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CHARACTERIZATION OF THE MARKET AND ECONOMIC MERIT OF AN ORGANIC FOODS INDUSTRY IN SAINT LUCIA

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MATHURIN, T. AND THEOPHILE, B. 2019



**CHARACTERIZATION OF THE MARKET AND ECONOMIC MERIT OF AN ORGANIC FOODS INDUSTRY
IN SAINT LUCIA**

Shortened Title: A Characterization of the Organic Foods Market in St Lucia

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Authors: Titus Mathurin, MPhil Agricultural Economics
Lecturer, Sir Arthur Lewis Community College/University of
the West Indies Franchise (St Augustine)
Project Partner
Saint Lucia

Brent Theophile, MPhil Agricultural Economics
National Specialist
Inter-American Institute for Cooperation on Agriculture
Saint Lucia

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Table of Contents

FOREWORD.....	i
1. EXECUTIVE SUMMARY	1
2. INTRODUCTION & BACKGROUND	3
3. METHODOLOGY	4
3.1 Purpose of the Study	4
3.2 Study Design	4
3.3 Specific Approaches	5
3.4 Development of Final Sample Size and Data Collection	6
3.5 Data Analysis	6
3.5.1 Willingness to Pay.....	6
3.5.2 Estimated Economic Value	7
3.6 Limitations to the Study	8
4. RESULTS AND DISCUSSION/FINDINGS	8
4.1 Existing/Potential Consumer Purchasing Behaviour For Organic Foods	9
4.2 Indicators of willingness to pay for Organic Foods and Consumer Equity	10
4.3 Indicators of Premium Differentiation that Inform Willingness to Pay	12
4.4 Consumer Desired Factors and Attributes in Organic Foods	15
4.5 Indicators of Economic Merit of an Organic Industry.....	16
4.5.1 Green Seasonings	17
4.5.2 Fruits.....	18
4.5.3 Vegetables	19
4.5.4 Estimated Earnings	21
5. CONCLUSION AND RECOMMENDATIONS.....	22
6. REFERNCES	25
ANNEX 1: SURVEY INSTRUMENT	26

FOREWORD

THE FOOD AND AGRICULTURAL ORGANISATION OF THE UNITED NATIONS
(BARBADOS AND THE OECS)

The vision of 2030 is embodied in the Sustainable Development Goals (SDGs), where hunger and poverty have been eliminated and food systems are productive and sustainable. Achieving the SDGs will depend on the progress in agriculture around the world and even more so in the Small Island Developing States, like those in the Insular Caribbean.

FAO was very pleased to participate in the GEF SGP UNDP (Saint Lucia) Knowledge Fair in December 2018, which had many components. One component was a primary research study on the characterization of the organic farming market in Saint Lucia. Together with IICA and the GEF SGP UNDP, we are pleased to make this contribution on the organic journey that Saint Lucia is exploring.

Organic agriculture is best known as a method of agriculture where no synthetic fertilizers and pesticides are used. Under the organic agriculture system, the focus is on maintaining and improving the overall health of soil-microbe-plant-animal system on farms, as this affects crop yields. The emphasis is on using inputs in a way that encourages the biological processes of available nutrients and provides defense against pests. Most petro-chemically based fertilizers and pesticides are considered to hinder these processes and are, therefore, prohibited. Organic agriculture thus reduces demands on natural resources, contributes to building food security and resilience to climate change.

The "Characterization of the Market and Economic Merit of an Organic Foods Industry in St. Lucia" is a contribution to the achievement of FAO's Strategic Objective 2: Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner and Regional Initiative 2: Family Farming and inclusive Food Systems for Sustainable Rural Development.

The practical research outlined the performance and economic potential of an organic agriculture industry in St Lucia. It presents key findings on the nature of demand for organic foods. The study generated indicators of the comparative worth of investment in organic production and the production of food in a socially and environmentally friendly manner as well as market development.

These findings made a strong case for supporting the development of the St. Lucia organic market in nationally organized programmes. This will require a partnership of stakeholders to evaluate the ability of local producers to meet consumer-specified premium price points; completion and operationalization of the draft organic produce standards; capacity-building of farmers and extension officers; and support market coordination. In this way, organic agriculture can increase productivity, keep ecosystems healthy, strengthen resilience to climate change, improve land and soil quality and link producers to markets.

St. Lucia has the information needed to transform its organic agriculture into a vibrant competitive industry. We await in anticipation of the next move by Saint Lucia and stand willing to assist in any way that our programming allows us.

1. EXECUTIVE SUMMARY

The primary goals of this undertaking were to specify the nature of demand for organic foods in Saint Lucia (market characterization); and generate various indicators of the comparative worth of investment in organic production/production of food in a manner that is socially and environmentally friendly and market development (economic merit). The study ran for two (2) months between November to December 2018. Data was collected from various consumers from Castries, Anse-La-Raye, Soufriere, Gros-Islet and Vieux Fort between November 18 and December 8, 2018. A total of 178 persons were interviewed (37.1% male, 62.9% female).

Key findings from the study are:

1. The persons most willing to pay a premium for organic commodities in Saint Lucia are male, of average income, residing in urban areas, from households ranging from two to four members, and are conscientious of labelling and packaging, authenticity, price, nutritional benefits and safeguarding the environment.
2. Consumers in Saint Lucia believe the most in general attributes associated with eating organic foods such as gains to health and forgone illness/doctor visits, superior taste and nutrient supply, and that it is less harmful to the environment;
3. Men have a higher probability of buying organic products than women (71% vs. 57%), although women are willing to pay higher premiums.
4. Consumers show a preference to more regular/frequent purchase of vegetables compared to fruits and green seasonings.
5. Price, quality and nutritional values are key factors in determining the supply and demand for organic foods.
6. Beet root, pumpkin, bell peppers, tomatoes, cabbages, local spinach and cucumbers are considered high-end commodities for the vegetable category; and mangoes, watermelon, strawberries, honeydew and grapes for the fruit product category. Green seasoning is generally considered a low-end organic product.
7. Consumers in Saint Lucia are most willing to pay between EC\$0.25 and EC\$1.00 for low end organic vegetables; EC\$0.50 – EC\$2.50 for high end organic vegetables; EC\$0.25 - EC\$1.00 for low-end organic fruits; EC\$0.50- EC\$3.50 for high-end organic fruits; and EC\$1.25/heap of organic green seasoning.
8. Consumers in Saint Lucia strongly support Government support in both promoting and protecting a local organic sector.
9. There exist potential for an organic foods market in St Lucia estimated at EC\$ 3 million.

The details around these key findings make a strong case for supporting the development of a local organic market. This would entail:

1. Evaluating the ability of local producers to meet consumer-specified premium price points

Cost of production estimates for the commodities listed with good market and/or food and nutrition security relevance should be undertaken. An important caveat with regards to industry development to note here is the fact that a number of organic principles are already well adopted by local producers. This fact suggests that there may be surprisingly low additional costs, price inflation and possible cost reductions associated with transitioning to producing organic commodities.

2. Completing and operationalizing the draft organic produce standards

Authenticity and the ability to demonstrate the same is significant in influencing the purchasing decision. Industry development should therefore recognize the same as an essential element of the marketing and development campaign.

3. Capacity building of Farmers and Extension Support

Related to point #1 above and focused on building efficiencies in the production process. These potential efficiency gains may demonstrate that it is possible to produce organic commodities that are as or more price competitive than conventionally produced commodities (locally grown or imported). This area could largely support the Government of Saint Lucia's intentions of building food sovereignty and correcting food trade imbalance.

4. Market Coordination

Poor supply chain coordination was reported as a major challenge to development of the international organic food market (Mordor Intelligence 2017). Similarly, at the national level, coordination among chain actors will be important to cost-effectively aligning product offerings to consumer expectations. Further, considering just how significant this variable and its attributes are in the decision to purchase, specific effort here may yield considerable gains with the objective of capitalizing on the already favourable disposition of the average consumer to organic/environmentally-friendly products.

This research outlined the performance, provided a realistic picture and economic potential of an organic industry and its significance to St Lucia. This may encourage future investments in knowledge generation and stakeholder/interest group dialogue to explore operationalizing an industry that can produce benefits from a healthier and productive people to the Saint Lucian economy.

2. INTRODUCTION & BACKGROUND

Small Island Developing States (SIDS) in the Caribbean Region face a substantial threat to sustainable economic development related to the effects of climate change, unsustainable production practices and human capacity losses associated with chronic non-communicable diseases (CNCDs) and poor nutrition. An estimated 30% of Caribbean adolescents are overweight or obese, and at risk of developing CNCDs (St Lucia News Online 2017¹). In addition to the individual and familial difficulties posed by this reality, there is a substantive matter of the economic burden of poor health and well-being, as well as the dependent and causative issues of unemployment and poverty which are key driving factors of undernourishment in the Caribbean Region (FAO 2015²).

It is evident that poor nutrition and health costs are substantive and perpetuate losses in to the future because they are borne from the degradation of natural and human resources. The economic burden of diabetes and hypertension alone is estimated at between 1.4% and 8% of GDP: roughly US\$485,800/EC\$1.3 million and US\$27.76 million/EC\$74.97 million at current prices (Abdulkadri et. Al 2009³). Including the related economic costs associated with degraded waterways, soil and environmental services common to poor production practices and lifestyles, the evidence suggests that the national economic base will be significantly compromised.

This prognosis is very worrying, particularly for SIDS in the Caribbean Region which are heavily dependent on natural resources and human capital. There is therefore strong evidence supporting the need to enhance, on a continuous or sustainable basis, interventions that have direct, positive impacts on the environment, agriculture, nutrition, health and well-being, and that influence personal choices.

Food in particular remains a very inflexible element of this multi-faceted conversation in that it directly addresses those subjective socio-economic and tacit factors that influence behaviour and practice. Specifically, the decision-making that goes into consumer purchase/demand which in turn influences market practices (e.g. production supply response to demand). Therein are opportunities for practical intervention that promote and support Food and Nutrition Security (FNS) while creating stability through the economic opportunities

¹ St. Lucia News Online. 2017. Regional Response to Childhood Obesity.

<<https://www.stlucianewsonline.com/regional-response-to-childhood-obesity-intensifies/>>

² FAO. 2015. The State of Food Insecurity in the CARICOM Caribbean. <<http://www.fao.org/3/a-i5131e.pdf>>

³ Abdulkadri, A., Cunningham-Myrie, C. and Forrester, T. 2009. Economic Burden of Diabetes and Hypertension in CARICOM States. <<https://goo.gl/xWSbWp>>

created/developed in the process. This reality is in fact represented in the Utilization Pillar of FNS policies throughout the Caribbean Region (FAO 2016). This ultimately implies that interventions to improve health, and thus implicitly nutrition are in fact strategic actions needed to secure human capital development and broader sustainable economic gains.

Market forces offer insight to the conversation on practical interventions that can be sustained on a continuous basis, in that the consumer willingness to pay (that is, demand) provides a strong incentive to producers and other market actors to adopt behaviours in addition to practices that align with consumer expectations. The same can be said for foods produced organically and in a sustainable manner as these reflect heightened consumer/general public awareness of and the influence of these traits on purchasing behaviour which incentivizes investment into organic and sustainable production.

3. METHODOLOGY

3.1 PURPOSE OF THE STUDY

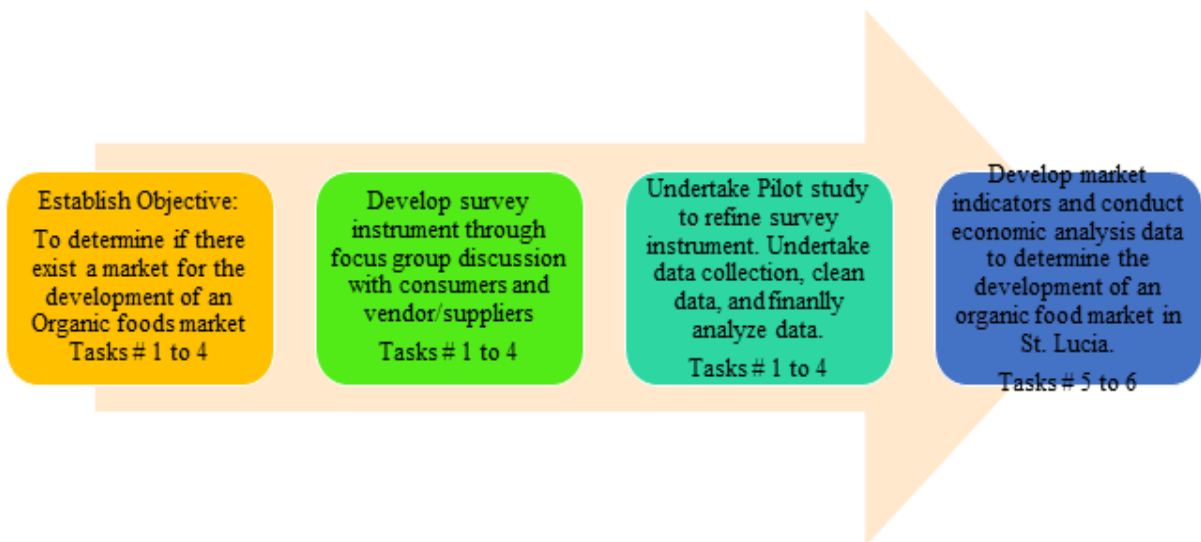
The overall objective of the study was to provide economic rationale motivating the development of an organic food market/industry in St Lucia. This overall objective was further distilled into the following more specific objectives:

1. Specify the nature of demand for organic foods in Saint Lucia (market characterization);
2. Generate indicator of the relative worth of investment in organic production/production of food in a manner that is socially and environmentally friendly and market development (economic characterization).

3.2 STUDY DESIGN

This section details the key inputs to the design of the overall methodology, pilot test, development of final survey instrument and field procedure plan (Figure 1). Data would then be analyzed with the aim of identifying ex ante estimates for indicators of market efficiency such as employment, inflation consumer activity, break even points, and economic rents. Finally, it is also hoped that this study would allow for the execution of an economic analysis on comparative merit for the development of an organic food industry in St. Lucia. The following modules have been identified that encapsulate the methodology.

Figure 1: Modules that constituted the tasks to be undertaken in the Study Methodology



3.3 SPECIFIC APPROACHES

To undertake this research study, a mixed method approach or triangulation will be utilized consisting of both qualitative and quantitative approaches.

The qualitative approaches constituted focus group discussions with consumers and vendors associated with the three major organic commodity categories fruits, vegetables, herbs/seasonings. This was complemented by in-depth interviews with hucksters and supermarket owners/managers associated with organic commodities. Three major organic commodity categories were specified through the consultative process; namely fruits, vegetables, and herbs/seasonings. The interviews provided data on the supply of organic fruits, vegetables, and herbs/seasonings. Once the focus group discussions were completed, a closed ended questionnaire was developed for the quantitative aspect of this study.

The questionnaire was pilot tested in the district of Castries. The questionnaire consisted of questions on consumer awareness and purchasing behaviours for conventional foods and that of organic foods, further organic food opportunities that the St Lucian market will be able to absorb, and respondents' demographic profile (basic data). Castries provided a good location for the pilot test since the number of consumers for the three commodity categories at that location will be large enough and therefore provide the requisite variability in respondents' answers. Once the pilot test was completed, a refining of the questionnaire was done based on the data captured from the pilot study.

3.4 DEVELOPMENT OF FINAL SAMPLE SIZE AND DATA COLLECTION

The target sample size was derived after taking an average of sample sizes and response rates with a margin of error $\pm 5\%$ from similar past research studies of this nature with adjustments made considering St. Lucia's population (Millock *et al.*, 2002; Krystallis and Chryssohoidis, 2005, Strzok and Huffman, 2012; Bhavsar *et al.*, 2016; Vapa-Tankosić *et al.*, 2017). The resulting target sample size for this research study was 178 consumers. Selections were made from supermarkets within the districts of Castries (Central St Lucia- north and south Castries), Anse-La-Raye/Soufriere (West/South West St. Lucia), Vieux Fort (South St. Lucia) and Gros-Islet (North St. Lucia). The survey process ran from November 18 to December 8, 2018. A total of eight (8) enumerators were employed due to the volume of consumers occupying local markets and supermarkets at any one point in time. Technical supervision was provided by the researcher for integrity of the data transmission process. Such oversight took the form of monitoring of the level of compliance of all relevant ethical and operational protocols by the field team, and was aimed at reducing both the number of questionnaire omissions and the extent of data cleaning.

Furthermore, to maintain randomness in this sample, systematic sampling was employed given the fact that a sampling frame data does not exist and further, the data collection for this study will require consumers with knowledge of organic foods who visit the supermarkets to purchase the specified commodities. In addition, systematic sampling allows the researcher to achieve the desired sample size since one will select the first customer randomly and subsequently every k^{th} customer who enters the relevant section of the supermarket. Further, this approach ensures that the subsample sizes of consumers for the three commodity categories will be large enough so that variability in spending behaviours can be accounted for. In this way the survey process factors in the actual locations of major supermarkets and produce markets in St. Lucia.

3.5 DATA ANALYSIS

3.5.1 Willingness to Pay

A Binary Logistic regression model was used to determine consumers' willingness to pay (WTP) a premium for organic commodities. The variables that are used to explain consumers' WTP a premium for organic commodities are specified as follows:

$$WTP = \alpha_0 + \alpha_1 Y + \alpha_2 K + \alpha_3 E + \alpha_4 N + \alpha_5 M + \alpha_6 G + \mu_i \quad \text{Equation (1)}$$

Where: WTP =

(1) respondent is willing to pay a premium for organic commodities; and
 (0) where the respondent is not willing to pay the extra for organic goods
 Y = income (i.e. denominated monthly earnings)
 K = Knowledge (i.e. information and understanding possessed about organic foods
 that forms the basis for differentiation)
 E = Environment (i.e. positive contributions of organic farming to the natural
 environment such as reduction of water contamination and increased soil
 fertility)
 N = Nutritional attributes (i.e. positive associations with organic foods such as nutrient
 density and health/vitality improvements)
 M = Market abnormalities (i.e. market factors that adversely affect supply and
 demand such as shortages and the impact of inclement weather)
 G = Gender (i.e. male or female)
 μ_i = The zero mean disturbance term for the effect of other excluded variables from
 the model

This analysis was complemented by Tests of Correlation, Likert Scaling and Cross-tabulation to generate findings aligned to the specific objectives. Descriptive statistics were employed to provide a demographic profile of respondents as well as summarize the knowledge and attitudes of consumers regarding organic foods. Furthermore, inferential statistics will be used to ascertain the last two tasks undertaken by the consultant viz. All analysis was obtained by using the level of significance set at 0.05, generated from Excel 2016 and STATA statistical packages. The data obtained from the semi-structured interviews was analyzed using content analysis to identify respective themes that informed on the research objectives.

3.5.2 Estimated Economic Value

An estimation of the market potential was done using domestic consumption of fresh produce as the indicator. Namely:

$$C = [[r(P + M)] - X]i \quad \text{equation (2)}$$

Where

C = Consumption (EC\$)

r = proportion of normative consumption attributed to organic products

P = 2017 domestic crop production (EC\$)

M = 2017 crop imports (EC\$)

X = 2017 crop exports (EC\$)

i = percentage mean organic product premium (i.e. average premium/average price in 2017)

3.6 LIMITATIONS TO THE STUDY

The study methodology was primarily impacted by:

1. Interviewer bias – expressed primarily as subjective interpretation and intent of the interviewer to complete the survey form as fully as possible, even where responses may be not clear. These are inherent to all surveys but given measures for interview variability it is expected that the influence on findings is negligible.

4. RESULTS AND DISCUSSION/FINDINGS

A total of 195 questionnaires were distributed among the research assistants with a response rate of 89%. On average, it took 20 minutes to complete one (1) questionnaire.

The overall percentages of male and female consumers who participated in the survey was 37.1% and 62.9%, respectively. The greatest proportion, 46.6% of consumers were in the age group 18 - 30, while 25.3%, 19.1% and 6.2% were apportioned to the groups 31- 40, 41 - 50 and 51 – 59, respectively. The majority of consumers were single (55.6%) - almost twice that of the married survey population (30.3%). The average household size was 4 persons with most of these households (64.6%) being from Castries and Gros-Islet. Modal consumer's monthly income fell between EC\$801 - 1,600 (26.4%) followed EC\$1,601 - 2,400 (16.8%). It should be noted that a combined proportion of 30% of consumers surveyed earned above EC\$3,201.

From the abovementioned concerning consumers' demographic profiles, 52% of consumers expressed that they were mostly familiar with the term organic foods and 35% of consumers have come across the term organic foods sometime prior to the survey. The remaining 23% of consumers had never heard of the term organic foods.

Ninety-two (92%) of all the respondents did indicate that there should be increased promotion to improve the citizen's awareness of the importance and influences that may accrue to them as a result of consuming organic foods. The majority of respondents recommended promotion in the form of paid advertisement, free sampling of food items at supermarkets and local markets, increased presence on social media and better support from the ministry of agriculture. This may assist in job creation along the value chain for organic foods as a result of expected rises in demand that may have been triggered by the impact of these promotional incentives.

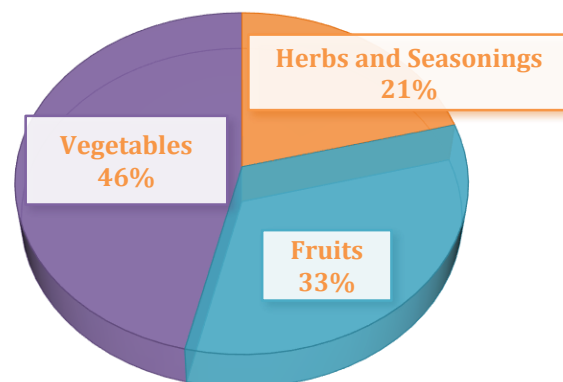
Results are categorized by major points of inquiry to inform the development of organic commodities/offerings aligned with consumer demand expressed as willingness to buy. These major categories are:

1. Indicators of willingness to buy for organic foods
2. Existing/Potential consumer purchasing behaviour for organic foods
3. Indicators of premium differentiation that inform willingness to pay
4. Consumer desired factors/attributes in organic foods
5. Indicators of economic merit of an organic industry

4.1 EXISTING/POTENTIAL CONSUMER PURCHASING BEHAVIOUR FOR ORGANIC FOODS

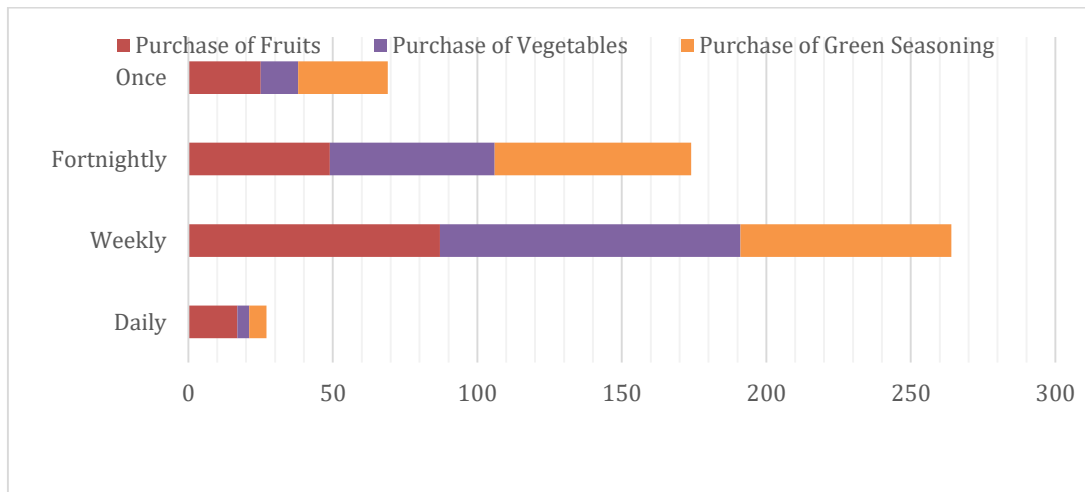
From Diagram 1 below, consumers in Saint Lucia spend the largest percentage of their incomes on vegetables at the supermarket or local markets on a monthly basis as compared to fruits and herbs and green seasonings. While this does not directly imply that buyers consume more vegetables than the other two categories, it is a good indicator of spending preference.

Diagram 1: Pie chart representing individuals' distribution of income at Supermarkets and/or Local Markets on a Monthly basis.



On average a majority of respondents purchase commodities on a weekly basis with purchases in the 'vegetable' product category leading most frequent purchases in terms of volume. With regard to these broad product categories, it is recommended therefore, that organic producers focus on developing organic 'vegetable' offerings, followed by 'fruits' and then 'green seasonings'.

Diagram 2: Stacked Bar representing respondents' monthly purchasing patterns



The greatest percentage of respondents who purchase commodities on a weekly basis do purchase 'vegetables' while the greatest percentage of respondents who purchase commodities on a fortnightly basis purchasing 'green seasoning' (Diagram 2). These findings suggest that:

1. Suppliers of organic fruits and vegetables should at least meet weekly consistency in supply to best align with consumer demand.
2. Suppliers of organic herbs and seasonings should at least meet fortnightly consistency in supply to best align with consumer demand.

4.2 INDICATORS OF WILLINGNESS TO PAY FOR ORGANIC FOODS AND CONSUMER EQUITY

Knowledge, gender, market abnormalities and nutritional attributes (Table 1) are significant in predicting willingness to pay a premium for organic foods (i.e. pay a higher price than for the conventionally-produced equivalent).

Table 1: Probit Model to estimate an individual's willingness to pay a premium for Organic Foods

Willingness to Pay	Probit Coefficients	P-values
Knowledge	-0.24*	0.050
Market Abnormalities	0.66*	0.001
Income	0.07	0.199
Environment	-0.01	0.592
Nutritional Attributes	-0.29**	0.070
Gender	-0.42**	0.60
Constant	0.73*	
Pseudo R2	0.12	
LR chi2 (6)	27.65	0.0001

*Indicates significance at the 5% level

** Indicates significance at the 10% level

The variable for market abnormalities reflects the expected impact of abiotic and human factors that result in shortages or disruptions in the price and/or supply (volume, quality, etc.) of organic inputs, and thus affect willingness to pay. The model found market abnormalities to have a comparatively strong positive impact on the probit index. Further, the predicted probability for this variable is 70% *outside of shortage* compared to 46% *in a shortage*, suggesting that the average consumer is likely to make purchase organic foods at premium under normal market conditions. This suggests that scarcity of organic commodities at a premium actually has a negative impact on willingness to pay for the average consumer in St Lucia. In terms of product presentation to the market, marketing and supply strategies should aim for regularized and consistent product offerings to the market to instill a sense of normality about the product in order to be highly likely to stimulate demand.

Knowledge is a categorical variable describing an individual consumer's level of understanding about positive/beneficial attributes of organic foods; and much like gender and nutritional attribute are tacit influencers of purchasing decision. These findings suggest that influencing the individual consumer's knowledge parameter and promoting the nutritional attributes associated with organic foods would produce a higher likelihood of inducing the average consumer in Saint Lucia to pay a premium for organic foods.

In the case of gender, willingness to pay is higher with males compared to females. Specifically, the survey found that males are more likely to pay a premium for organic commodities than females (71% for males compared to 57% for females). However, women recorded a willingness to pay the highest premiums between EC\$1.50 to >\$2.25 for low-end foods and EC\$4.50 to >\$8.50 for high-end organic foods (See Section 4.5). This gender differentiation was also observed in the work on consumer willingness to pay for organic foods by Vapa-Tankosić et al. 2017.

Individual income level and environment were found to be insignificant at the 5% level but significant at the 10% level. In the case of income, however, the model did find that gains to income would have a positive impact on the likelihood of purchase (i.e. positive relationship to the probit index). The converse is true for the environment variable (Table 1), which suggests that the more the average consumer perceives that organic foods are going to be detrimental to the environment, the less likely they would be willing to pay a premium for these commodities.

4.3 INDICATORS OF PREMIUM DIFFERENTIATION THAT INFORM WILLINGNESS TO PAY

Perception on premiums for organic commodities, income and household size were found to be significant with regards to willingness to pay a premium for organic commodities (Table 2). There exists a direct relationship between persons who perceive that a higher price should be placed on organic commodities and their willingness to pay that extra price for the organic commodities over that of conventional commodities. This relationship is very significant since $p = 1.8475E-07$ ($p < 0.05$). In other words, **the average consumer thinks that premiums on organic products are justified** and that preserving this perception is very important to influencing willingness to buy.

However, in the case of household size, there is an inverse relationship between household size and their perception of paying a premium for organic commodities. That is to say that, generally, as household size increases, household purchasers believe that organic commodities should be priced lower. This relationship is significant at the 10% significance level but insignificant at lower levels of significance since $p = 0.094915$.

Table 2: Correlation Matrix (significant correlations in bold)

	Income Levels	perception of paying a premium for organic commodities	Willingness to pay a premium for organic commodities	Household Size
Income Levels	1			
Perception of paying a premium for organic commodities	0.09671	1		
Willingness to pay a premium for organic commodities	0.174617	0.378815	1	
Household Size	-0.07032	-0.12556	0.028906	1

There exists a direct relationship between one's income level and their willingness to pay a premium for organic commodities. This relationship is significant in helping to explain why persons are willing to pay more to purchase organic commodities since $p = 0.019742$ ($P < 0.05$). Another dimension to explore with regards to income is the direct relationship between those who are willing to pay a premium for organic foods and their income levels and the fact that this relationship, however, is insignificant in explaining one's willingness to pay a premium for organic commodities, since $p = 0.199073$ ($p > 0.05$). This finding suggests that the average consumer in Saint Lucia is generally open to purchasing organic commodities.

In Table 3 four general attributes for market characterization of organic commodities in Saint Lucia are presented. These help explain various dimensions of consumer perception on premium/differentiation of organic commodities. The Likert scale was used to record consumer scoring and perception, where strongly agree = 1; Agree = 2; Neutral = 3; Disagree = 4; and Strongly Disagree = 5. From Table 3 it can be seen that all respondents *agreed* with the statements asked to them concerning the market characterization of organic foods while the modal response was *strongly agreed*. In other words, **the average consumer in Saint Lucia believes that these general attributes are true** and would respond to the same with regards to making a purchasing decision.

Table 3: General Attributes for Market Characterization of Organic Products

Attribute	Count	Mean	Mode
A. Organic foods including fruits/vegetables contain more natural nutrients, and are better tasting than conventional foods.	178	1.66	1
B. From farm to table, the waste created from organic foods is less harmful to the environment than conventional foods.	178	1.61	1
C. It is more economical to eat organic foods today than conventional foods, thus reducing cost and visits to the doctor in your future.	178	2.11	1
D. Organic fruits/vegetable are considered to be a lot safer and healthier to eat than their conventional counterparts.	178	1.54	1

The findings from Table 3 suggests that:

1. The three (3) most significant general attributes in order of significance are D, B and A, respectively.
2. Safety and health attributes of organic foods compared to their conventional counterparts (attribute D) is the most strongly supported indicator with regards to premium. The distinction in health and wellness over a lifetime (i.e. perceptions on total benefit from healthier and longer life that may be gained from organic foods versus conventional) should be a very important element of market engagement. Validations of the same from empirical findings would be especially valuable here.
3. Similarly, for attribute B, organic production systems should adopt a low-waste, environmentally safe/beneficial strategy and factor this in to marketing or product promotion to consumers.
4. In the case of attribute A, validations of the same from personal interactions (e.g. blind taste testing, sponsored supply for before and after diagnoses) or empirical findings would be especially valuable.

Table 4 further unpacks a number of product offering attributes [A – D(v)] to elucidate subjective consumer preferences. It can be seen that most respondents either agreed or strongly agreed with the specific general attributes typically associated with organic product offerings. In fact, the modal response was strongly agreed for all but one statement: D(v)⁴. Looking at the mean values, attributes C, A and D(i) were the most important aspects of the product offering to the Saint Lucian consumer.

Table 4: Organic Product Offerings

Attribute	Count	Mean	Mode
A. Organic fruits and vegetables should be in a secured package with a legible logo or label stating that "this product is organic".	178	1.45	1
B. Supermarkets and vendor stalls should have a dedicated display of both low/high-end organic fruits/vegetables/seasonings.	178	1.76	1
C. Farmers should attempt to grow green seasonings with natural based fertilizers and manures.	178	1.42	1
D. Indicate the extent of your agreement with the following benefits of a developed organic food industry.			
i. Positive impact on the environment	178	1.47	1
ii. Increased revenue by lowering St. Lucia's import food bill	178	1.64	1
iii. Increased employment	178	1.85	1
iv. Improved general health of all the citizenry of St. Lucia	178	1.58	1
v. A decrease in cancers and other illnesses	178	1.86	2

Table 4 suggests that:

1. The use of natural-based fertilizers and manures (attribute C) is a very important element of perceptions on organic foods to consumers in Saint Lucia; particularly herbs and seasonings. This fact augers well for cooperation between organic producers and local suppliers of organic/natural inputs (e.g. Algas Organics, Agro-boost, Floral Cooperative B.I.M.).
2. Packaging and branding are important in influencing purchasing of organic foods (attribute A). The presentation should align itself with perceptions of safety, security, sophistication and wholesomeness.

⁴ The Likert scale was used where strongly agree = 1, Agree = 2, Neutral = 3, Disagree = 4 and strongly Disagree = 5.

- Overall, as seen with the General Attributes D and B in Table 3, parameters related to improvements in personal health/wellness and environmental wellness are significant promotion/marketing elements influencing purchasing behaviour. This should be an objectively verifiable element of organic industry development as it relates to implementing the draft organic standard, and more broadly, a certification framework.

4.4 CONSUMER DESIRED FACTORS AND ATTRIBUTES IN ORGANIC FOODS

Identifying those factors/attributes of the organic product offering that consumers would be most responsive to (e.g. labelling, branding, packaging, etc.) is critical to the production of commodities with immediate consumer appeal.

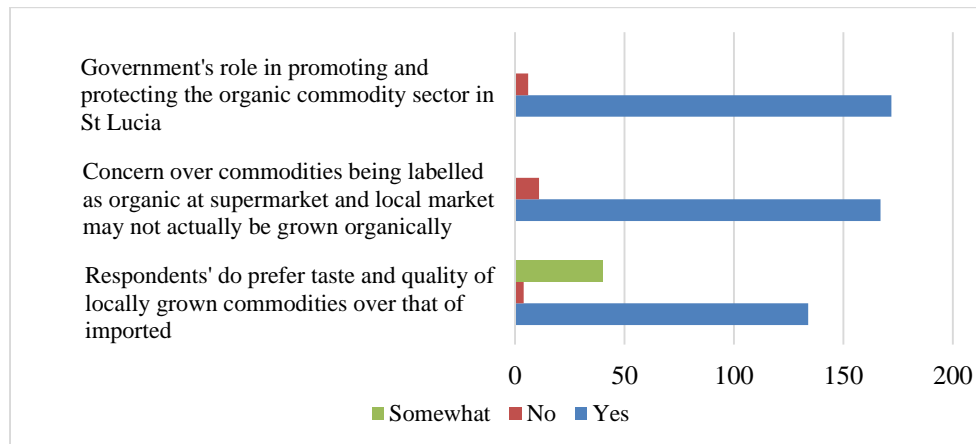
Table 5: Main Factors in classifying whether a commodity is considered a low-end or a high-end commodity for product categories Fruits and Vegetables (most significant in bold)

Main Factors	Fruits Relative Frequency	Vegetables Relative Frequency
Price	0.37	0.36
Labelling	0.06	0.02
Quality	0.20	0.24
Appearance	0.07	0.07
Preference	0.04	0.04
Nutritional Benefits	0.21	0.19
Taste	0.01	0.02
Place of Purchase	0.01	0.00
Accessibility	0.02	0.05

From Table 5 the main factor in determining whether an individual's chooses a commodity as a low-end or high-end for both fruits and vegetables is price. However, the factor that follows price for fruits is nutritional benefits followed by quality and then appearance. It is important to note the small variation between fruits and vegetables where quality is higher ranked as priority over nutritional benefit.

Diagram 3 below presents consumer feedback on government influence, preferences and authenticity for organic commodities. A majority of the respondents (97%) indicated that the Government of Saint Lucia should play a role in promoting and protecting the organic commodity sector in Saint Lucia. This finding augers well for industry stakeholders to engage/lobby the State in industry development (e.g. facilitated/ improved access to inputs and tools for organic production).

Diagram 3: Respondents' opinions on government influence, preferences and authenticity for organic commodities



Respondents also indicated that there is great concern that commodities labelled as organic in supermarkets and/or local markets may not have actually been grown organically, implying that the decided-upon systems for certification/ accreditation should instill consumer confidence of the same. In addition, a majority of respondents (75%) prefer the taste and quality of locally grown commodities over that of conventional commodities. **This is a key element that can be leveraged to build demand and confirm perceptions (see Section 4.3).**

4.5 INDICATORS OF ECONOMIC MERIT OF AN ORGANIC INDUSTRY

To examine economic merit of the industry, establishing price points, as well as consumers' acceptance of the same is important to qualifying acceptance of the offering in question. Respondents were provided with different premium ranges to indicate acceptable premium amounts above that which currently paid for conventional foods. Monetary options were found to be more effective in the pilot testing of the questionnaire as compared to percentages.

The key findings were that on average, consumers in Saint Lucia are willing to pay:

1. EC\$1.25 per heap to purchase organic seasonings (Table 6);
2. EC\$0.25 - EC\$1.00 more for organic fruits in the low-end category (Table 7A). Low-end fruits include: grapefruit, cantaloupe, pineapple, golden apple and plums;
3. EC\$0.50 - EC\$3.50 more for organic fruits in the high-end category (Table 7B). High-end fruits include: apples, mango, guava, grapes, strawberries, honeydew and watermelons.
4. EC\$0.25 and EC\$1.00 more for organic vegetables in the low-end category (Table 8A). Low-end vegetables include: lettuce, carrots and kale.

5. EC\$0.50 and EC\$2.50 more for organic vegetables in the high-end category (Table 8B). High-end vegetables include: cucumber, tomato, cabbage, broccoli, bell pepper, local spinach and cauliflower.

4.5.1 Green Seasonings

Table 6A shows that on average, persons are willing to pay an extra EC\$1.25 per heap to purchase organic seasonings over that of conventional seasonings despite the modal response is Over EC\$2.25 per heap.

Table 6A: Willingness to pay a Premium for Organic Seasoning (EC\$)

Variable	Count	Mode	Mean	Minimum Value	Maximum Value
Premium to Purchase Organic Green Seasoning over Conventional	178	> \$2.25	\$1.25	\$0.25	> \$2.25

Table 6B shows that the greatest premium that individuals are willing to pay over the conventional price per heap for green seasoning is EC\$2.25 for Castries, Gros-Islet and Vieux Fort, while persons in Anse-La-Raye would prefer to pay a premium of EC\$0.25 for organic green seasoning with a \pm EC\$1.00 variation in premium. This is expected as persons residing in rural areas are more prevalent to growing their own green seasonings due to lower buying propensity, and thus are more willing to pay less to purchase organic green seasonings.

Table 6B: Premium for organic green seasoning by location

Premium for Green Seasoning	Location				Grand Total
	Castries	Gros-Islet	Anse-La-Raye /Soufriere	Vieux Fort	
EC\$0.25	19	14	5	9	47
EC\$0.50	4	5	1	6	16
EC\$0.75	7	7	3	3	20
EC\$1.00	2		2		4
EC\$1.25	2	1		3	6
EC\$1.50	3	1	1		5
EC\$1.75	5	1	1	6	13
EC\$2.00	2	2		2	6
EC\$2.25	2	1	2		5
Over EC\$0.25	25	12	8	11	56
Grand Total	71	44	23	40	178

4.5.2 Fruits

Most persons are willing to pay between **EC\$0.25 and EC\$1.00 more for low-end organic fruits** (Table 7A). It is important to note that as income increases, consumers are less willing to pay more for low-end fruits of their choice.

Table 7A: Cross-tabulation between Monthly Income and Premium to purchase low-end organic fruits

Premium to Purchase Low-end Organic Fruits	Monthly Income Levels (EC\$)							Grand Total
	1 – 800	801 – 1,600	1,601 – 2,400	2,401 – 3,200	3,201 – 4,000	4,001 – 4,600	> 4,601	
EC\$0.25	6	14	7	7	3	7	5	49
EC\$0.50	4	13	8	7	5	10	4	51
EC\$0.75	2	3	4	4		1	4	18
EC\$1.00	2	8	7	6	1	1	4	29
EC\$1.25	2	2	1		1	1		7
EC\$1.50	1	1	1					3
EC\$1.75	1			1				2
EC\$2.00	2	3	1			1		7
EC\$2.25	1	1						2
Over EC\$2.25	1	1	1	1	1		5	10
Grand Total	22	47	30	26	11	21	22	178

Most persons are willing to pay a premium between **EC\$0.50 and EC\$3.50 in order to continue purchasing their high-end organic fruits** (Table 7B). The mode and median acceptable premiums were EC\$0.50 and EC\$1.50, respectively. Since higher income earners (> EC\$4000/month) do not account for a majority of respondents accepting premiums above EC\$0.50, the findings suggest that both low and high income earners give equal discrimination to their food bills as per their monthly incomes. **Therefore, at present, income diminishes as a major factor that would determine a consumers' willingness to pay higher premiums for organic foods.**

Table 7B: Cross-tabulation between Monthly Income and Premium to purchase high-end organic fruits

Premium to Purchase High-end organic fruits	Monthly Income Levels (EC\$)							Grand Total
	1 – 800	801 – 1,600	1,601 – 2,400	2,401 – 3,200	3,201 – 4,000	4,001 – 4,600	> 4,601	
EC\$0.50	7	14	5	11	5	14	4	60
EC\$1.50	6	15	15	9	3	2	5	55
EC\$2.50	1	10	5	5	1	3	7	32
EC\$3.50	3	4	3				2	12
EC\$4.50	1	3			1		2	7

Premium to Purchase High-end organic fruits	Monthly Income Levels (EC\$)							Grand Total
	1 - 800	801 - 1,600	1,601 - 2,400	2,401 - 3,200	3,201 - 4,000	4,001 - 4,600	> 4,601	
EC\$5.50	1	1	2	1	1	1		7
EC\$6.50	1						1	2
EC\$7.50	1							1
EC\$8.50	1							1
Over EC\$8.50							1	1
Grand Total	22	47	30	26	11	20	22	178

Based on Table 7C household with:

1. Sizes of 1, 4 and 7 are more willing to pay a premium of EC\$1.50 for high-end organic fruits of their preference;
2. Sizes of 2, 5 and 6 are more willing to pay a premium of EC\$0.50;
3. Size of 3 is more willing to pay a premium of EC\$2.50.

Overall, the results show household size is more relevant to willingness to pay smaller premiums for high-end organic fruits since as household size increases households of various sizes become equally willing to pay about the same for this product category.

Table 7C: Cross-tabulation between Household Size and Premium to purchase high-end organic fruits

Premium for high-end organic fruits	Household Size									Grand Total
	1	2	3	4	5	6	7	8	9	
EC\$0.50	2	13	10	14	14	6	1			60
EC\$1.50	6	9	11	17	6	2	3	1		55
EC\$2.50	2	7	15	2	4	2				32
EC\$3.50			4	3	2	3				12
EC\$4.50		1	1	2			2		1	7
EC\$5.50	1	4	2							7
EC\$6.50			2							2
EC\$7.50					1					1
EC\$8.50							1			1
Over EC\$8.50					1					1
Grand Total	11	34	45	38	28	13	7	1	1	178

4.5.3 Vegetables

A majority of persons are willing to pay an extra amount for their low-end organic vegetables over that of conventional vegetables' price between EC\$0.25 and EC\$1.00 (Table 8A). From one income level to another, persons are still willing to pay relatively the same change in price

to purchase their preferred low-end organic vegetables. This implies that the average consumer is not keen to pay a high premium for low-end organic vegetables.

Table 8A: Cross-tabulation between Monthly Income and Premium to Purchase Low-end Organic Vegetables

Premium to Purchase Low-end Organic Vegetables	Monthly Income Levels (EC\$)							Grand Total
	1 – 800	801 – 1,600	1,601 – 2,400	2,401 – 3,200	3,201 – 4,000	4,001 – 4,600	> 4,601	
EC\$0.25	3	13	8	10	5	7	4	50
EC\$0.50	5	10	1	7	2	9	7	41
EC\$0.75	3	8	8	1	1	2	3	26
EC\$1.00	3	6	4	3	3	1	4	24
EC\$1.25	1	2	1			1	1	6
EC\$1.50	1	2	1	1			1	6
EC\$1.75	1		2					3
EC\$2.00	1	3	2	3				9
EC\$2.25	2	1	3				1	7
Over EC\$2.25	2	2		1			1	6
Grand Total	22	47	30	26	11	20	22	178

It is important to note however, that low income consumers are *more willing to pay above the average price interval* for their low end vegetables since more than 95% of them believe it is more economical to eat organic foods today than conventional foods. This perception is linked to reducing future doctor visits and health costs. **The definitive willingness for low income earners to shift their spending away from higher future healthcare cost speaks volumes (see Section 4.3).** This is more so the case given that high income earners typically have the disposition that future healthcare interventions would be affordable based on current earnings, as well as the increased likelihood of health insurance. **Low income earners value nutritional benefits arising from vegetables more than high income earners.**

Table 8B: Cross-tabulation between Monthly Income and Premium to purchase high-end organic vegetables

Premium to Purchase High-end Organic Vegetables	Monthly Income Levels (EC\$)							Grand Total
	1 – 800	801 – 1,600	1,601 – 2,400	2,401 – 3,200	3,201 – 4,000	4,001 – 4,600	> 4,601	
EC\$0.50	6	14	8	11	4	10	6	59
EC\$1.50	6	18	13	7	5	6	7	62
EC\$2.50	4	8	3	5	2	3	7	32
EC\$3.50	1	1	2	1			1	6
EC\$4.50	1		2	1				4
EC\$5.50	2	2		1		1		6
EC\$6.50	1	3	2					6

EC\$7.50		1						1
EC\$8.50	1							1
Over EC\$8.50							1	1
Grand Total	22	47	30	26	11	20	22	178

Individuals are willing to pay an extra amount between EC\$0.50 and EC\$2.50 to purchase their choice of preferred high-end organic vegetables (Table 8B). It must be noted that persons who earn a monthly income of less than EC\$2,400.00 are more willing to pay a price higher than EC\$2.50 but no more than EC\$8.50 to purchase the high-end organic vegetable of their choice as compared to higher earning persons. The findings from Table 8C suggest that smaller households are willing to pay higher premiums for organic vegetables. Household with size of 1 is more willing to pay a premium of EC\$2.50 for organic fruits of their preference, sizes of 2 and 3 are more willing to pay a premium of EC\$1.50, sizes of 4, 5 and 6 are more willing to pay a premium of EC\$0.50. the bigger the household the less consumers are willing to pay extra for organic foods.

Table 8C: Cross-tabulation between Household Size and Premium to purchase organic vegetables

Premium for high-end organic vegetables	Household Size									Grand Total
	1	2	3	4	5	6	7	8	9	
EC\$0.50	3	12	12	15	10	5	2			59
EC\$1.50	3	13	18	14	9	3	1	1		62
EC\$2.50	4	5	7	8	5	1	2			32
EC\$3.50			1		2	3				6
EC\$4.50			2			1	1			4
EC\$5.50	1	3	1				1			6
EC\$6.50		1	3	1					1	6
EC\$7.50			1							1
EC\$8.50					1					1
Over EC\$8.50					1					1
Grand Total	11	34	45	38	28	13	7	1	1	178

4.5.4 Estimated Earnings

Using Equation (2) (see Section 5.4.2), the potential of the domestic organic commodity market was estimated at EC\$3,169,216.50. This assumes that the proportion of normative consumption for crops attributed to organic commodities (r) is 5% and a mean premium percentage (i) of 11% for organic commodities over the conventional. In other words, all other factors held constant, if organic commodities were 11% more expensive and just 5% of the consuming population bought them, there would be a market with a potential of EC\$3 million dollars.

5. CONCLUSION AND RECOMMENDATIONS

This research addressed market characterization and economic merit of an organic foods industry in St. Lucia by way of identifying indicators of consumers' willingness to pay for organic foods, economic merit of establishing an organic industry and evaluating consumers' purchasing behaviors and desired factors/attributes for organic foods. The summary findings suggest that a domestic market with potential value of EC\$3 million can be developed and would be receptive of strong consumer support.

Over-all, the results were able to account for consumers' willingness to buy organic foods at a premium. Among socio-economic factors, gender, income, household size and location were the most noteworthy in determining persons willingness to pay for organic foods. It was most surprising that men were more willing to pay a premium for organic foods than women. For the men and women who indicated they were willing to pay a premium for organic foods, women were willing to pay a higher premium for organic foods than men were prepared to pay. In general, consumers were most willing to pay a premium between EC\$0.25 and EC\$1.00 for both low end and high end organic foods while persons are willing to pay a lower range to consumer organic vegetables than that of fruits by EC\$1.00 (for fruits EC\$0.50 and EC\$3.50 and for vegetables EC\$0.50 and EC\$2.50). This is an important finding to inform pricing decisions based on target commodity.

Also identified as important to willingness to buy are consumers' perceptions, lifestyles (nutritional values/health issues) and environmental issues. This is suggestive of increasing consumer conscientiousness over tacit product characteristics and a willingness to shape purchasing behavior by the same in as much that premiums align with value perceptions. There exist opportunities for market development and sophistication predicated upon this important finding. A consumer's perception did contribute positively towards their willingness to buy organic foods. On that basis, market segmentation may be effective in aligning product offerings with consumer expectation to build equity and thereby allow producers to maximize earnings in the market.

Ninety-two (92%) of all the respondents did indicate that there should be increased promotion to improve citizens' awareness of the importance and influences that may be accrued to them as a result of consuming organic foods. The majority of respondents recommended promotion in the form of paid advertisement, free sampling of food items at supermarkets and local markets, increased presence on social media and better support from the ministry of agriculture. This may assist in job creation along the value chain for organic foods as a result

of expected rises in demand that may have been triggered by the impact of these promotional incentives.

At present consumers Saint Lucia seem to be willing to spend more on vegetables than any other product category, and to do so at a higher frequency as well. Therefore, consumers may demand more organic vegetables thus leading to higher-quality lifestyles. Price, quality and nutritional values are the key factors in explaining the nature and types of organic vegetables and fruits consumers may be willing to pay a premium for. Therefore, they need to be considered when determining pricing and promotional strategies in terms of effectiveness in creating attraction and value offering. This would directly build greater confidence and trust in companies by consumers in overlooking the fear that organic labels are not substantive but an exploitative strategy. As a result, this may increase persons' knowledge and interest in differentiating organic foods in the marketplace.

However, in order to effectively build on these findings by way of industry development, a number of operational matters still require substantial action. Specific recommendations include:

1. Evaluating the ability of local producers to meet consumer-specified premium price points

Cost of production estimates for the commodities listed with good market and/or food and nutrition security relevance should be undertaken. An important caveat with regards to industry development to note here is the fact that a number of organic principles are already well adopted by local producers. This fact suggests that there may be surprisingly low additional costs, price inflation and possible cost reductions associated with transitioning to producing organic commodities.

2. Completing and operationalizing the draft organic produce standards

Authenticity and the ability to demonstrate the same is significant in influencing the purchasing decision. Industry development should therefore recognize the same as an essential element of the marketing and development campaign.

3. Capacity building of Farmers and Extension Support

Related to point #1 above and focused on building efficiencies in the production process. These potential efficiency gains may demonstrate that it is possible to produce organic commodities that are as or more price competitive than conventionally produced commodities (locally grown or imported). This area could largely support the Government of Saint Lucia's intentions of building food sovereignty and correcting food trade imbalance.

4. Market Coordination

Poor supply chain coordination was reported as a major challenge to development of the international organic food market (Mordor Intelligence 2017). Similarly, at the national level, coordination among chain actors will be important to cost-effectively aligning product offerings to consumer expectations. Further, considering just how significant this variable and its attributes are in the decision to purchase, specific effort here may yield considerable gains with the objective of capitalizing on the already favourable disposition of the average consumer to organic/environmentally-friendly products.

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ANNEX 1: SURVEY INSTRUMENT

Characterization of the Market and Economic Merit of an Organic Food Industry in St. Lucia

INTERVIEW NUMBER:

Start Time

Checked by (Name).....

DATE:

End Time

On.....

Dear Participant,

The Global Environment Facility Small Grant Program United Nations Development Programme (GEF SGP UNDP) in collaboration with the Inter-American Institute for Cooperation on Agriculture (IICA) and the Government of St Lucia is presently embarking on a study titled "**Characterization of the Market and Economic Merit of an Organic Food Industry in St. Lucia.**" This study is funded by the Food and Agriculture Organization of the United Nations (FAO/UN), GEF SGP UNDP and IICA.

The FAO defines "**organic agriculture**" as a *"system that begins to consider potential environmental and social impacts by eliminating the use of synthetic inputs, such as synthetic fertilizers and pesticides, genetically modified seeds and breeds that maintain and increase long term fertility and prevent pest and diseases"*

As you know, St. Lucia has had a long history with respect to growing its own fruits, local vegetables and green seasonings. However, the increased introduction of pesticides and fertilizers to boost production and achieve faster growth times, have impacted the natural and agro-ecosystems by decreasing natural soil fertility and increasing diseases and susceptibility to diseases, ultimately adversely affecting the health of its citizens.

To this end, we invite you to help us by participating in this systematically randomly selected consumer of commodities to conduct this survey. We wish to ascertain your understanding of organic foods, the growing concern of cancer and other illnesses in Saint Lucia, and how much you would be willing to invest in purchasing organic foods. Your answers will help us to develop and make recommendations to the decision makers in Saint Lucia.

You may stop the survey at any point and ask questions or request an explanation. All information will be confidential. Your name will not be connected with your answers and will not be shared with anyone. This interview is voluntary. We kindly ask that you be as honest as possible with your answers.

If I can contact you after this survey is complete today, may I have your contact information?

E-mail address

Section A: Knowledge Awareness	
1) Which commodity do you purchase the MOST from your visit to the supermarket or the local market on a monthly basis?	<input type="radio"/> Herbs and green seasonings <input type="radio"/> Fruits <input type="radio"/> Vegetables
2) What is the MAIN factor in determining whether you classify a fruit as a low-end or a high-end fruit?	<input type="radio"/> Price <input type="radio"/> Labelling <input type="radio"/> Quality <input type="radio"/> Appearance <input type="radio"/> Preference <input type="radio"/> Nutritional Benefits <input type="radio"/> Taste <input type="radio"/> Place of Purchase <input type="radio"/> Accessibility
3) Based on your response to Q5 , classify the following fruits into your Low-end and High-end by placing a L next to Low-end products and H next to High-end foods of your choice.	___ Apples, ___ Grapes, ___ Pears, ___ Pineapple, ___ Strawberries, ___ Kiwi, ___ Mangoes, ___ Grapefruits, ___ Oranges, ___ Bananas ___ Golden apples, ___ Guavas, ___ Cantaloupe, ___ HoneyDew, ___ Plums, ___ Love Apple,
4) What is the MAIN factor in determining whether you classify vegetables as a low-end or a high-end fruit?	<input type="radio"/> Price <input type="radio"/> Labelling <input type="radio"/> Quality <input type="radio"/> Appearance <input type="radio"/> Preference <input type="radio"/> Nutritional Benefits <input type="radio"/> Taste <input type="radio"/> Place of Purchase <input type="radio"/> Accessibility
5) Based on your response to Q4 , classify the following products into your Low-end and High-end by placing a L next to Low-end products and H next to High-end foods of your choice.	___ Carrots, ___ Cabbage, ___ Tomatoes, ___ Cucumber, ___ Lettuce ___ Local Spinach, ___ Broccoli, ___ Cauliflower, ___ Bell peppers ___ Beet root, ___ Kale, ___ Pumpkin,
6) Do you prefer the taste and quality of locally grown commodities over that of imported?	<input type="radio"/> Yes <input type="radio"/> Somewhat <input type="radio"/> No
7) What imported vegetables do you purchase when you visit the supermarket or the local market? (Multiple Responses are allowed)	<input type="radio"/> Broccoli <input type="radio"/> Cabbage <input type="radio"/> Cauliflower <input type="radio"/> Spinach <input type="radio"/> Kale
8) What types of green seasonings do you purchase when you visit the supermarket or the local market? (Multiple Responses are allowed)	<input type="radio"/> Celery <input type="radio"/> Bay leaf <input type="radio"/> Parsley <input type="radio"/> Onions <input type="radio"/> Thyme <input type="radio"/> Pimento Peppers <input type="radio"/> Bell Peppers <input type="radio"/> Basil <input type="radio"/> Ginger
9) How often do you purchase fruits in a given month?	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Fortnightly <input type="radio"/> Once
10) How often do you purchase vegetables in a given month?	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Fortnightly <input type="radio"/> Once
11) How often do you purchase green seasoning in a given month?	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Fortnightly <input type="radio"/> Once
12) Overall, do you spend more on locally grown commodities than imported commodities at the supermarket or local market?	<input type="radio"/> Yes <input type="radio"/> About the same <input type="radio"/> No <input type="radio"/> Don't differentiate between locally grown and imported
13) Prior to filling out this questionnaire, have you heard or used the term, " Organic Foods "?	<input type="radio"/> Most of the time <input type="radio"/> Some of the time <input type="radio"/> Seldom <input type="radio"/> Never
Please rate your agreement with the following statements	

14) Would you prefer fruits such as bananas, pineapple and water-melons be grown locally/organically rather than being imported?	<input type="radio"/> Yes	<input type="radio"/> No								
15) Would you prefer vegetables such as carrots, cabbage, tomatoes, cucumbers, lettuce, spinach as well as other vegetables be grown locally/organically rather than being imported?	<input type="radio"/> Yes	<input type="radio"/> No								
Section B: Market Characteristics/Organic Products										
Organic Foods are Foods that are grown using natural biological chemicals										
Kindly indicate in Q18 through Q21 the extent to which you agree or disagree with the statements as posed.										
16) Organic foods including fruits/vegetables contain more natural nutrients, and are better tasting than conventional foods.	<input type="radio"/> Strongly Agree	<input type="radio"/> Agree	<input type="radio"/> Neutral	<input type="radio"/> Disagree	<input type="radio"/> Strongly Disagree					
17) From farm to table, the waste created from organic foods is less harmful to the environment than conventional foods.	<input type="radio"/> Strongly Agree	<input type="radio"/> Agree	<input type="radio"/> Neutral	<input type="radio"/> Disagree	<input type="radio"/> Strongly Disagree					
18) It is more economical to eat organic foods today than conventional foods, thus reducing cost and visits to the doctor in your future.	<input type="radio"/> Strongly Agree	<input type="radio"/> Agree	<input type="radio"/> Neutral	<input type="radio"/> Disagree	<input type="radio"/> Strongly Disagree					
19) Organic fruits/vegetable are considered to be a lot safer and healthier to eat than their conventional counterparts.	<input type="radio"/> Strongly Agree	<input type="radio"/> Agree	<input type="radio"/> Neutral	<input type="radio"/> Disagree	<input type="radio"/> Strongly Disagree					
20) Given your response above in Q19, do you think organic foods should be priced higher than conventional foods?	<input type="radio"/> Yes	<input type="radio"/> No								
21) Would you be willing to pay extra to consume organic foods?	<input type="radio"/> Yes	<input type="radio"/> No								
22) How much more are you willing to pay per fruit for low-end organic fruits over that of conventional fruits?	<input type="radio"/> EC\$0.25	<input type="radio"/> EC\$0.50	<input type="radio"/> EC\$0.75	<input type="radio"/> EC\$1.00	<input type="radio"/> EC\$1.25	<input type="radio"/> EC\$1.50	<input type="radio"/> EC\$1.75	<input type="radio"/> EC\$2.00	<input type="radio"/> EC\$2.25	<input type="radio"/> Over EC\$2.25
23) How much more are you willing to pay per fruit for high-end organic fruits over that of conventional fruits?	<input type="radio"/> EC\$0.50	<input type="radio"/> EC\$1.50	<input type="radio"/> EC\$2.50	<input type="radio"/> EC\$3.50	<input type="radio"/> EC\$4.50	<input type="radio"/> EC\$5.50	<input type="radio"/> EC\$6.50	<input type="radio"/> EC\$7.50	<input type="radio"/> EC\$8.50	<input type="radio"/> Over EC\$8.50
24) How much more are you willing to pay per lb. for low-end organic vegetables over that of conventional vegetables?	<input type="radio"/> EC\$0.25	<input type="radio"/> EC\$0.50	<input type="radio"/> EC\$0.75	<input type="radio"/> EC\$1.00	<input type="radio"/> EC\$1.25	<input type="radio"/> EC\$1.50	<input type="radio"/> EC\$1.75	<input type="radio"/> EC\$2.00	<input type="radio"/> EC\$2.25	<input type="radio"/> Over EC\$2.25
25) How much more are you willing to pay per lb. for high-end organic vegetables over that of conventional vegetables?	<input type="radio"/> EC\$0.50	<input type="radio"/> EC\$1.50	<input type="radio"/> EC\$2.50	<input type="radio"/> EC\$3.50	<input type="radio"/> EC\$4.50	<input type="radio"/> EC\$5.50	<input type="radio"/> EC\$6.50	<input type="radio"/> EC\$7.50	<input type="radio"/> EC\$8.50	<input type="radio"/> Over EC\$8.50
26) Are you willing to pay an extra amount of money to purchase conventional or organic foods during shortages caused by adverse weather conditions?	<input type="radio"/> Yes	<input type="radio"/> No								

Section C: Organic Products Offerings Please rate in Q29 to Q31 the extent to which you agree with the statements posed with respect to product characteristics	
27) Organic fruits and vegetables should be in a secured package with a legible logo or label stating that "this product is organic"	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree
28) Supermarkets and vendor stalls should have a dedicated display of both low/high-end organic fruits/vegetables/seasonings.	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree
29) Farmers should attempt to grow green seasonings with natural based fertilizers and manures.	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree
30) In your opinion, what should be done in order to promote increased consumption of organic fruits/vegetables/seasonings and overall organic foods? (Multiple Responses are allowed)	<input type="radio"/> Paid Advertisements <input type="radio"/> Free sampling at Supermarkets <input type="radio"/> Social Media <input type="radio"/> Word of mouth <input type="radio"/> Support from Agricultural Sector <input type="radio"/> Reasonably Priced
31) Would you be willing to pay more for green seasoning grown organically over conventionally grown?	<input type="radio"/> Yes <input type="radio"/> No
32) If you answered Yes to Q31, how much more would you be willing to pay per heap?	<input type="radio"/> EC\$0.25 <input type="radio"/> EC\$0.50 <input type="radio"/> EC\$0.75 <input type="radio"/> EC\$1.00 <input type="radio"/> EC\$1.25 <input type="radio"/> EC\$1.50 <input type="radio"/> EC\$1.75 <input type="radio"/> EC\$2.00 <input type="radio"/> EC\$2.25 <input type="radio"/> Over EC\$2.25
33) Are you concerned that commodities labelled as organic foods may not have actually been grown organically?	<input type="radio"/> Yes <input type="radio"/> No
34) Should the Government of St. Lucia play a role in promoting and protecting organic foods in St. Lucia?	<input type="radio"/> Yes <input type="radio"/> No
35) If you answered Yes to Q35, what do you think that role should be? (Multiple Responses are allowed)	<input type="radio"/> Establish certification bodies to secure the genuineness of organic foods <input type="radio"/> More Laws prohibiting the use of pesticides and fertilizers <input type="radio"/> Increased duties on Imported Foods <input type="radio"/> Programmes on sustainable organic farming practices <input type="radio"/> Incentives for farmers growing organic foods

36) Indicate the extent of your agreement with the following benefits of a developed organic food industry	
a. Positive impact on the environment	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree
b. Increased revenue by lowering St. Lucia's import food bill	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree
c. Increased employment	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree
d. Improved general health of all the citizenry of St. Lucia	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree
e. A decrease in cancers and other illnesses	<input type="radio"/> Strongly Agree <input type="radio"/> Agree <input type="radio"/> Neutral <input type="radio"/> Disagree <input type="radio"/> Strongly Disagree

Section D: Consumer Demographic Profile

37) What is your Gender	<input type="radio"/> Male <input type="radio"/> Female
38) What is your age range?	<input type="radio"/> 18-30 <input type="radio"/> 31-40 <input type="radio"/> 41-50 <input type="radio"/> 51-59 <input type="radio"/> 60 & Over
39) What is your present marital status?	<input type="radio"/> Single <input type="radio"/> Married <input type="radio"/> Separated <input type="radio"/> Divorced <input type="radio"/> Widowed <input type="radio"/> Common law (Living with partner)
40) How many family members constitute your household including yourself?	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 5 <input type="radio"/> 6 <input type="radio"/> 7 <input type="radio"/> 8 <input type="radio"/> 9 <input type="radio"/> 10 <input type="radio"/> Over10
41) Where in St. Lucia do you reside?	<input type="radio"/> Castries <input type="radio"/> Gros-Islet <input type="radio"/> Anse-La-Raye/Soufriere <input type="radio"/> V/Fort
42) What is your current employment status?	<input type="radio"/> Unemployed <input type="radio"/> Employed <input type="radio"/> Between jobs <input type="radio"/> Not interested in working <input type="radio"/> Self-employed <input type="radio"/> Retired
43) In which bracket does your monthly income fall?	<input type="radio"/> EC\$1 –800 <input type="radio"/> EC\$801– 1,600 <input type="radio"/> EC\$1,601 – 2,400 <input type="radio"/> EC\$2,401 – 3,200 <input type="radio"/> EC\$3,201 – 4,000 <input type="radio"/> EC\$4,001 – 4,600 <input type="radio"/> Over EC\$4,601

END OF QUESTIONNAIRE
THANKS YOU VERY MUCH FOR YOUR PARTICIPATION!
HAVE A FANTASTIC DAY!