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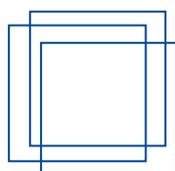
MARKET SYSTEMS  
DEVELOPMENT FOR  
DECENT WORK

# SECTOR SELECTION IN GUYANA FINDING EXPORT AND VALUE ADD OPPORTUNITIES IN THIN MARKETS

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## ACRONYMS

<b>BoS</b>	Bureau of Standards
<b>CARDI</b>	Caribbean Agricultural Research & Development Institute
<b>CARICOM</b>	Caribbean Community
<b>CCL</b>	Caribbean Containers Ltd.
<b>ECV</b>	Export Competitiveness Plans
<b>EU</b>	European Union
<b>FAO</b>	Food and Agriculture Organisation
<b>FDD</b>	Food and Drug Department
<b>GMC</b>	Guyana Marketing Corporation
<b>GoG</b>	Government of Guyana
<b>GSA</b>	Guyana School of Agriculture
<b>IDB</b>	Inter-American Development Bank
<b>IFAD</b>	International Fund for Agricultural Development
<b>ILO</b>	International Labour Organisation
<b>ITC</b>	International Trade Centre
<b>MoA</b>	Ministry of Agriculture
<b>MSEs</b>	Micro and Small Enterprises
<b>MT</b>	Metric Tons
<b>NAREI</b>	National Agriculture Research and Extension Institute
<b>NVAES</b>	National Value-Added Export Strategy
<b>RMA</b>	Rapid Market Assessment
<b>SBB</b>	Small Business Bureau



# BACKGROUND

A key outcome of Guyana's Ministry of Business' Strategic Plan 2016-2020 is to “increase value-added production and exports through the development of a National Export Strategy and an Enhanced Quality Infrastructure”. In order to achieve this goal, the Government of Guyana (GoG) has asked the International Labour Organisation (ILO) to support an analysis of its fruit and vegetable sectors to identify growth and export potential, seeking to address the underlying constraints that might hinder productivity enhancement and sector growth.

This work builds on and complements recent and on-going value chain analysis undertaken under the auspices of the Food and Agriculture Organisation (FAO) and the International Trade Centre (ITC). These include a value chain analysis of four export commodity value chains – pineapple, eddo, sweet potato and ginger<sup>1</sup> and analysis of the coconut value chain being undertaken as part of a regional effort to develop value-added products and intra-regional trade to enhance livelihoods.

These two analyses provide a good foundation for understanding areas of under-performance and the high-level drivers causing it within the value chains, with findings generalisable across the fruit and vegetable sector. They provide a particularly comprehensive picture of production-end dynamics.

This assignment thus fills a research gap by specifically focusing on the promotion and expansion of value-added products and exports to support inclusive growth in the fruit and vegetable sector.

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1. K. Craig, A Shepherd., Capacity Building in Value Chain Analysis and Development for Agricultural Exports, 2017





## OBJECTIVE

The assignment will collect and analyse information to enable policy-makers and private sector actors to:

- make an informed decision about the potential and relevance of sub-sectors and value chains, and to ascertain whether interventions to develop these sectors would be feasible;
- identify possible interventions that can help value chain actors (private and public) and MSEs (micro and small enterprises) to capitalise on the economic opportunities in the sub-sectors and value chains with strong potential for inclusive growth and systemic change.

This report presents findings in Stage I of the research assignment, recommending target value chains based on their potential for inclusive growth. Using a market system development lens, this report also defines supporting functions and rule relevant to the target value chains and identifies key constraint systems for further analysis and the development of interventions.

This will lead to a final study, delivering a detailed market assessment of the target value chains and the key supporting systems influencing their development. This will inform the National Value-Added Export Strategy (NVAES) and the Export Competiveness Plans (ECV), which are flagged for development within the Ministry of Business' Strategic Plan 2016-2020. The recommendations of the analysis will provide a basis for how Guyana can diversify its economy with inclusive value-add initiatives.

In delivery against these objectives, this assignment undertakes analysis to deliver against a specific vision, developed and validated in consultation with key stakeholders at the Ministry of Business and the ILO. This helps to guide research and ensure recommendations are targeted and actionable.

## Vision

Within its strategic plan, the Ministry of Business identified that export diversification should be bolstered such that the economy is not so dependent on volatile commodity prices. Currently, 92% of exports are commodities, minerals (gold and bauxite) and primary agriculture products (sugar and rice), and only 8% are from some form of value-added products.

In an effort to better balance the export focus, the government has indicated that future economic growth should be directed toward improving the output of value-added products in sectors with opportunity for export growth.

This new growth and focus should be inclusive and directed to “foster economic inclusion with a focus on MSEs”<sup>2</sup>.

In the context of this assignment, this means a specific focus on agro-processing and exports. This is not to underestimate or de-emphasise the challenges present at the production-end of economic growth; however, in targeting finite analytical resources, this study builds upon the strong foundations of existing work in production and market linkages to develop analysis and recommendations centering on agro-processing and exports.

Strong performance in the **export of non-traditional products and a dynamic agro-processing industry** provides a powerful platform for inclusive growth



2. From Ministry of Business' Strategic Plan 2016-2020.



# METHODOLOGY

## Research approach

The assignment will be delivered through a 4-step research design (see *Figure 1*), undertaken in two stages.

This approach is informed by theory and analytical tools drawn from both value chain development and market systems development approaches and takes as its starting point ILO guidance on value chain selection<sup>3</sup> and value chain analysis for the promotion of decent work<sup>4</sup>.

### Stage 1: Sector selection and market constraint identification

The first stage of research will focus on the identification of target value chains against three criteria:

- **Relevance:** Does an economic case exist for export-led growth and diversification in value-added products?
- **Opportunity:** Can growth lead to an increase in employment and decent work for poor men and women? Can growth be delivered in an environmentally sustainable manner?
- **Feasibility:** Is export-led pro-poor and environmentally-sustainable growth feasible/can systemic change be catalysed? Is there space for new initiatives to have impact?

Evidence will be presented in support of this identification, with findings grouped according to criteria.

3. The ILO publication, *Guidelines for Value Chain Selection: Integrating economic, environmental, social and institutional criteria* (2015). [http://www.ilo.org/empent/Projects/the-lab/WCMS\\_416390/lang--en/index.htm](http://www.ilo.org/empent/Projects/the-lab/WCMS_416390/lang--en/index.htm)

4. The ILO publication, *Value Chain Development for Decent Work, Second Edition* (2015). [http://ilo.org/empent/areas/value-chain-development-vcd/WCMS\\_434362/lang--en/index.htm](http://ilo.org/empent/areas/value-chain-development-vcd/WCMS_434362/lang--en/index.htm)

We then use a market system analytical lens to drill down through constraints to clear policy recommendations<sup>5</sup>. This will take as its starting point in step 2 the target value chains and will involve the identification of supporting functions (finance, transportation, energy etc.) and rules (taxation, standards, regulatory environment etc.) that influence the growth and development of core value chain interactions and the prioritisation of systems where key constraints exist for further analysis.

### Stage 2: Rapid market assessment (RMA) and intervention development

Constraints to inclusive growth in these supporting functions and rules will be identified and deeper analysis undertaken of both core and supporting systems address the root causes of these constraints to inform a final series of recommendations for policy and private sector interventions to promote growth in line with the vision articulated above.

## Focus of this report

This report summarises the research, analysis and findings associated with Stage 1. This is a precursor to Stage 2, which will be completed by the end of August 2017. It outlines a process of elimination to select target value chains for promotion and three supporting systems for intervention. The outcome of this report is the identification of two target value chains and three supporting systems for further analysis.

Figure 1:  
Research Design



5. The Springfield Centre (2015) The Operational Guide for the Making Markets Work for the Poor (M4P) Approach, 2nd edition funded by SDC & DFID



# SELECTION OF TARGET VALUE CHAINS

To develop clear and evidence-based recommendations for target value chains that align with the overall vision and objective of this work, we undertake a 2-step process for value chain selection. The first-step focuses on the identification of value chains with economic and commercial potential. This aligns with a key principle of market system and value chain development – that environmental and social impact are delivered at the same time as economic impact and sustained through economic growth.

## Developing a long-list of value chains

### ***Does an economic case exist for export-led growth and diversification in value-added products?***

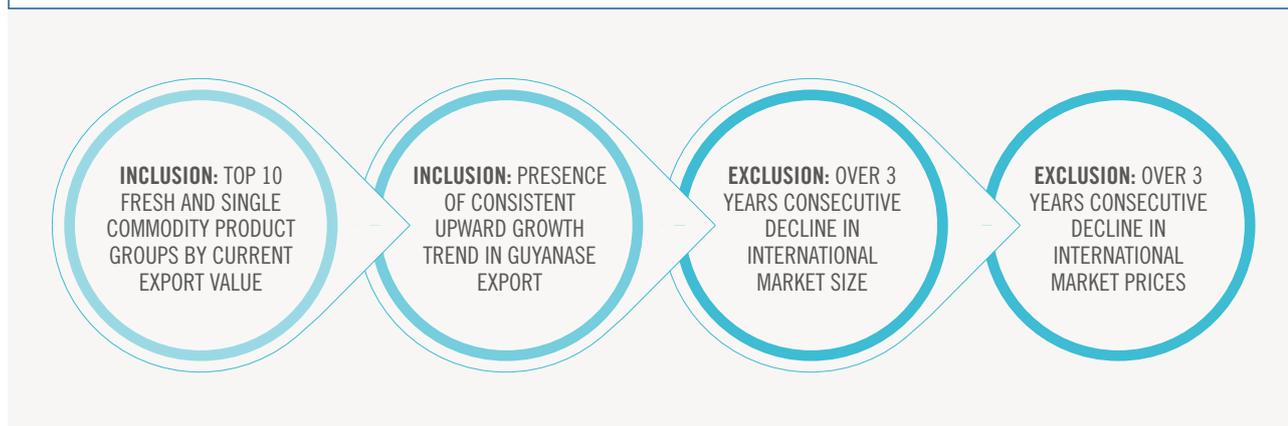
We answer this question by examining export data for Guyana and import data for key consumer markets.

Data collated in the 2016 Statistical Handbook<sup>6</sup> indicates 38 fresh and 21 processed products exported from Guyana. This diversity demonstrates a significant strength of Guyana as a centre for production; however, to achieve the vision outlined above, prioritisation and focus needs to be applied to support value-addition and expansion of exports.

This report utilises a series of inclusion and exclusion criteria aligned with the overall vision to make a recommendation for a list of value chains to sit at the heart of a future export-led and value-addition centred growth strategy. The long-listing process investigates evidence to suggest the presence of a compelling case for future growth in exports and interested private sector players.

6. Draft 2016 Agriculture Statistics Yearbook

Figure 2: Inclusion and exclusion criteria use for long-list development



*The first inclusion criterion used looks at current exports.*

We examine the percentage contribution to Guyanese exports in the fruit and vegetable sector in 2016. This is used as an indicator of existing activity and the existence of established relationships that can provide a platform for further development (i.e. it is easier to address the constraints in an existing sector than start from scratch in a nascent sector). The quantitative evidence presented here is supported by a qualitative verification identifying active Guyanese companies, either processors or exporters, working in these value chains.

Coconut and coconut products comprise a full 65%<sup>7</sup> of exports by USD value in 2016,

representing the only significant export marketed crop currently in play. The next closest are pumpkin, mango and pepper products accounting for some 4% of exports each with eddo, watermelon, pineapple and breadnut completing the top 10.

While the figures for non-coconut products are low, amounting to no more than USD500,000 in exports each, qualitative research suggests the presence of several exporters and processors working in these markets and established international buyers both regionally and further afield in the US and Canada.

Commodity	EXPORT VOLUME (METRIC TONS -MT-)				EXPORT VALUE (US)		% TOTAL VALUE
	2013	2014	2015	2016	2015	2016	2016
Coconut (dry)	10,213	11,165	8,093	6,987	3,571,466	3,028,010	30%
Heart of Palm	386	462	774	969	2,220,129	2,675,945	27%
Coconut (water)	94	92	135	159	360,700	590,536	6%
Pumpkin	146	358	190	342	250,780	446,085	4%
Mango	163	153	102	204	203,500	413,432	4%
Pepper products	71	59	77	136	188,652	398,627	4%
Eddo	89	194	218	313	246,536	317,289	3%
Watermelon	116	136	119	232	160,201	296,780	3%
Pineapple	71	112	134	120	260,326	225,885	2%
Breadnut (frozen)	7	36	33	46	144,109	196,775	2%

Table 1: Top 10 fresh and single commodity VC product groups by % contribution to total export value 2016 (USD)<sup>8</sup>

*Supplementing these data, we also consider the growth trends in Guyanese exports to build a view on export growth potential.*

7. In addition to the products presented in Table 1, total coconut products also include: Coconut (grated), Coconut Choka, Crude (coconut oil), Refined (coconut oil) and Copra.

8. GoG export data records information against a mix of fresh produce, single commodity value chain products (e.g. coconut water) and multi-commodity products (e.g. sauces, jams & jellies). For value chain selection this report focuses only on fresh produce and single commodity value chain product groups to ensure that values can be linked to a value chain for promotion. The size and growth trajectory of both sauces, jams & jellies and preserved fruits and nuts make them interesting propositions for export led growth of value added products. These will be considered in greater detail during the RMA when looking at processed product classes.

Almost all but two of these value chains show sustained growth trends over the past four years, with mango and pepper showing striking growth in the last year alone.

Dry coconut has seen a sustained decrease in export value over the past four years, though this is likely accounted for by a shift to alternative coconut products, which have seen sustained increases during the same period. Pineapple has also seen a decrease in the last year, though robust growth in the past four years suggests that more time should be given before significant concern is raised.

Table 2: % growth in export volume and value 2013-2015 and 2015-2016 for top 10 products by export size

Commodity	% INCREASED VOLUME		% INCREASED VALUE	
	2013-2015	2015-2016	2013-2015	2015-2016
Coconut (dry)	-32%	-15%		
Heart of Palm	151%	21%		
Pumpkin	134%	78%		
Mango	25%	103%		
Pepper products	92%	111%		
Eddo	250%	29%		
Watermelon	99%	85%		
Pineapple	70%	-13%		
Breadnut (frozen)	594%	37%		

Both indicators suggest that the eight identified value chains present good prospects for economic growth driven by increased exports, justifying their inclusion in the long-list.

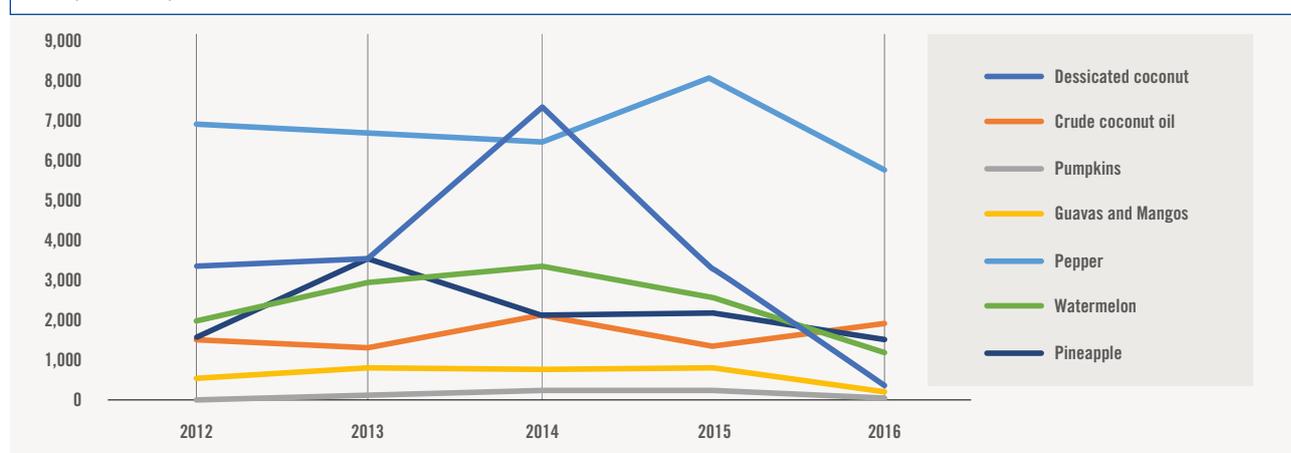
*We consider market demand by looking at market trends in key export markets for Guyana<sup>9</sup>.*

To complete an assessment of value chain relevance we also considered market demand by analysing export value and growth trends in key international markets for Guyanese produce.

While we were interested in trends in the global market for each of the value chains, we prioritised the presence of high growth and market size in existing Guyanese markets in CARICOM<sup>10</sup> and the Americas (both North and South), with a specific focus on then US and Canada.

Across all value chains/products except crude coconut oil we see recent decreases in imports in the CARICOM region for each of the value chains for which data exists<sup>11</sup>. Qualitative information suggests that this results from the challenging economic environment. This highlights the importance of targeting higher value and larger markets further afield to support sustainable development.

Figure 3: Total imports in select value chains in the CARICOM region 2012 – 2016 (1000 USD)



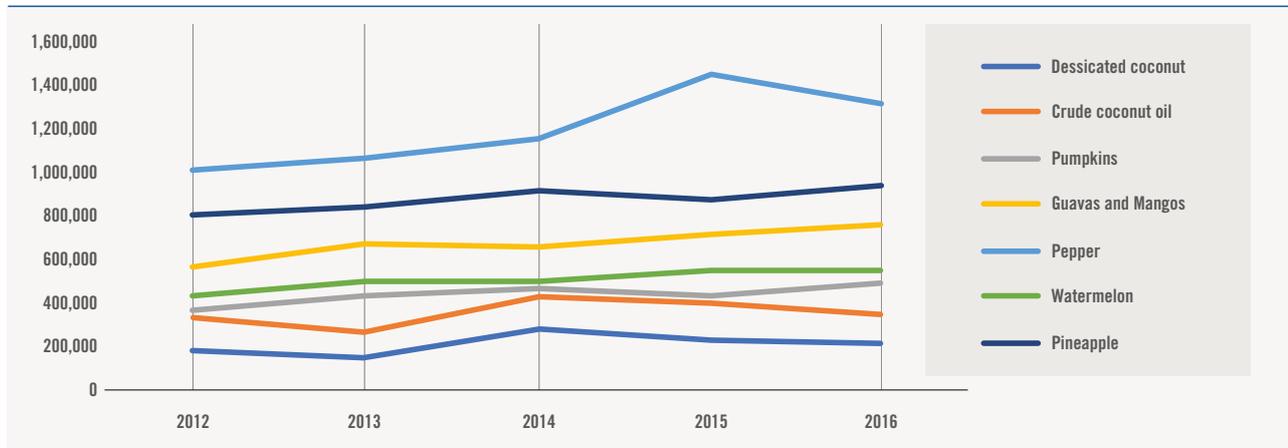
9. Data accessed from International Trade Centre; 07/2017. No data exists for eddos or breadnut.

10. The Caribbean Community (CARICOM) is an organization of fifteen Caribbean nations and dependencies whose main objective is to promote economic integration and cooperation among its members.

11. ITC product groups is as follows: Desiccated coconut, Crude coconut oil, Fresh or chilled pumpkins, Squash and gourds, Fresh or dried guavas, Mangoes and mangosteens, Pepper of the genus Piper; Dried or crushed or ground fruits of the genus Capsicum, Fresh watermelon, Fresh or dried pineapples.

Within the Americas region – including all North and South American nations – we see steady growth in pineapple, guavas and mangoes, watermelon, and pumpkins; declines in dry coconut and crude coconut oil; and an upward growth trend in pepper with a spike in 2015 and a corrective decrease in 2016.

Figure 4: Total imports in selected value chains in the Americas region 2012 – 2016 (1000 USD)



Pepper, pineapple and mango are the three largest exports from the Americas region, with around 80% in each case being imported by the US.

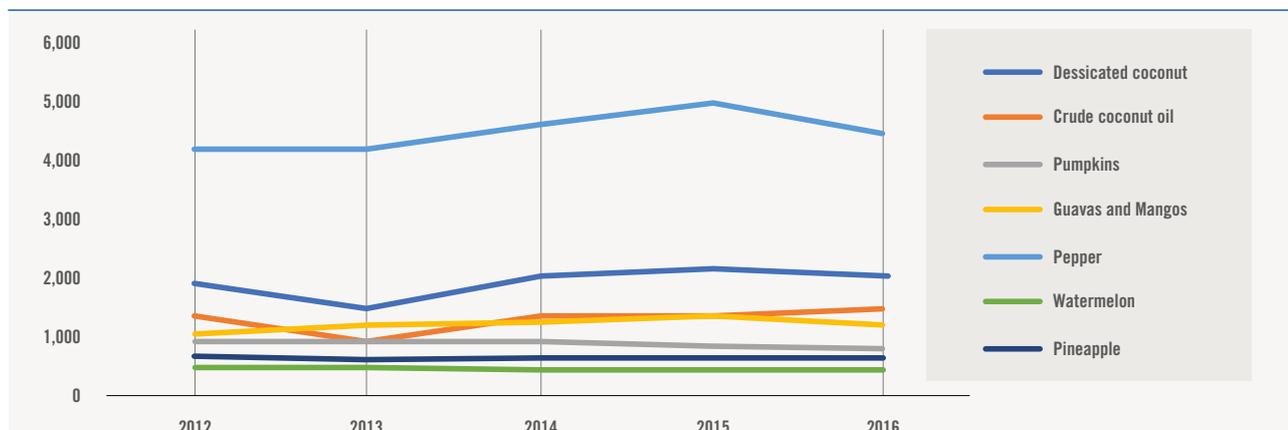
These figures would suggest that all value chains included at this stage have potential for sustained or increasing levels of demand in key markets. While the reduction in coconut and coconut product exports is a cause for concern, the continued robust performance among Guyanese exporters is considered sufficient reason to retain this value chain at this stage. Continuous monitoring in this area will however be warranted.

*We consider market prices by looking at price trends in key international markets for Guyana.*

We consider price and price trends to be the final factor in a consideration of value chain relevance. Price is a key factor as an indicator of commercial sustainability, with low prices or significant fluctuations particularly damaging to the prospects of MSEs who generally have less scope to hedge against losses and respond to fluctuations.

Price is also a significant factor in the capacity of value chain growth to support inclusive growth. When prices are squeezed at a consumer level this tends to be reflected back down the value chain, putting pressure on labour conditions as enterprises manage tight margins and limiting the overall value that can be captured by workers and producers.

Figure 5: Unit values in USD/ton aggregated for the American region 2012 – 2016



Pepper presents by far the highest market prices available, peaking at USD 4,975/ton in 2015. Dessicated coconut, crude coconut oil and mango all present good opportunities in terms of price with average figures over the past 5 years of USD 1,965, USD 1,307, and USD 1,241 respectively. Watermelon, pineapple and pumpkins are at the low end of the spectrum with prices never higher than USD 982.

These all compare favourably to other crops, with rice, historically a key export for Guyana, averaging just under USD 600/ton over the same period. As such, we believe that these prices should not preclude any of the value chains from consideration on price point alone.

In terms of price trends over the past five years, the picture is more mixed. Pepper shows rapid growth with a spike in 2015 but a sharp drop in 2016. As with production levels, this may simply reflect a sort period of market correction, but should be monitored going forward.

Desiccated coconut, crude coconut oil, mangos and pineapple all show steady if unspectacular growth trends during the period overall, with some fluctuations throughout.

Both pumpkin and watermelon have a steady downward trend during the period suggesting these markets may be less dynamic than others and have lower potential for growth over the coming years.

As a result, we recommend that pumpkin and watermelon be excluded at this point.

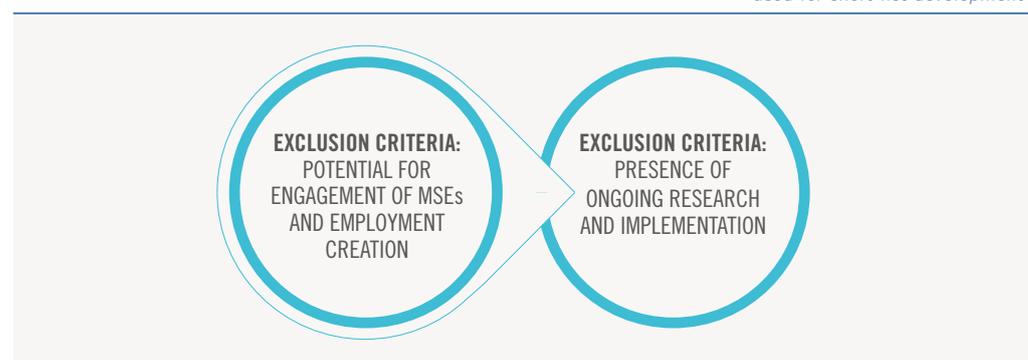
### Long-list of value chains:

- Coconut
- Mango
- Pepper
- Eddo
- Pineapple
- Breadnut

### Short-listing target value chains

***Can growth lead to an increase in employment and decent work for poor men and women? Is export-led pro-poor and environmentally-sustainable growth feasible/ can systemic change be catalysed?*** While commercial growth potential is a necessary pre-condition for inclusive growth, it is not the only factor. We also consider the opportunity for job creation and MSE development through value addition activities and the potential to add value through intervention.

Figure 6:  
Inclusion and exclusion criteria  
used for short-list development



***Two of the value chains in this long-list focus primarily on exports of fresh produce, with little processing undertaken.***

These are pineapple and breadnut. Any value addition that is undertaken focuses on aggregating, cleaning, sorting and packaging to meet export requirements for regional and North American markets.

Given the significant focus on value addition in the assignment it was felt this presented a sufficiently strong justification to exclude these value chains; however, it is important to note that the export of fresh produce still presents a significant area of activity among MSEs in Guyana and a valid avenue for inclusive growth.

Ongoing policy and programme work to support exporters of fresh produce should be an integrated part of any interventions that emerge from this assignment as part of a complementary suite of work focused on supporting export growth. This is particularly so given the overlap from a public policy perspective. Key bodies including the Guyana Marketing Corporation (GMC), Guyana School of Agriculture (GSA), National Agriculture Research and Extension Institute (NAREI) and Bureau of Standards (BoS) among others will all be important in the development of both exports of fresh and processed goods.

A further point of interest to emerge from the research is the potential for substantial value addition and product diversification in some small but rapidly growing value chains. While the total export values currently are too small to warrant recommendation and further analysis in this assignment, the opportunities in cassava and plantain should be noted.

Commodity	EXPORT VOLUME (METRIC TONS -MT-)				EXPORT VALUE (US)		% CHANGE	% CHANGE
	2013	2014	2015	2016	2015	2016	2013-2016	2015-2016
Plantain chips	0	0	0	1	0	4,340	from 0%	from 0%
Cassava	0	0	3	7	2,534	5,843	4579%	131%

*Table 3: percentage growth in export volume and value for cassava and plantain chips 2013–2016 and 2015–2016*

There is substantial interest among public and private sector actors in expanding into chip, flour and bread production in both cassava and plantains and well as additional opportunities for the replacement of corn starch with cassava starch in brewing and other industrial food and drink processes. Furthermore, both present good opportunities for the engagement of disadvantaged groups, in particular in the hinterland areas of Guyana.

While this assignment will focus on those value chains that have clearer cut and more quickly realised commercial potential, these value chains are recommended for future consideration.

*A final exclusion was made based on existing and on-going research initiatives.*

An important principle that underlies this research assignment is additionality. It was a stated intention that any research would build upon rather than seek to replicate existing research efforts. The eddo value chain is the subject of analysis undertaken in the FAO funded study in 2017<sup>12</sup> while coconuts are the subject of substantial analysis and implementation programming by the ITC under European Union (EU) funding. As such both will be excluded from further analysis in this assignment.

We believe that these value chains should be considered in any policy initiatives as equally promising to the final two selected as a part of this assignment, but for the purpose of adding value they are not analysed in any detail going forward.

### Target value chains:

- Mango
- Pepper

12. K. Craig, A Shepherd., Capacity Building in Value Chain Analysis and Development for Agricultural Exports, FAO. 2017



# PRESENTATION OF FINDINGS ON TARGET VALUE CHAINS

Mango and pepper both have significant potential to see substantial increases in both value addition and exports over the coming years. This potential does not however guarantee results. Each value chain has specific opportunities associated with it and each has specific challenges.

The following section presents detailed findings on key trends, opportunities and challenges for each value chain organised against the three criteria outlined above: relevance, opportunity and feasibility. This is designed not only to inform any future strategic promotion, but is a key step in our analytical process, helping to crystallise and add detail to our vision and inform the specification of our stage 2 focus through an identification of common constraints across both value chains.

## Mango

MANGO	
<b>Overall Assessment</b>	The mango market has shown good growth in both fresh and frozen produce and presents interesting opportunities for value addition through the development of a dried fruit product line. Barriers to entry are low for MSEs and there are currently over 21 processors working in the value chain, with a high level of dynamism and interest in development. As with all fresh produce, the export market is limited by the costs and challenges associated with air freight; however, there is substantial scope for an increase in processed goods that could be shipped overseas by sea, if processors can manage to upgrade to meet international market standards.



## MANGO

## Relevance

**Export market demand prospects:**

Overall the market exhibits strong but steady growth. In the Americas market, overall there has been 32% growth over the past five years with prices steadily rising to USD 1,270/ton.

For Guyanese processors and exporters there is significant demand from Canada for fresh mango with over 205 MT being exported by air in 2016 alone. There is also a small but growing market for Guyanese exporters of fresh mango in the US. These exporters expressed confidence that if air freight can be provided that links reliably to both the US and European markets then there is scope to diversify buyers as well. Market actors expressed a clear expectation that this market will continue to perform well and grow.

There is also the potential to increase provision of dried and frozen mango as well as increasing the production of achar and preserved fruits and nuts for which mango is a significant constituent part.

**Prospect for (local) value addition:**

Growth in developed country markets for semi-processed products including cut-up frozen mango and dried fruit mix seems positive with growth in exports of preserved fruits and nuts recorded at over 2000% in the last year alone.

**Comparative advantage of production:**

While fresh mangoes in Guyana (primarily the Buxton Spice variety) do not compare in quality or aesthetics to some mango varieties, exporters remain confident that markets will continue to see growth in Canada and the US. Moreover, the potential for frozen and dried mango to compete on an international level is considered high as semi-processing removes some of the quality differentiators of fresh produce.

Exporters and processors have complained about the excessive cost of packaging available locally, which leads to higher product costs and makes competing on an international market challenging.

A more specific focus on the expansion of the cut-up frozen green mangoes, cut-up dried ripe mangoes and achar would reduce the need for cool storage facilities and thereby make it more possible for actors to transition from seasonal provision of fresh produce to year-round production.

## Opportunity

**Opportunities for employment creation and improving working conditions:**

Opportunities exist in farming, preparation and transportation of fresh product and semi-processing activities - cutting, drying, and freezing.

Seasonal and informal labour are consistent features of the fresh fruit market and for mangoes it is no different. Formalisation and a transition to full time employment requires an investment that many small enterprises are unable to make. However, this is not necessarily seen as a negative, as the types of value-added activities proposed are not particularly sophisticated and as a result, lend themselves to production by small operators – empowering them at the community level. Support will be needed to bring greater consistency to the processing system so that there is uniformity in the final products.

**Opportunities for engagement of MSEs:**

The expansion of fresh mango and mango product exports over the last five years suggests an appropriate level of profitability despite some underlying constraints. Moreover, low barriers to entry are a positive feature for MSE development, and with improved provisions of packaging and exporting support, MSEs would be able to take advantage of export markets in fresh and semi-processed goods.

Evidence suggests that an expanded export market would reduce informality and over time it is expected that more entrepreneurial actors would rise individually or collectively as cooperatives to set up more modern factories to produce branded products. This could reflect the process that has occurred in the coconut industry.

**(Prospects for) Inclusion of disadvantaged groups:**

There is significant scope for mango production in Region 9, one of the hinterland regions inhabited largely by Amerindians<sup>13</sup>. This region could be a major supplier of dried mango pieces.

**Impact of the value chain on surrounding communities:**

Increased export markets would mean that mango farmers and by extension the surrounding communities would benefit from increased total revenue at the farm gate based on a decent, competitive price per unit by increased volume. A focus on semi-processed mango products and an expansion of higher-value markets in North America has the scope to impact on this.

Care must be taken, as with any non-traditional crop, that farmers are not pushed to replace food crops in the pursuit of potentially unreliable returns.

**Impact of the value chain functions on the environment:**

Mango production is suited to the well-drained and irrigated coastal and riverain clay soils but the crop is so versatile that it does well even in the less fertile sandy loams of the hinterlands. During research, no environmentally negative impacts that result from production were identified.

13. Official government denotation



**Feasibility****Reason(s) and need for public investment:**

The design and implementation of standards, negotiation of trade agreements and application of export rules are all crucial to the fresh fruit export industry. There is a significant role for the GoG in the facilitation of a good enabling environment for exports. Moreover, the low barriers to entry for MSEs indicate an opportunity for inclusive growth, however, support would be needed to formalise and meet international market expectations.

**Evidence of government and/ or donors having plans for investment in the value chain and space to enter:**

There has been significant investment by the Ministry of Agriculture (MoA) in production focused projects, with support focussed on Regions 1 and 9 in the form of new projects from the International Fund for Agricultural Development (IFAD) and the Inter-American Development Bank (IDB). A strong market development focus at an export level could complement this initiative.

The Small Business Bureau (SBB) has shown growing interest in the provision of finance and services to processors working in the fruit and vegetables sector.

**Motivated actors and feasible innovations exist:**

Key players are primarily engaged in export with interest in expanding into semi-processed goods such as cut-up frozen mango.

At the home / cottage industry level, green and 'turning' mangoes are used to make achar, chutney, pickles, relishes and cut-up mango with salt and pepper. This energy at the home level could be harnessed into a much bigger mango value-added product industry.

While the product development for value addition is simple and a model for export already exists, there is substantial need for support in formalisation processes and investment.

**Sector (promotion) policies and regulations are in place and effective:**

GMC is the primary government contribution to the export of fresh produce, currently running the pack house and supporting information services for exporters. There is however a concern regarding the sustainability of using a subsidy to finance some of these key services. This will require further research at the next stage of analysis.

There are also significant issues in the establishment of a standards regime that will satisfy diverse higher-value markets and support in implementation of processes that will meet this.

**Sector (promotion) supporting functions are in place and effective:**

Exporters of fresh produce are particularly affected by challenges in the transportation sector, specifically the availability and high cost of air freight and the ability to bulk for shipping.

The lack of a low cost, domestic packaging producer means that the cost and availability of packaging is also a substantial concern.

Finance also remains an issue, particularly trade financing with most exporters finance their business using overdraft facilities.

**Scalability:**

With relatively low entry barriers and upgrade costs, there is substantial potential for scaling up for all actors engaged in processing, if a guaranteed high value market is found and made accessible. MSEs and cottage industry outfits could be supported to enter the formal market and begin to target exports. More established processors – while still often small scale enterprises – can be supported to increase the proportion of output targeted to international, high-value markets.



## Pepper

### PEPPER

<b>Overall Assessment</b>	<p>The market for peppers and pepper products is relatively dynamic, with a diverse range of products and over 26 processors producing and selling to the domestic and export markets. Exports to high value markets in the US are established and there is scope for increase, with the overall market in the Americas increasing 30% in the last five years. Prices are relatively high and have shown a consistent increase over the past five years to USD4,445/ton in 2016. This provides significant scope to support investment in decent work and the provision of value to producers provided the right policies and incentives are in place.</p> <p>Barriers to entry for MSEs remain low, though meeting the needed standards of production for export are more challenging than for mangoes. There is also scope for increased specialisation in the value chain, with larger processors expressing interest in buying semi-processed produce as an input.</p> <p>The greatest challenge will be accessing the finance and know-how to upgrade facilities and product development to respond to high-value international markets.</p>
<b>Relevance</b>	<p><b>Export market demand prospects:</b></p> <p>The market for pepper products is comparatively well developed with a diversified consumer base across both regional and North American countries. In 2016 25 MT were exported to Canada, 60 MT to the US, 18 MT to Jamaica and 15 MT to Antigua and Trinidad and Tobago respectively.</p> <p>Exports to international markets have seen excellent growth, with a 92% increase in the last year alone.</p> <p><b>Prospect for (local) value addition:</b></p> <p>The produce range for hot peppers is well developed and diversified, with multiple varieties of hot pepper being produced and exported as fresh and frozen pepper, hot pepper sauce and crushed pepper.</p> <p>There is an expectation from processors and exporters that growth in each product category will remain steady, with the establishment of a strong market in North America for hot sauce a feature of particular interest. In addition, CARICOM is a net importer of crushed hot pepper from countries such as Costa Rica; thereby suggesting potential for the expansion of regional markets given the right support and development.</p> <p>Moreover, numerous processors report a significant increase in competition in the domestic market from new MSE entrants. While these do not currently meet international standards for exports, there is scope for this diversity of production to be supported to upgrade to meet international demand.</p> <p><b>Comparative advantage of production:</b></p> <p>An established processing base for hot sauce and the development of fresh and semi-processed expertise will ensure that Guyana's hot pepper industry is well placed regionally. However, the current regulatory regime for standards is not sufficient for significant expansion into high-value markets, with an over-reliance on guidelines for the operation and certification of an agro-processing unit from Food and Drug Department (FDD) and the ability to adopt higher international standards is so far untested.</p>
<b>Opportunity</b>	<p><b>Opportunities for employment creation and improving working conditions:</b></p> <p>Opportunities exist in farming, preparation and transportation of fresh product, semi-processing activities - cutting, drying, freezing - and in processing facilities.</p> <p>While seasonal and informal labour are significant features of the fresh fruit market the presence of a small number of larger processors working in this value chain suggests potential to expand formal employment and limited skills development.</p> <p><b>Opportunities for engagement of MSEs:</b></p> <p>The barriers to entry for processors of hot pepper products for the domestic market are low, a fact that is reflected in the presence of large numbers of small-scale, 'kitchen' enterprises. There is the potential to support their transition into the formal sector through upgrading of production methodologies and scale, building capacity to meet international food safety and quality standards and development of business skills and acumen.</p> <p>Moreover, some of the larger processors have expressed interest in procuring semi-processed products to feed into existing production lines.</p> <p><b>(Prospects for) Inclusion of disadvantaged groups:</b></p> <p>Women and youth are the main employees in the hot pepper value-added product industry.</p> <p><b>Impact of the value chain on surrounding communities:</b></p> <p>Care must be taken, as with any non-traditional crop, that farmers are not pushed to replace food crops in the pursuit of potentially unreliable returns.</p> <p><b>Impact of the value chain functions on the environment:</b></p> <p>Hot pepper is produced throughout the country once the soils are well drained and there is irrigation water backed up with appropriate crop management practices. During research, no environmentally negative impacts that result from production were identified.</p>





## PEPPER

### Feasibility

#### Reason(s) and need for public investment:

There is a clear rationale for public investment to support the industry in making the necessary upgrades to facilities that would meet international quality standards and would help secure a step-change by promoting access to high value and diversified markets.

The capital outlay and expertise needed for this are unlikely to be generated internally or through organic growth.

#### Evidence of government and / or donors having plans for investment in the value chain and space to enter:

No information was available on specific production / marketing programmes; however, NAREI has been collaborating with Caribbean Agricultural Research & Development Institute (CARDI) on improved varieties.

#### Motivated actors and feasible innovations exist:

There are a substantial number of registered and informal enterprises working in the hot pepper value chain, and a clear willingness to invest and innovate. Currently the primary issue seems to be an over-supply of pepper sauce on the domestic market, with anecdotal reports of increased competition created by an abundance of informal enterprises. Upgrading to support higher levels of exports would be a key response to this.

#### Sector (promotion) policies and regulations are in place and effective:

Again, GMC provides key services for the export of fresh produce, though the sustainability of this model is in question.

At a processing level, there are substantial issues in accessing non-commodity inputs, particularly packaging and labelling for processed goods. There is very limited domestic production of packaging and imports are costly and increase time frames for production.

Moreover, support for high-grade production standards does not exist, though a new laboratory is being built by the FDD to support testing.

#### Sector (promotion) supporting functions are in place and effective:

As above, there is a substantial issue in the provision of low-cost packaging solutions to meet international market needs, with limited domestic production. Processors either have to import, for example, cardboard boxes or produce items such as polyethylene terephthalate (PET) bottles for themselves in an effort to cut costs; since the locally sourced equivalents if available are more expensive. This means that only the biggest of the processors can engage in such activities.

Finance also remains an issue, particularly financing for capital expenditure to support the necessary upgrades to meet international, high-value market standards. The upfront investment for technical expertise and infrastructure for standards such as ISO is substantial.

Finally, while the market for processed goods shows a substantial diversity of products, the ability of processors to undertake sophisticated market research and product development processes is limited by technical expertise and the costs associated with investment in early-stage development.

#### Scalability:

If access to finance issues and the overall enabling environment improved as well as Guyana's production potential better matched with overseas buyers and investors, the diversity and dynamism of the market holds significant promise.





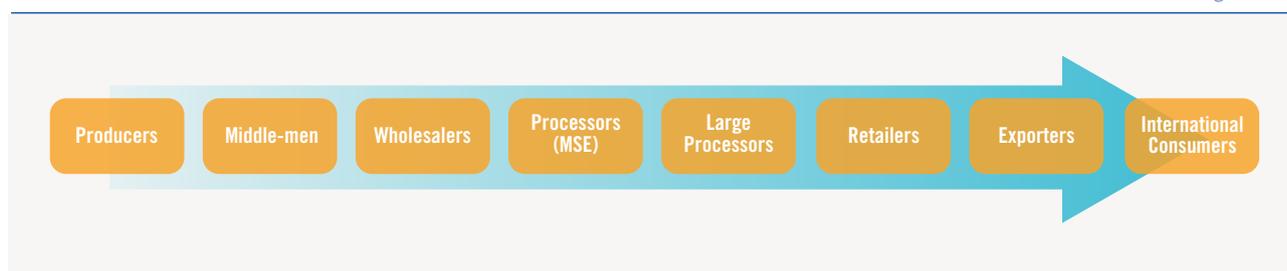
# IDENTIFICATION OF CONSTRAINTS AND DEFINITION OF ANALYTICAL FOCUS



In addition to supporting recommendations for target value chains, the first step of analysis also revealed features of the fruit and vegetable sector that have a bearing on defining the analytical focus for the next stage of this assignment.

Research conducted thus far has demonstrated that both selected value chains, as well as many others in the fruit and vegetable sector, share many of the same features. Almost all share the same core structure with value being added through producers, middle-men, wholesalers, processors, exporters and retailers; and moreover, there is substantial cross-over of actors with many processors operating across multiple value chains.

Figure 7:  
Generic value chain  
configuration



Moreover, almost all share a similar market system configuration. A market systems development approach to inclusive economic growth broadens the scope of analysis to focus not just on the core transactions of the value chain and actors within this core, but also includes the supporting functions and rules that dictate how a value chain functions.

**Supporting functions** include all those goods and services that are necessary for the core value chain transactions to take place e.g. transportation, energy, finance.

**Supporting rules** include the formal and informal rules that govern transactions in a value chain e.g. customs, trade agreements, the presence or otherwise of trust between trading parties.

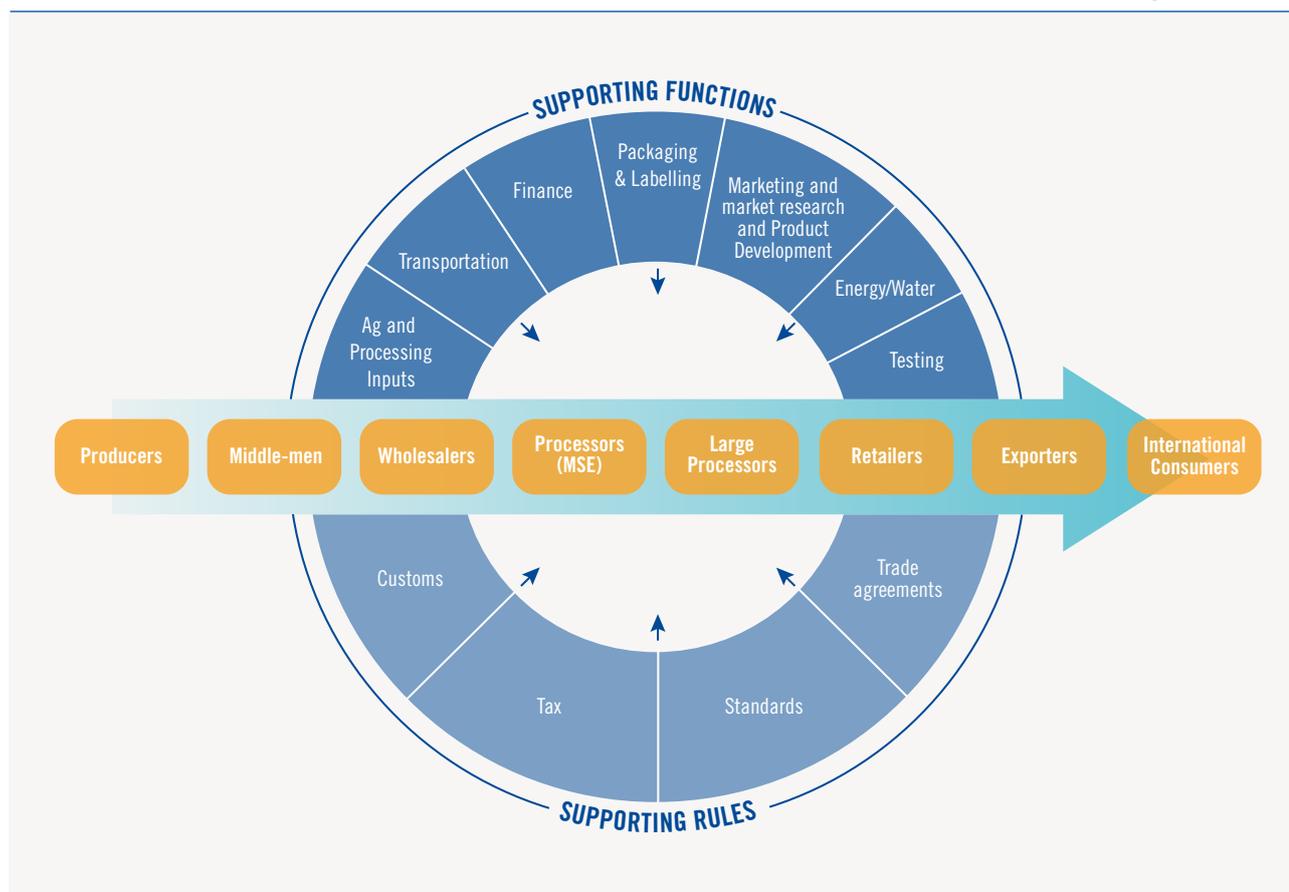
Utilising a market systems lens, it becomes apparent that both value chains interact with the same supporting functions and rules, which impact on growth and development within the core.

So, while differentiation does occur – most often at the processing stage with products being broadly split across the following categories: fresh produce, sauces, seasonings, achars, jams/jellies, chips, fries, flour and bread – there is substantial cross-over in terms of the overall configuration and the actors involved.

This has important implications for targeting further analysis. While there is a good evidence base on how value chains work in the fruit and vegetable sector in Guyana and robust analysis identifying constraint areas in the supporting functions and rules, there is less analysis of what is causing these constraints.

We present below a brief synopsis of key constraints organised by supporting function and rule, before recommending three constraint areas to take forward for further analysis. This will add value to the current evidence base by moving analysis from high-level identification of constraints to a more nuanced understanding of root causes. For example, we will move beyond a simple identification of finance as a constraint to upgrading to understand which actors are involved in the finance system, what products exist, where there is a mismatch between supply and demand and what can be done about it, always connecting research back to the two sectors.

Figure 8: Stylised Market System map for targetvalue chains



## Key constraint analysis and prioritisation

Based on secondary analysis and a rapid assessment of key value chains, it is possible to identify and briefly describe key constraints across the main supporting functions and rules described above. It should be noted that this analysis reflects the overall vision of the assignment by concentrating analysis at the processing/export/retail end of the value chain. Significant work has been done on the production end and is well summarised in a recent report<sup>14</sup>.

### Inputs

We have chosen to park agricultural inputs for the time being and packaging and labelling, a significant area of concern for all processors, is treated as a standalone item. This leaves us to focus primarily on secondary fresh ingredients, additives, preservatives and other chemicals used in the production of the various food products developed in the target value chains.

Access to inputs such as herbs and spices where they are domestically produced is not cited as an issue for most processors. Challenges arise when there is no domestic supply and processors must import inputs from international suppliers.

Processors have reported significant issues with delays on imports at the border caused by customs and security checks and the lack of coordination between different export-related agencies – counter narcotics, revenue and customs etc. This leads to delays in production and a decrease in responsiveness to demand spikes as the lead time on production is increased.

Overall this makes planning more difficult and the cost of production higher. This is particularly problematic for MSE processors who do not have the stock or working capital to mitigate these challenges.

### Transportation

We focus here primarily on transport from processor/exporter to buyer. For fresh pro-

duce exporters, the lack of options for, and prohibitive costs of, air freight present perhaps the greatest constraint to expansion. Flights within the CARICOM region depart infrequently and capacity is unpredictable as flight operators prioritise passengers and marine produce. This coupled with the excessive cost of transport make export a precarious endeavour for MSEs that are not large enough to be able to mitigate risks and reduce costs through economies of scale.

For processors that produce non-perishable goods such as sauces, achars and chips, transport is less of an issue as sea freight becomes a viable option. The primary challenges here relate to bulking and coordination of exports to take advantage of container shipping as well as managing supply-demand alignment with longer shipping lead times.

### Finance

Two types of finance present constrain actors in the target value chains. For many MSEs, trade finance presents a sizable hurdle. Cash payments to farmers and wholesalers for fresh produce predominate, while payment for exported goods is generally activated on receipt of goods. This leaves a considerable time lag that needs to be financed. There is very little provision for commercially provided trade finance, with most MSEs having to rely on standard overdraft facilities if they cannot finance the short-fall themselves. This is expensive and limits the speed at which MSEs can expand.

Financing for capital expenditure is also an issue, particularly for agro-processors looking to upgrade facilities to meet the standards and respond to market demand from high value international buyers. There seems to be a limited understanding among commercial banks of non-rice agri-industry financing and loans are offered with very high interest rates; except in some special cases under MoA-implemented projects when there were some government guarantees to the commercial banks. This is a significant limiting factor in any step-change to agro-processing in Guyana.

14. K. Craig. A Shepherd., Capacity Building in Value Chain Analysis and Development for Agricultural Exports, 2017

## Packaging and labelling

Only Caribbean Containers Ltd. (CCL) produces a range of cardboard boxes mostly for the larger industries such as the rum industry. The information available suggests that in cases where the right quality of box is made by CCL, for example, for exporting seafood or pineapples, the cost of a box sourced locally could be more than four times the cost of an equivalent box imported from Miami.

Some plastic bottles are made locally for sale to the public but the size range and type is limited. As a result, many of the larger agro-processors are importing their own bottles. However, in at least one case observed, the processor is blowing his own PET bottles. These are both expensive options that require higher upfront investment and again presents a challenge for inventory management.

While this is less of an issue for processors producing for a domestic market, with many utilising recycled bottles and jars rather than new, for processors targeting an export market this presents a substantial obstacle.

Processors claim that the quality of labels produced locally has improved significantly over the years but there is more room for improvement and in addition, the cost remains too high.

International standards require high quality packaging and labelling. To meet these requirements, processors must import packaging and labelling leading to significant increases in production costs.

## Marketing, market research and product development

Again, key constraints in this area relate primarily to the export market. While there is significant dynamism and product diversification in the target value chains, on-going product development and refinement would be required to meet the qualities required for international markets. Product development tends to be undertaken informally, with limited market research and testing. Most market research is focussed on the domestic market due to issues of practicality and cost.

Processors and exporters all noted the challenges in market identification and subsequent market research with an over-reliance on personal contacts abroad and the dearth of information.

This has a direct knock-on effect on the ability of processors to both source and respond to international markets.

If processors in Guyana are to make the step-change necessary to begin to target international markets in significant volume they need to develop a better understanding of market demand. This will be a necessary platform to then target investment in upgrading to meet demand and secure sustainable growth.

## Energy and water

Both expensive and unreliable electricity provision and sporadic supply of low quality water are cited as concerns for processors. A number have resorted to managing supply themselves, through rain-water collection and filtration services and the use of generators.

While this does not seem to be leading to substantial under-utilisation of facilities now, it is adding substantially to production costs.

## Testing

The Food and Drugs Department is supposed to have five laboratories; a drug testing laboratory, food chemistry laboratory, microbiology laboratory, excise laboratory and a laboratory for testing spirits and alcohol. These laboratories are intended to lend support to the business community and other quality regulatory bodies, and monitor other commodities and provide services to test water quality in cases of outbreaks. However, these labs need to be upgraded and the services expanded if the FDD is going to cater for expanded volumes of products being exported to high-end markets.

Guyana also has an Institute of Applied Science and Technology which has some testing capacity and could provide support to agro-processors once there is improved coordination and collaboration among the relevant public-sector agencies and with the private sector.

## Customs

Concerns were raised by all actors engaged in imports or exports about the coordination of border agencies in Guyana. Anti-drug smuggling and other law enforcement activities, while of vital importance from a security perspective, are slowing down import and export processes. This is of importance for exporters of fresh produce as spoilage increases with time in transit.

## Tax

Taxation was not raised by agro-processors as a significant constraint to expansion, though recent increases by the Revenue Authority have been flagged as a potential disincentive for investment and growth. Moreover, there are a substantial number of cottage industry type enterprises working in mangos and hot peppers. Formalisation is currently disincentivised due to the substantial cost associated with registering and paying taxes. A more nuanced tapering process may be advised.

## Standards

Constraints in standards can be considered in two ways. Firstly, in terms of the design of standards for product quality and testing. To export to international markets, Guyanese exporters must comply with international standards of production (for example, through the testing and labelling of ingredi-

ents and nutritional values and the use of barcodes for traceability). These standards tend to be more stringent than Guyanese national standards, designed by the BoS and the FDD.

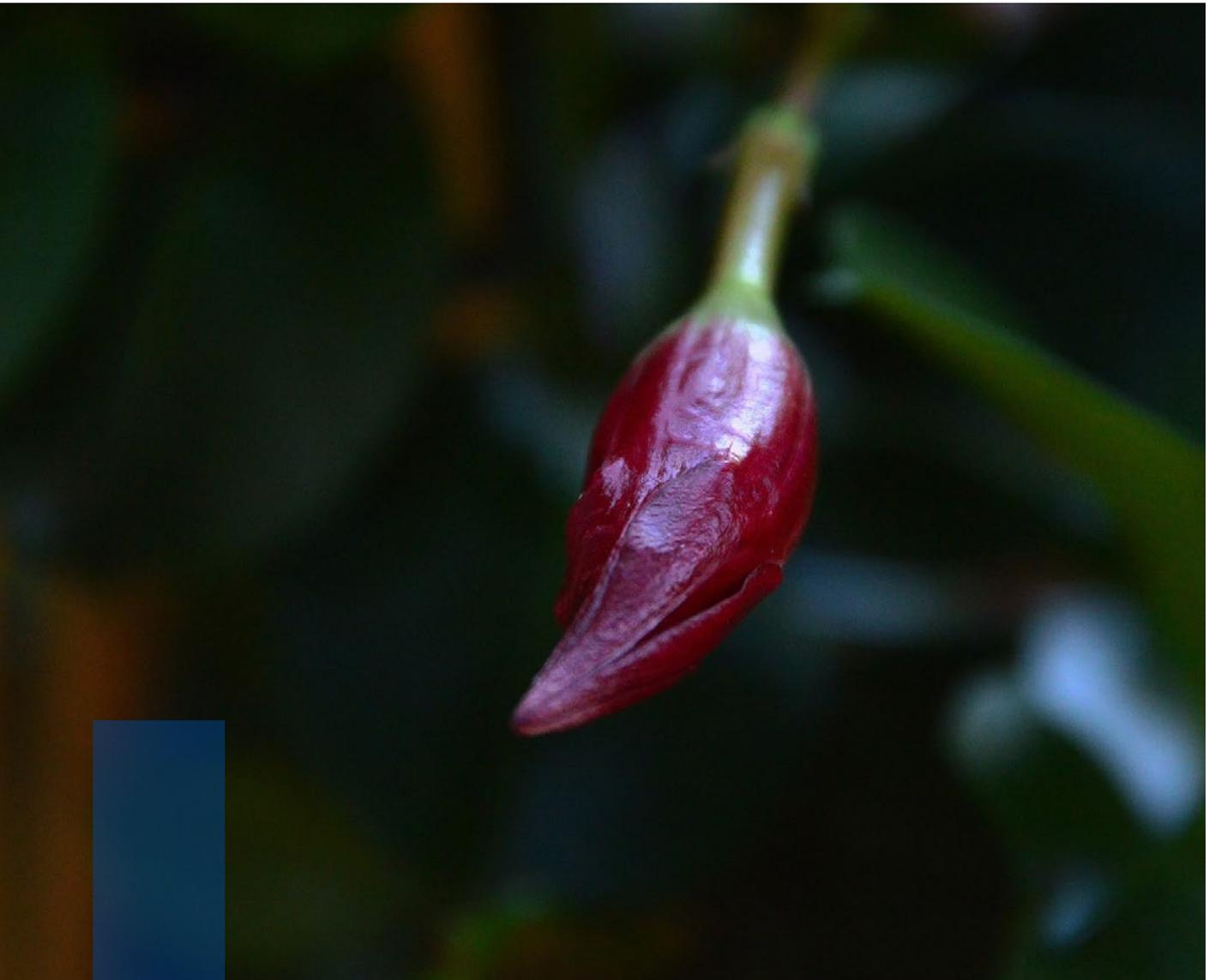
While alignment of national standards with international standards would support in the simplification of compliance for processors, the high barriers to entry that this would create would have a negative effect on MSEs trying to establish themselves in a domestic market first.

Substantial support is needed however in the implementation of standards. Given the diversity of export markets for Guyanese exporters, information services on standards and alignment will be crucial to any future export strategy. Moreover, the technical expertise and financial investment needed to upgrade processing facilities to meet diverse standards is a significant constraint.

## Trade agreements

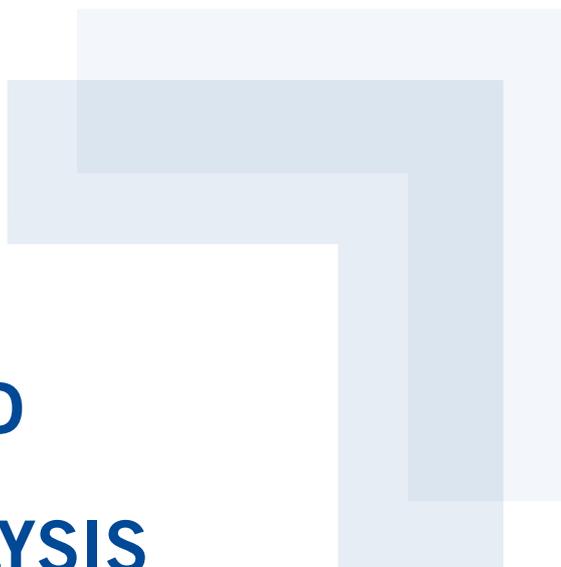
Guyana has trade protocols with four other CARICOM countries - Antigua, Barbados, St. Lucia and Trinidad and Tobago; as well as trade agreements with other countries including the US and Canada. While trade agreements are considered a lower priority among processors now, as trade volumes increase a more strategic revisit of key trading relationships will be necessary.







## SELECTION AND FOCUS FOR FURTHER ANALYSIS



Our strategy for further analysis will focus on developing a detailed understanding of root causes in supporting functions and rules through an analysis of the two target value chains and key supporting function and rule systems. This will support the development of strategic initiatives to catalyse systemic change through changes in supporting functions and rules.

Our final selection is driven by a desire to align with the vision stated at the outset of this report. To realise growth built on substantial increases in exports of value-added products it will be necessary for processors to invest in significant upgrades to production quality and quantity.

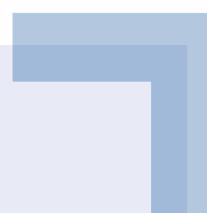
Financing options are currently extremely limited with most processors financing growth organically. A more complete understanding of the finance sector as it relates to agri-business will support concrete recommendations for improving access to finance where it is most needed.

Agro-processing in Guyana is currently predominantly targeted to the domestic market. To upgrade to a high-value international market focus, processors need to be able to understand and respond to market demand. A full understanding of the interplay between private and public institutions in this area is a vital foundation to build this capacity in the sector.

Finally, the application and implementation of grades and standards for international export is an integral part being able to access high value markets. The ability of Guyana's processors to implement standards is lacking. A greater understanding of how implementation can be supported and expanded will be an important part of the broader aim.

### Focus for analysis in Stage 2:

- Access to finance
- Standards
- Market research and product design



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