences offered by the European Union (EU). However, the formation of the World Trade Organization (WTO) in 1995 ushered in the eventual end of the non-reciprocal preferential trade arrangements, of which the sugar-regime was an integral part. In addition, as the EU negotiated free trade agreements with other countries and groups of countries, the margin of preference enjoyed by African Caribbean and Pacific (ACP) exporters of agricultural commodities (e.g. rice, citrus, fruits, bananas and rum) was further eroded.

With the gradual erosion of preferences in the international trade, as well as productivity challenges domestically, the Government of Trinidad and Tobago (GORTT) took the decision to exit sugar production in 2003. This structural shift in the agricultural sector of Trinidad and Tobago was the major driver of the decline in agricultural output observed from 2003 to 2016.

It is this orderly dismantling of preferential market access arrangements (including pricing) that led to the end of plantation-type agricultural production geared towards the UK, which had traditionally dominated agricultural production in Trinidad and Tobago. The fragmented nature of the remaining agricultural production, in the absence of the requisite technological advances, has not lent itself to achieving the necessary economies of scale to be globally competitive.

Trinidad and Tobago’s Main Agriculture Exports

While, historically, Trinidad and Tobago’s (Trinidad and Tobago’s) main agricultural export was sugar, by 2015 Trinidad and Tobago’s top agro-industrial export was beverages. This was

the agriculture value chain, given that developing countries are noted to be concentrated in low-value segments of value chains (Bamber et al. 2014). However, this can be directly linked to the country’s relatively low energy and capital costs.

Moreover, it is noteworthy that Trinidad and Tobago achieved a comparative advantage in the beverages

Figure 1: Agriculture Industry Global Value Chain

Inputs	Production/ Output	Processing	Retail and Distribution
<ul style="list-style-type: none"> •Seeds •Fertilizers •Pesticides •Herbicides •Fungicides •Farm equipment •Irrigation equipment 	<ul style="list-style-type: none"> •Fruits •Vegetables •Other crops •Animals •Fish 	<ul style="list-style-type: none"> •Drying, cooling, and storage •Final food and beverage process products •Intermediate food and beverage processed products •Non-food processing •Packaging 	<ul style="list-style-type: none"> •Export •Warehouse and cold storage •Retail/ Supermarkets •Food services

Source: Authors.

followed by the export of cereals and cereal preparations, then tobacco. In fact, sugar was Trinidad and Tobago’s 8th top export in 2015. Indeed, as far back as 2000, beverages were the country’s main agro-industrial export, followed by sugar, suggesting that the country has long held a comparative advantage in this sub-sector.

Beyond a mere examination of the country’s current major exports, it is important for any efforts at diversifying the domestic agricultural sector of Trinidad and Tobago to be guided by an appreciation of its areas of comparative advantage. In this regard, ECLAC analysis suggests that Trinidad and Tobago had international comparative advantage in sugar and honey, miscellaneous food products, beverages, tobacco, crude fertilizers and manufactured fertilizers.

It is commendable that Trinidad and Tobago has comparative advantage in the processing segment of

sector because it has favourable factor conditions, favourable demand conditions, and sufficiently strong domestic competition. While the government has been willing to support the industry, the private sector achieved competitiveness in this sub-sector in the absence of substantive government intervention.

Segments in the Global Value Chain in which Trinidad and Tobago Operates

Agriculture GVCs are complex, expanding with the use of biotechnology and information systems, and are under pressure to increase output and quality. As there are multiple agricultural products, each product can fit within its own GVC, resulting in multiple GVCs for the agriculture industry (Ahmed and Hamrick 2015). For simplicity we assume there is one main agriculture value chain comprising of multiple segments. Figure 1 provides an overview of the agriculture industry value chain.

Trinidad and Tobago operates in multiple segments in the agriculture industry global value chain. As revealed in the previous section, Trinidad and Tobago has some comparative advantage within the inputs segment. The fertiliser industry is the area of input segment where Trinidad and Tobago has achieved export competitiveness. Due to the country's endowment of natural gas, it produces ammonia, and urea, macronutrients of fertilizers.

It should be noted that Trinidad and Tobago also operates in the agro-processing segment of the GVC. For example, of the total value of the agriculture exports in 2015 amounting to US \$342 million, the top four exports were non-alcoholic beverages; cereals; alcoholic beverages; and tobacco, which collectively accounted for 77 per cent of Trinidad and Tobago's total agriculture exports. This is noteworthy, since it supports the narrative above, that the country's comparative advantage does not lie in primary agricultural production.

When this, as well as the country's performance in the inputs segment, is juxtaposed against the fact that Trinidad and Tobago has relatively higher potential for intra-industry trade with the Central and South America, and the wider Caribbean, when compared with its other trading partners, avenues for export diversification within the inputs segment clearly emerge.

Main Export Markets

In 2015, the top three export markets for Trinidad and Tobago's agriculture output were the United States (US) (37.6 per cent), the Caribbean Community (CARICOM) (22.7 per cent), the EU-27 (8.3 per cent), Asia-Pacific (7.2 per cent), South America (7.0 per cent) and Canada (4.2 per cent). The United Kingdom (UK), Trinidad and Tobago's former main trading partner in sugar, accounted

for just under 3 per cent of Trinidad and Tobago's total agriculture exports¹.

In addition, while the US, CARICOM, Canada, South America and Asia Pacific markets have been increasing in importance over the period 2000-2015; the UK and EU-27 share of the country's agriculture exports have contracted significantly. If ammonia and urea (i.e. products from the inputs segment) are omitted, it can be seen that the main markets for the country's agro-processed products were CARICOM (56.1 per cent), the US (22.6 per cent), South America and the EU-27 (5.6 per cent).

The contraction of the export share to the UK and the EU-27 should not go unnoticed particularly since the UK and the EU have traditionally been major users of domestic agriculture subsidies which distort production and trade by making domestic producers artificially competitive. In fact, it is estimated that the UK farmers receive approximately £3 billion in subsidies from the Common Agricultural Policy (CAP) annually (LSE 2017). Further, the EU's General Food Law in regulation 178/02, the Feed and Food Regulation 882/04, as well as the Food Safety Modernization Act (FSMA) of the US may have raised standards to be met for market entry thereby impacting negatively on the agriculture exports of many countries, particularly those of small vulnerable economies like Trinidad and Tobago.

Moreover, in the presence of the CARIFORUM-EU Economic Partnership Agreement which came into effect in 2008, Trinidad and Tobago agricultural exports to the EU have contracted, suggesting that a combination of competitiveness and quality-related issues, rather than tariffs, may be an underlying issue here. (See Figure 2).

¹ The international trade data by partner and product is available up to 2015 in WITS at the time of writing.

Opportunities and Policy Options for Upgrading Trinidad and Tobago's Agriculture Industry

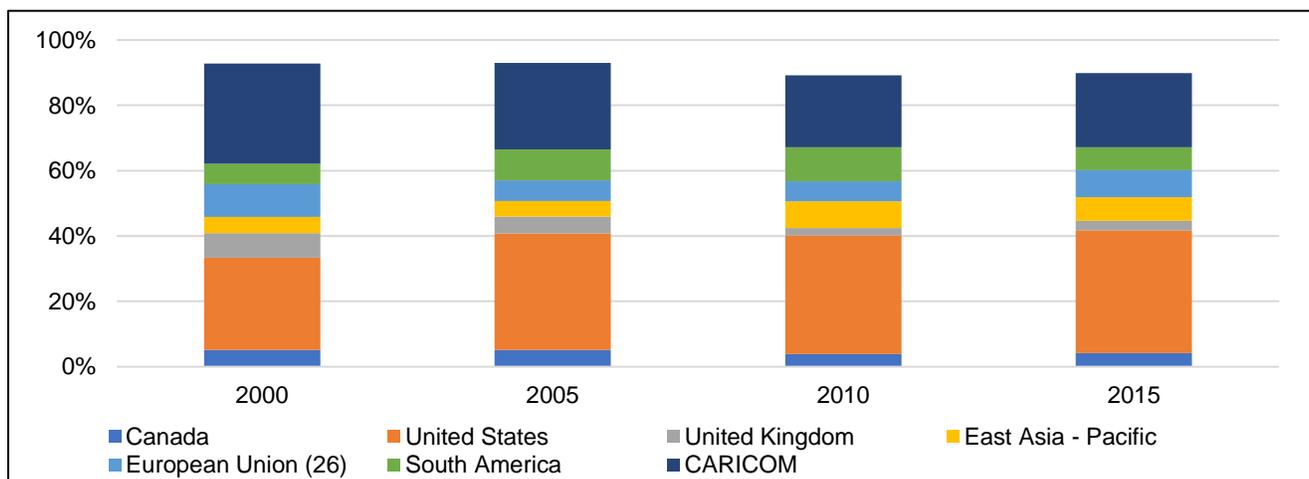
The primary non-processed products accounted for merely an estimated 6.5 per cent of Trinidad and Tobago's total agriculture exports (2015). Further the comparative advantage-based analysis conducted in the brief has not unearthed a single primary agricultural product in which the country possesses global competitiveness. The intuition is that for any programme of export diversification to be successful, and sustainable, it should of necessity be predicated on the need to be comparative

product lines, measured by e.g., increased unit values); iii) functional upgrading (this is where new functions are acquired, or even new products may be produced); and iv) inter-sectoral upgrading (this is where new productive activities are entered into by clusters of firms).

The Production Segment

Over the years, there has been significant discussion on the viability of developing and diversifying domestic primary agricultural production to boost exports and supply inputs into the local agro-processing industry. However, the reality is the country has virtually no trade competitiveness in this segment of the GVC in agriculture and this has been

Figure 2: Trinidad and Tobago agricultural industry exports to selected partners (Per cent of total exports)



Source: WITS.

advantage-based and guided by the markets which have the greatest potential for production integration as well as with which the country has a certain measure of trade complementarity. However, increasing exports at the intensive and extensive margins will require systemic upgrading.

Upgrading is the process of firms moving from low value-added segments/ activities to higher value-added activities. According to Humphrey and Schmitz (2002) upgrading is comprised of: i) process upgrading (this is where production methods improve efficiency); ii) product upgrading (this is where production is moved into more sophisticated

clearly unmasked in the results of the empirical analyses.

It is important to recall here that the only industry in which Trinidad and Tobago was able to engage in large scale production was sugar. However, even this was uncompetitive on the global market and required preferential market access arrangements to survive as long as it did. Given the fragmented nature of domestic agricultural production, due to the land availability constraint, the first best option may be moving toward more technology intensive primary production geared at safeguarding the country's non-trade concerns (trade-related policy objectives tied to

agricultural production) of food security, rural development and ensuring the viability of rural communities, in the first instance. This argument must be set against the country's TT\$1.7 billion food import bill in 2017.

Consideration can also be given, in the future, to leveraging infrastructural development such as the Toco Ferry Port and the accompanying modernized highway and arterial road network, as a platform for engaging in intra-regional exports of primary agricultural products. The requisite upgrading alluded to earlier should therefore, inter alia, address production constraints such as pests and diseases, adverse weather conditions and poor irrigation, praedial larceny, and labour shortages (Arnold Babwah & Associates 2015) that have dogged primary agricultural production.

Accordingly, the state may wish to consider working more closely with the private sector and development partners (e.g. Israel, India, IICA and IADB) to facilitate and incentivize increased innovation and the use of productivity enhancing technology in agricultural production. This would go a long way to inducing comparative advantage in agricultural production. For example, Israel has transformed its agricultural production through the pioneering and adoption of technology, which in turn has been used to redress several challenges faced by the agriculture sector of developing countries such as India (The Economic Times, 2017). Consideration should also be given to incentivizing the use of aquaponic and hydroponic systems, as well as mariculture.

Engaging countries like Israel in development cooperation initiatives to promote the use of its drip, micro-spraying and micro-sprinkling irrigation systems is key. The utilization of vertical farming to produce high-quality products sustainably provides another option worth exploring (World Government Summit, 2018). The assistance of international development partners (IDPs) may also be sought to work along with the Ministry of Agriculture, the Ministry of Education, UWI and other tertiary education providers, CARDI and the CARIRI

institute, in crafting a framework for fostering multidisciplinary R&D and innovation which seeks to create new (disease resistant and high-yielding) varieties/breeds, products and technologies which will increase productivity and output in the sector.

The private sector should be encouraged to invest in the establishment and running of this framework, possibly through public private partnerships (PPPs), particularly since this may allow for a domestic source of competitively priced inputs for agro-processing industries in the medium-term.

Given that agriculture has been highlighted in the country's National Development Strategy 2016-2030, as being central to export diversification efforts, it may be useful to rationalize the provision of subsidies, within the de minimis level, to participants in the primary production segment. Care should be taken to ensure that these measures are easily accessible to the target beneficiaries. This should extend to complementary support measures such as duty and VAT exemptions, provision of state-subsidized labour, concessional credit and trade financing, crop and livestock insurance, technical assistance, and marketing services. In addition, the Agricultural Development Bank (ADB) should collaborate with the Trinidad and Tobago Agri-Business Association (TTABA), to synchronize farmer training with financing within a program. Strengthening the domestic Sanitary and Phytosanitary infrastructure should also engage the attention of policy makers.

The Input and Processing Segments

Notwithstanding the government's identification of agriculture and fisheries as central to its economic diversification thrust, it is important for any efforts at diversifying the domestic agricultural exports of Trinidad and Tobago not to veer too far from the country's areas of comparative advantage.

As such, focus in the short to medium term should be on moving further along the value chain in the input and processing segments of the global value chain, concentrating on miscellaneous food products

(including fish and fish products), beverages, Tobacco manufactures, crude fertilizer/mineral, and manufactured fertilizers in the first instance. The aim here is to progressively produce high-value goods whose global demand is growing and, when compared to primary and intermediate products, are generally subject to lower levels of market vulnerability.

Avenues for tapping into new export markets within the wider Caribbean, Central and South America and Asia should be aggressively explored. Within recent times, achieving greater utilization of existing market access under trade arrangements, including with the US, EU-27, UK and Canada, has increasingly become a desired outcome for domestic policy makers and the private sector. This, however, would require significant investment in upgrading the supporting economic and financing infrastructure as well as fostering private sector development. Institutionalizing the provision of market intelligence to the private sector and the establishment of buyer-seller fora may be useful in this regard.

As such, appropriate measures need to be put in place to allow the EXIM Bank to provide affordable trade financing to the input and agro-processing segments to support new and existing export-centred projects in addressing acute excess demand (for foreign exchange and trade credit) where it exists.

Domestic exporters operating within the processing segment have reported some challenges with respect to the logistics in moving goods to destination markets, both with respect to ocean and air freight. The availability of logistic services is limited, particularly for shipments to Central American markets. Freight services are also costly, particularly with the small volumes of goods being exported by smaller exporters (less than a container load).

Therefore, to address these myriad structural challenges, the government (possibly in partnership with the private sector and IDPs) should modernize transportation and logistics infrastructure so as to

minimise the cost of cross-border trade by improving port infrastructure, customs documentation requirements and procedures, and by increased capacity to harmonise local standards with changing international standards and requirements. Specific policies to improve trade facilitation and market access for the input and processing segments of the domestic agricultural value chain include:

- Expanding and modernising ports of entry and exit.
 - Upgrade the cargo-handling equipment for efficient handling
 - Dredge the Port of Spain basin and upgrade berths
- Developing and maintaining national road networks.
- Increasing collaboration between the port authorities and the business community, especially the haulers who seek to retrieve cargo.
- Upgrading all components of the national standards infrastructure to improve capacity to lead compliance with international standards and regulations.
- Developing a standards architecture (registration and certification) for targeted professionals involved in international trade, directly or indirectly.
- Upgrading national laws to harmonise local standards with international standards and regulations.
- Enhancing the authority of the national standards bodies to enforce compliance with legally-mandated standards and regulations.
- Benchmarking trade facilitation agencies and institutionalise international best practices.

It is equally important for the Ministry of Trade and Industry (MTI) working with the Ministry of Agriculture and the Ministry of Finance to formulate a comparative advantage-based incentivizing of its diversification efforts through, among other things, crafting a suite of fiscal incentives (e.g. for plant restructuring and attracting FDI etc), concessionary credit, loan guarantees, export financing and insurance schemes, financing targeted to these two (2) industry segments to facilitate increased production for export.

These measures should target increasing and diversifying intra-CARICOM agricultural input, food and beverages and other value-added exports, as well as exports to Latin America and the wider Caribbean in the first instance. Fiscal and other incentives should be deployed based on empirical justification with a sunset clause for their phasing out.

While quality assurance may be a challenge for primary agriculture in Trinidad and Tobago, in the agro-processing industry, many domestic firms use sophisticated quality control methods to ensure that ingredients maintain their quality and safety through all processing stages, and that finished products are packaged, labelled and stored in accordance with peculiar market entry requirements (i.e. standards etc). However, there exists scope enhancing the capacity of an existing institution (for example the Bureau of Standards and the Chemistry Food and Drug Division of the Ministry of Health) to conduct product inspections, quality assessments, lab testing, certification and supplier audits.

Furthermore, there is also a need for increased collaboration by the Trinidad and Tobago Bureau of Standards and other agencies with international quality assurance bodies (such as the British Retail Consortium (BRC), the Dutch HACCP, the Global Food Safety Initiative (GFSI), the International Food Standard (IFS), and ISO 22000), so that domestically certified standards would be internationally recognisable and on par with the US and the EU standards. This would greatly assist agro-processors in Trinidad and Tobago increase their market penetration to the US and the EU markets.

Conclusion

The global value chain for agriculture is comprised of inputs, primary agricultural output, processing, and retail and distribution. In the inputs segment, Trinidad and Tobago's endowment of natural gas allows it to be a strong producer of ammonia, and urea, some macronutrients of fertiliser. However, apart from the ammonia and urea inputs, Trinidad and Tobago has weak participation in the agriculture inputs segment. In the primary agricultural output segment, the country has been experiencing a decline in output over the past two decades to the extent that primary agriculture now only accounts for just over 6 per cent of agriculture exports.

Trinidad and Tobago, however, has a comparative advantage in the input and processing segments. Moreover, there is room to expand productive capacity and diversify exports in the agro-processing industry to improve foreign exchange earnings.

This would undoubtedly require transforming the country's export specialization (through vertical integration) to ensure that the country increasingly produces goods in these segments that western hemispheric and other global economies are increasingly demanding. In this way, upgrading the attendant economic, financial and R&D infrastructure, as well as facilitating an entrepreneurial self-discovery process - which does not veer too far from the existing areas of comparative advantage – are crucial for inducing this structural shift.

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