Ministry of Tourism and Entertainment

TOURISM DEMAND STUDY

A project of the
Ministry of Tourism & Entertainment

Linkages Hub

Funded by the Rural Economic Development Initiative (REDI)
Implemented by the Jamaica Social Investment Fund (JSIF)

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06 October 2015

ACKNOWLEDGEMENTS

Funding for the Tourism Demand Study is provided under the Jamaica Social Investment Fund – Rural Economic Development Initiative, a joint initiative of the Government of Jamaica and the World Bank.

The Ministry of Tourism & Entertainment wishes to thank the team from the University of the West Indies Centre for Leadership & Governance lead by Dr. Lloyd Waller that conducted the research and presented the findings of the study with recommendations.

We would also like to thank the Tourism Linkages Council for providing technical support and guidance for the study as well as the Jamaica Hotel & Tourist Association and its members.

Finally, we wish to thank the members of the various organizations – government Ministries, Departments and Agencies (MDAs) and private sector for providing pertinent data and by assisting the process by engaging in the primary data collection and consultative process that is so important to quantify the potential and existing demand of the tourism sector for local goods and services across the agricultural, manufacturing and entertainment sectors .

Centre for Leadership & Governance
Department of Government, Faculty of Social Sciences
University of the West Indies, Mona

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ACRONYMS

AIC	Agro-Investment Corporation
CLG	Centre for Leadership and Governance
GDP	Gross Domestic Product
GOJ	Government of Jamaica
JAMIS	Jamaica Agriculture Market Information System
JHTA	Jamaica Hotel and Tourist Association
JMA	Jamaica Manufacturers' Association
JSIF	Jamaica Social Investment Fund
MOAF	Ministry of Agriculture and Fisheries
MOTE	Ministry of Tourism and Entertainment
MTF	Medium-term Socio-economic Policy Framework
PIOJ	Planning Institute of Jamaica
RADA	Rural Agricultural Development Authority
STATIN	Statistical Institute of Jamaica

EXECUTIVE SUMMARY

This Tourism Demand Study was conducted to determine and quantify the existing and potential demand for goods and services across the agricultural, manufacturing, and entertainment sectors in Jamaica. More specifically, the study sought to:

- Identify areas where there is strong opportunity for increased consumption of local goods and services in the tourism sector;
- Increase understanding of the supply chain for the tourism sector;
- Identify specific constraints and limitations hindering tourism linkage with the domestic economy;
- Estimate the value of leakages due to expenditure on imported goods and services; and
- Determine the receptivity for use of local goods and services within the sector.

The study was conducted using a combination of approaches that included desk research, a survey of tourism-related businesses, and elite interviews with tourism sector stakeholders. The current demand for agricultural and manufactured products was established from the survey data and a simulation model was applied to these data to estimate potential national demand for agricultural and manufactured products.

This study found that the demand for goods and services in the tourism sector is mainly satisfied by local suppliers but importation does constitute a reasonable proportion of expenditure on some specific products. Additionally, we found that based on the value of expenditure on the importation of certain items, there are excellent opportunities for increased linkages with local producers. These items include products such as bed frames and head boards, cantaloupe, chairs, iceberg lettuce, Irish potatoes, pillows, red jumbo onions, rice, sanitizers, standing lamps, sweet corn, toothpaste, and towels. The annual leakage due to imports amounts to J$65.4 billion in the manufacturing sector and between J$1.6 billion and J$5.0 billion in the agricultural sector.

Therefore, the prospect for import substitution is great as there exists a high level of receptivity among tourism sector stakeholders to local goods and services. This receptivity could be converted to business opportunity as the projected demand for agricultural and manufactured goods indicate that there is tremendous opportunity for trade that could be as high as J$56.7 billion annually for processed foods alone, J$5.3 billion for fruits, and J$1.6 billion for vegetables.

The major constraints hindering tourism linkage with the domestic economy include lack of capacity to supply in large quantities, lack of consistency of supplies, and poor quality of products in the case of the agricultural sector. For the manufacturing sector, the lack of support in promoting locally manufactured goods to foreign investors in the tourism sector is the main obstacle identified.

In light of these findings, this study recommends that the following steps be taken to tackle these obstacles:

- Use the Agro Parks Programme to organize farmers into cooperatives that will have the pooled capacity to produce the quantities of agricultural products demanded by the tourism sector.
- Engage RADA and MOAF in the quality assurance of local agricultural products to ensure that standards set by the hotels and restaurants industry are met in relation to quality and consistency of supply.
- Introduce local industries promotion legislation that will incorporate graduated tax relief for tourism sector investors according to the proportion of their total expenditure on local goods and services in the agriculture and manufacturing sectors.
- JAMPRO should promote local products to foreign investors who are considering the establishment of businesses in Jamaica at the same time that they promote the incentives available to foreign investors.

INTRODUCTION

The tourism sector plays an important role in the Jamaican economy accounting for 6.4% of gross domestic product (GDP) in 2012[1]. In 2014, about 7.1% of the workforce was employed in the hotels and restaurants industry alone. This represented an increase from the previous year's rate of 6.8% (PIOJ 2015) and is reflective of the general trend in growth of the tourism sector.

Jamaica has experienced a steady growth in the number of tourist arrivals over the last decade with total visitor arrivals increasing by 25% within five years, from 2.8 million in 2010 to 3.5 million in 2014. Over this period, the sector's foreign exchange earnings grew by about 12% from US$2 billion to US$2.24 billion (PIOJ 2015). Due to its linkages with other sectors of the economy, the tourism sector has the potential to propel economic growth, especially in the agricultural, manufacturing, and entertainment sectors.

The Medium-term Socio-economic Policy Framework (MTF) of the Government of Jamaica (GOJ) and the government's Growth-Inducement Strategy (Hutchinson and Harris 2012) identified the development of economic linkages between the tourism sector and the other sectors of the economy as critical to promoting growth in and development of these other domestic sectors. The sectors commonly expected to benefit from growth in tourism include agriculture, manufacturing, and the creative industries. It has been argued that opportunities exist in the local industries for import-substitution of demand by the tourism sector for food and other goods and services that are currently met by imports. A recent study by the World Travel and Tourism Council (2013), which estimated that 30% of travel and tourism spending in Jamaica leaks out of the economy through imports, lends support to this point of view. Therefore, if the tourism sector is to deliver on the expectation that it serves as a growth-inducing sector for Jamaica, it is essential to clearly identify areas where strong opportunities exist for increased consumption of local goods and services in the sector and to implement strategies for linking it to local industries for the overall benefit of the domestic economy.

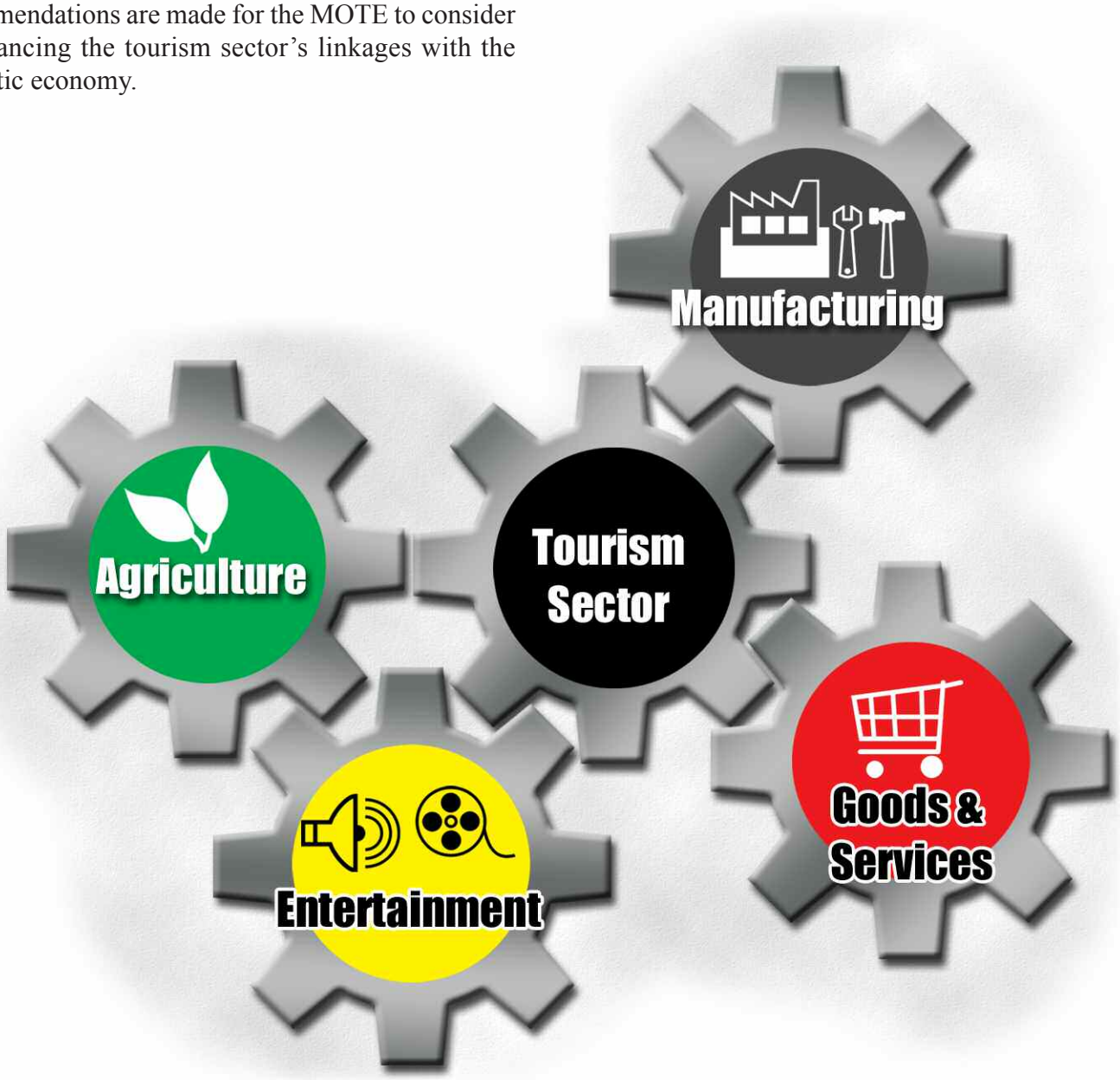
With this in mind, the Centre for Leadership and Governance (CLG), in September 2014, commenced a Tourism Demand Study on behalf of the Ministry of Tourism and Entertainment (MOTE) through a grant from the Jamaica Social Investment Fund (JSIF). The study's main objective was to determine and quantify the existing and potential demand for goods and services across the agricultural, manufacturing, and entertainment sectors. More specifically, the study sought to:

1. Identify areas where there is strong opportunity for increased consumption of local goods and services in the local tourism sector;
2. Increase understanding of the supply chain for the tourism sector;
3. Identify specific constraints and limitations hindering tourism linkage with the domestic economy;
4. Estimate the value of leakages due to expenditure on imported goods and services; and
5. Determine the receptivity among the tourism sector for use of local goods and services within the sector.

The study was conducted using a combination of approaches that include desk research, survey of tourism-related businesses, and elite interviews with tourism sector stakeholders. This project report contains a description of the methodology used in conducting the tourism demand study as well as the

1. STATIN data. Available from http://statinja.gov.jm/Trade-Econ%20Statistics/Tourism/Tourism.aspx.

results and findings of the study. The report provides an assessment of the demand for agricultural, manufacturing, and entertainment goods and services by the tourism sector, including a detailed analysis of the source of demand for these goods and services in order to identify opportunities for increasing consumption of these products in the sector. To that end, the report highlights the supply chain for the tourism sector and identifies constraints that are hindering tourism linkages with the domestic economy. Based on the study's findings, some recommendations are made for the MOTE to consider in enhancing the tourism sector's linkages with the domestic economy.



METHODOLOGY

2. 1 APPROACH TO THE TOURISM DEMAND STUDY

As a first step in conducting this study, the CLG undertook desk research of existing academic literature on tourism demand and GOJ policy documents and reports relating to the economy in general and the tourism sector in particular. Important GOJ documents reviewed include:

- A Growth-Inducement Strategy for Jamaica in the Short and Medium Term (Hutchinson and Harris 2012)
- Economic and Social Survey of Jamaica (PIOJ 2015)
- Statistical Digest (Bank of Jamaica 2014)
- Economic Statistics (Bank of Jamaica 2015)

In addition, data were accessed from the Statistical Institute of Jamaica (STATIN), the Bank of Jamaica (BOJ), the Ministry of Agriculture and Fisheries (MOAF), and Jamaica Customs.

The desk research yielded pertinent information on tourism demand studies that have been done globally in addition to useful data specific to the Jamaica tourism industry. The information gained from this desk review was used to design a conceptual model providing a framework for understanding the connections and linkages of the tourism sector to local industries that supply goods and services to the sector. The desk study also allowed the researchers to gain deeper understanding of specific challenges encumbering tourism linkages with the local economy. A study instrument (questionnaire) was designed for quantitative data collection and was pilot tested with tourism sector businesses. A total of 19 businesses completed the questionnaire during the pilot stage. The pilot provided good signal of what to expect in the field ahead of the full survey. Based on the pilot, modifications were made to the questionnaire to enhance clarity and improve the response rate.

Following the completion of the pilot survey, the national survey was undertaken using a combination of face-to-face, telephone and online interviews. The CLG made telephone contact with tourism sector businesses to identify an individual within each organization designated to complete the questionnaire. Once identified, a request for an initial face-to-face meeting was made with the designated respondent. Given the comprehensive nature of the instrument, multiple face-to-face meetings were held with each respondent until the questionnaire was completed or the respondent indicated lack of data or interest to continue with the interview process. The participants were also given the option to complete the questionnaire online but very few questionnaires were completed through this medium.

At the conclusion of the survey, only 28 businesses had completed and returned or submitted their questionnaire. Respondents provided information in varying degrees of completeness and not all questions were answered by all respondents. Several avenues were sought to encourage tourism sector businesses to return completed questionnaire, including interventions by MOTE, but these did not result in any additional submissions.

In spite of the limited response rate obtained from the national survey, a simulation model was developed based on the data collected, which allowed CLG to make national projections of the demand for food and other goods and services by the tourism sector. Preliminary results of this modelling exercise were presented to the stakeholder group of the Jamaica Hotel and Tourist Association (JHTA), MOTE and JSIF. The group provided useful comments and suggestions that were taken into consideration by the researchers.

Elite interviews were then conducted with stakeholder groups, which included officials of the MOAF, JHTA, Jamaica Manufacturers' Association (JMA), and

individual business operators in the tourism sector. Their responses provided qualitative data, validation of the results of the quantitative data analysis, and provided the context for explaining these results.

2.2 SIMULATION MODEL

Studies of tourism demand abound in the academic literature and varieties of models have been used in estimating this demand. Song and Li (2008) reported that 121 studies were published on tourism demand modelling and forecasting in scholarly journals between 2000 and 2007. The majority of these studies used tourist arrival as the measure of tourism demand. Only three (Au and Law 2000; Au and Law 2002; Law and Au 2000) out of 121 studies, used expenditure on particular tourism products as the measure of tourism demand, and none examined the aggregate demand for goods and services by the tourism sector or by specific industries within the sector, such as the hotels and restaurants industry.

When tourism studies are done to examine demand for hotel accommodation[2] or for tourism goods and services[3], they are analysed from the perspective of the tourists, using annual surveys of tourist expenditures. Such an approach ensures that cross-sectional and time-series (panel) data with adequate data points are available for the empirical estimation of trend and the forecasting of future demand. However, a system of data collection on individual tourist expenditures, in addition to tourist arrivals, needs to be in place before such an approach can be used.

For the current study, the aim is to estimate the demand by the tourism sector for local and imported goods and services and not the direct demand by tourists. Doing this requires data on the type, quantity, and cost of goods and services consumed by hotels, restaurants, cruise shipping, tour operations, and other tourism-related businesses. The tourism demand study survey was conducted for this purpose. Unfortunately, the resulting sample of 28 businesses was too few to permit the direct estimation of demand for goods and services using any econometrics method similar to those used in previous studies. To address this limitation, a simulation modelling approach was used instead. This approach entailed extrapolating data from the sample of 28 businesses to reflect national demand based on available national data on the number and size of hotels operating in the country. This approach is particularly useful in situations where sample-specific data are limited. In effect therefore, it allowed the researchers to make the best use of available survey data.

The simulation model used in estimating demand for goods and services in the tourism sector is therefore stated as follows:

$$D?kT= s=1\ si=1\ ndkisni=1\ nrin?TR?m \qquad \forall k, s$$

Where,

DkT is the total annual demand for good k by the tourism sector;

$dkis$ is the monthly demand for good k from source s by an individual hotel i;

$ri.$ is the room capacity of hotel i captured in the survey;

n is the sample size of hotels that participated in the survey;

TR is total room capacity of hotels nationally;

m is the number of months in a year;

index i represents a particular hotel that participated in the survey;

index s represents a local or foreign source of supply to the hotel; and

index k represents a particular product.

For expenditures, a similar modelling approach was used to estimate the value of expenditure on goods and services by the tourism sector.

For example the Grant Thornton and the Leisure & Tourism Organization for the Greater London Authority study of London Hotel Demand (Grant Thorton and The Leisure and Tourism Organisation 2006).

For example, Divisekara's (2007) study of tourists demand for food, accommodation, transportation, shopping and entertainment in Australia.

a

The expenditure model is stated as follows:

$$EkT = \sum_{s=1} \sum_{i=1} nekisni=1 nrin ? TR ? m \quad \forall k, s$$

Where,

E?kT is the total annual expenditure on good *k* by the tourism sector;

dkis is the monthly expenditure on good *k* from source *s* by an individual hotel *i*;

ri is the room capacity of hotel *i* captured in the survey;

n is the sample size of hotels that participated in the survey;

TR is total room capacity of hotels nationally;

m is the number of months in a year;

index *i* represents a particular hotel that participated in the survey;

index *s* represents a local of foreign source of supply to the hotel; and

index *k* represents a particular product.

The above models were used in estimating demand for agricultural, manufacturing, and entertainment products in the tourism sector. As was stated earlier in this report, the study questionnaire was returned in varying degrees of completeness. Respondents did not provide data on all goods and services and at times provided information on quantity consumed or expenditure made but not on both. Consequently, for some items, the estimated demand presented in this report will include quantity but not expenditure or vice versa. This does not in any way represent inconsistency in the estimation or reporting of result as quantities and expenditure were independently estimated.

Although 28 businesses participated in the survey, for the purpose of addressing the main study objectives, responses from only 23 tourism sector businesses were usable. This was due to non-response on critical questions by 5 respondents. Therefore, the results presented in this report are based on these 23 businesses or a subset thereof.

RESULTS

3. 1 STRUCTURE OF TOURISM SECTOR BUSINESSES

Twenty businesses provided information on the sub-sector in which they operate. These businesses mainly operate accommodation services for tourists. A few indicated operating in two or three sub-sectors simultaneously. This included one operating in accommodation, cruise shipping and accommodation, and restaurant, and another which reported operating in accommodation, restaurant, and spa and wellness (see Table 1).

The distribution of the main sub-sectors of activity presented in Table 1, although based on limited data, compares well with the membership database of JHTA[4] which shows that about 52% of JHTA members operate in the hotels and accommodation sub-sector and just below 20% operate in the attraction and tours sub-sector.

Table 1: Sub-sectors in which Businesses are Mostly Active

Sub-sector of Operation	Number of Businesses	Percentage of Businesses (out of a total of 20 businesses)
Accommodation	12	60
Cruise shipping	4	20
Attractions and Tours	5	25
Restaurant	2	10
Spa/Wellness	1	5

Among those businesses that provided any sort of accommodation for tourists across the island, either as their main or subsidiary activity, 14 provided information on the room capacity of all of their operations. As shown in Table 2, the majority (43%) operate with a capacity of less than 50 rooms and one has capacity in excess of 2000 rooms. None indicated capacity in the 50 to 100 and 1001 and 2000 room category.

Table 2: Room Capacity of Surveyed Tourism Sector Businesses

Room Capacity Category	Number of Businesses	Percentage of Businesses
Less than 50	6	42.9
Between 101 and 300	2	14.3
Between 301 and 500	1	7.1
Between 501 and 700	3	21.4
Between 701 and 1000	1	7.1
Above 2000	1	7.1
All categories	**14**	**100**

The number of hotel rooms operated by the surveyed businesses totalled 6334 and is equivalent to about 21% of the total hotel room capacity in the six defined tourist destination areas of Montego Bay (9307), Ocho Rios (8202), Negril (7574), Kingston 2374), the South Coast (1369) and Port Antonio (995) (Tourism Task Force 2009). The results of the Tourism Demand Study survey also showed that 55% of hotel rooms were located in St. James and St. Ann, which is comparable to 59% of hotels in the six defined tourist areas reported to be located in Montego Bay and Ocho Rios (Tourism Task Force 2009).

4. Membership list of JHTA is available at: http://www.jhta.org/index.php/jhtamembers/.

For the most part, the businesses that provide accommodation services to tourists operate either an all-inclusive package or a European style plan (see Table 3).

Table 3: Types of Accommodation Provided by Surveyed Hotels

Type of Accommodation	Number of Rooms	Number of Hotels	Percentage of Hotels
All-inclusive	5405	7	53.8
European plan	831	5	38.5
Other[a] (Villa Hotel)		1	7.7
All types		**13**	**100**

[a] *Number of rooms not stated.*

The monthly average occupancy for reporting hotels for 2014, ranged from 73% to 88% with February, March, and April being the most active months. Twelve (71%) properties indicated that they serve on average 1000 guests per month while two each (7%) indicated serving between 201 and 400 and between 801 and 1000 guests per month. One property reported serving between 101 and 200 guests on a monthly basis.

The average age of businesses represented in the sample was approximately 14.5 years with the youngest business being in place for one year and the oldest for 39 years. Six (55%) of the responding businesses had operated for at least 16 years. The number of employed workers, as a measure of the size of each business, ranged from a low of 28 to a high of 1094 employees.

In terms of the nature of spending, 11 (69%) of the responding businesses reported that less than 10% of the total expenditure on agricultural produce had been allocated to imported items during the past year. Four (25%) businesses spent between 10 and 50% on imports while one (6%) spent in the range of 70-79% on imports. This business with the highest proportion of expenditure on imports has a room capacity of between 501 and 700 and operates a European plan type of accommodation.

There is a clear distinction in the supply chain of local agricultural produce between all-inclusive and European plan hotels. Three of the five (60%) all-inclusive hotels that provided a response to this question indicated that they purchase from distributors, whereas four out of five (80%) of the European plan properties that responded indicated purchasing from local farmers, and the remaining one (20%) indicated buying from self-sustaining farms. As regards entertainment, 13 hotels (82%) reported organizing and managing entertainment in-house while the remaining three (18%) do not.

3.2 DEMAND FOR AGRICULTURAL PRODUCTS

ESTIMATION OF EXISTING LEVEL OF DEMAND FOR AGRICULTURAL PRODUCTS

Agricultural products are grouped into broad categories of food items and the monthly demand of and expenditure on these products by tourism businesses are assessed within these categories:

- Herbs
- Fruits
- Vegetables
- Cereal and Grains
- Teas
- Tubers
- Legumes
- Other Fresh Produce
- Poultry, Meat, and Seafood

The total quantity of monthly demand for agricultural products and expenditure on these products, including poultry, meat, and seafood, by hotels represented in the tourism demand study amount to 1.07 million pounds and J$248 million, respectively (see Table 4). The highest demand for agricultural product is in the fruits category where hotels purchase in excess of

500,000 pounds per month but the demand for poultry, meat, and seafood result in the highest monthly expenditure of almost J$138 million. Teas represent the category with the lowest quantity demanded while legumes represent the category with the least value of expenditure.

For each category of food items represented in Table 4, the details of the specific products are reported in appendices A1 to A9. This breakdown includes the quantity of each food item that is required at the surveyed establishment, the expenditure on the items, and the sources of supply for the hotels. Based on the data provided in the appendices, the following assessment could be made.

Herbs and fruits are predominantly supplied by farmers and local distributors. Similar to herbs and fruits, farmers and local distributors are the major sources of supply of vegetables to hotels. However, a significantly higher proportion of hotels indicated purchasing vegetables from foreign sources only. For artichoke, broccoli, cabbage (red), lettuce (Romaine wood crate), and squash, 20% or more of the sampled hotels sourced their demand solely from foreign sources.

In contrast to herbs and fruits, and to some extent vegetables, the demand for cereal and grains was mainly satisfied from foreign sources or a combination of local and foreign sources, with the exception of regular corn, which was supplied solely by farmers and local distributors.

The demand for teas by the hotels was always satisfied by local distributors with no respondent indicating purchasing teas from local farmers or foreign sources. With the exception of Irish potato and red peas, the demands for tubers and legumes were satisfied by farmers and local distributors only, with direct purchase from farmers being the most common supply channel for tubers. Only in the case of red peas do hotels buy from foreign suppliers 20% of the time. For all other legumes, they purchase exclusively from farmers.

The demand for other fresh produce such as green banana, breadfruit, plantain (green and ripe), sorrel, and sugar cane is met from supplies by farmers and local distributors and no foreign source of supplies was indicated by any of the sampled hotels.

Only in the category of poultry, meat and seafood do respondents indicate a more diversified channel of supply with hotels mainly purchasing from farmers and local distributors. However, for certain meat products such as beef kidney, beef liver, beef mince, beef oxtail, beef top butt, tilapia, and sausages, 25% or more of the hotels purchasing these items use a combination of local and foreign sources.

Table 4: Existing Monthly Demand for Agricultural Produce by Surveyed Hotels

Product (in order of expenditure share)	Quantity (lbs)	Expenditure (J$)	Percentage of Total Expenditure among Agricultural Products
Meat	254,073	137,992,424	55.64
Fruits	524,217	56,307,391	22.70
Vegetables	141,330	27,193,408	10.96
Herbs	47,526	10,207,329	4.12
Tubers	63,474	9,264,090	3.74
Cereals & Grains	21,272	3,742,710	1.51
Other Fresh Produce	14,646	1,239,007	0.50
Teas	324	1,159,415	0.47
Legumes	5,174	922,532	0.37
Total	**1,072,037**	**248,028,306**	**100.0**

TOURISM SECTOR LINKAGES WITH THE AGRICULTURAL SECTOR

Survey data show the supply chain for herbs, fruits, teas, tubers, and legumes to be farmers and local distributors whereas the

supply chain for vegetables and cereals and grains consists of a mix of local (farmers and local distributors) and foreign sources (direct purchase and distributors). Although an individual product may be solely or primarily sourced from foreign suppliers, no demand for a group of agricultural products was predominantly met by goods from foreign distributors. Reported in Table 5 are agricultural products purchased from foreign suppliers by 25% or more of hotels. These food items are mainly from the poultry, meat and seafood, fruits and vegetables categories. Cereal and grains and one herb (leek) also feature on this list. Based on the value of monthly expenditure and the percentage of hotels purchasing from foreign suppliers, only rice, beef top butt, other beef cuts, tilapia, and pork sausage are the agricultural products that contribute mostly to import leakage and for which there are some opportunities for increased consumption of locally produced food items.

In general, the demand behaviour of hotels indicates receptivity to local products and, based on the sample, there is no indication that there is heavy reliance on imported products. This is supported by the result

Table 5: Agricultural Products with Foreign Sources as a Major Component of Supply Chain

Products	Monthly Quantity (lbs)	Monthly Expenditure (J$)	Total Number of Hotels	Number (%) of Hotels using only Foreign Sources
Herbs				
Leek	145	38,832	4	1 (25%)
Fruits				
Grape (Black)	463	31,000	8	2 (25%)
Kiwi	3,779	455,867	4	1 (25%)
Plum (Red)	570	2,403	4	1 (25%)
Strawberry	24,647	511,019	8	2 (25%)
Vegetables				
Artichoke	14	9,160	3	1 (33.3%)
Cabbage (Red)	992	193,167	8	2 (25%)
Lettuce (Romaine Wood Crate)	360	679,873	4	1 (25%)
Squash	2,107	451,560	7	2 (29%)
Cereals & Grains				
Rice	17,326	2,864,708	12	4 (33%)
Sweet Corn	3,286	584,824	6	3 (50%)
Other Cereals & Grains	340	80,000	2	2 (100%)
Poultry, Meat & Seafood				
Beef Top Butt	2,364	3,619,112	6	2 (33%)
Other Beef Cuts	5,987	1,375,223	6	2 (33.3%)
Tilapia	3,075	1,285,030	6	2 (33.3%)
Pork Shoulder Blade Steak	50	79,817	2	1 (50%)
Pork Sausage	5,217	2,180,472	7	2 (29%)
Sausages (other)	1,735	353,566	3	1 (33%)

reported earlier, which shows that a majority (about 70%) of respondents indicated spending less than 10% of food expenditures on imported agricultural products. This percentage corresponds to less than J$500,000 spent monthly on imported agricultural products. However, there is a significant percentage of agricultural products that hotel operators purchase from distributors although the data from survey of hotels did not reveal whether these distributors source their products locally or from imports. Information from an elite interview done with one of the major suppliers of the hotel industry indicated that while distributors supply local goods, they mostly supply imported goods, mainly meat and fish. Quantitative data provided on foreign supplies of agricultural goods in this report should therefore be regarded as minimum estimates since local distributors may have purchased the goods they supply to hotels from foreign sources. This is especially the case where food items in the poultry, meat, and seafood group are concerned.

ESTIMATION OF POTENTIAL DEMAND FOR LOCAL AGRICULTURAL PRODUCTS

Information on hotel room capacity island-wide was combined with data from the tourism demand study survey and used in the simulation model to provide estimates of the quantity of and expenditure on agricultural products used in the tourism sector. These estimates are reported in Table 6 for the broad categories of agricultural products.

As shown in Table 6, the total annual value of demand for agricultural products by the tourism sector is estimated at about J$19.4 billion and food items in the poultry, meats, and seafood and fruits categories account for more than 75% of this total value. The detailed breakdowns by food items within each broad category are provided in appendices A10 to A18. The estimated values of leakages due to imports of these items are also reported. Furthermore, the value of leakage for the broad categories and for specific food items with import leakage in excess of J$25 million are indicated in Table 7 below.

Based on the total value of imports (in excess of J$1 billion) food items in the poultry, meats and seafood category, account for the greatest leakage in expenditure. The cereals and grains and vegetables categories occupy distant second and third positions accounting for J$162 million and J$140 million,

Table 6: Estimated Annual Quantities and Expenditures on Agricultural Products

Product (in order of expenditure share)	Estimated Demand (lbs)	Estimated Value of Demand (J$)	Percentage of Total Expenditure among Agricultural Products
Poultry, Meats & Seafood	20,186,194	10,926,028,819	56.2
Fruits	32,834,393	5,273,673,640	27.1
Vegetables	7,619,352	1,570,956,523	8.09
Tubers	2,739,928	522,940,755	2.69
Herbs	1,855,582	469,364,391	2.42
Cereals and Grains	1,402,626	291,791,791	1.50
Teas	56,388	245,256,789	1.26
Other Fresh Produce	742,251	63,507,575	0.33
Legumes	445,040	45,039,474	0.23
Total	**67,881,754**	**19,408,559,757**	**100.0**

respectively. However, when the specific food items with high value of leakage are examined, only iceberg lettuce in the vegetables group show leakage higher than J$25 million whereas all items, except regular corn (in the cereal and grains group) show leakage in excess of this amount. For the poultry, meats and seafood group, 14 food items have leakage values in excess of J$25 million.

It is notable that while fruits constitute the group with the highest quantity of demand and second highest value of demand, fruits do not show a high value of leakage based on the responses provided by the hotels. A closer look at the survey data revealed that the value of monthly expenditure on gold apples by responding hotels was about J$2 million and 75% of this was supplied by local distributors. Also, the value of monthly expenditure on seedless grape was about J$19 million, 33% of which was supplied by local distributors. If these local distributors purchased their produce from foreign suppliers, then the value of leakage to imports would be much higher than the estimate of 2% reported in Table 7. Although a major hotel industry supplier indicated during an elite interview that local distributors do supply hotels with mostly imported goods, the distributor did not mention fruits as major items sourced from foreign suppliers. However, an agricultural sector expert indicated that certain fruits are not produced in Jamaica and must, by default, be imported by the distributors. These fruits include apples (gold, granny smith, and red), blueberries, grapes (black, green seedless, and red globe), kiwi, red pears, plum (red and black), raspberries, strawberries, and tomatoes (yellow beefsteak large). We assumed that all of

Table 7: Estimated Leakage in the Agricultural Sector due to Imports by the Tourism Sector

Product	Estimated Value of Leakage due to Imports (J$)	Leakage as a Percentage of Total Demand
Herbs	**53,791,179**	**11**
Onion (Red Jumbo)	25,007,034	12
Fruits	**87,342,431 - 3,396,655,961**	**2-64***
Cantaloupe	25,979,508	20
Vegetables	**140,492,100**	**9**
Lettuce (Iceberg)	40,499,897	14
Cereals and Grains	**162,416,131**	**56**
Rice	69,906,210.71	50
Sweet Corn	57,370,234.18	67
Other Cereals & Grains	35,139,685.86	100
Teas	**0**	**-**
Tubers	**66,973,596.96**	**13**
Irish Potato	66,973,596.96	18
Legumes	5,339,025.24	12
Other Fresh Produce	0	-
Poultry, Meats & Seafood	**1,130,572,510**	**10**
Beef Mince	40,619,655	27
Beef Oxtail Whole	120,925,759	25
Beef Rib Eye	27,027,300	22
Beef Tenderloin	71,857,990	20
Beef Top Butt	104,918,917	33
Lobster	103,797,953	18
Shrimp	110,545,841	13
Smoked Marlin	39,707,207	12
Salmon	37,495,819	17
Tilapia	46,989,990	33
Ground Pork	44,489,681	20
Bacon	138,430,181	14
Pork Sausage	46,291,922	29
Lamb (sausage)	95,990,351	20
Total	**1,646,926,973 - 4,956,240,503***	**8.5% - 25.5***

* Figures represent a range of estimates.

these fruits were imported by local distributors and attributed expenditure on these fruits to imports. This resulted in an increase in the leakage for fruits from 2% (J$87.3 million) to 64% (J$3.4 billion), thereby raising the overall value of leakage for all agricultural items to J$4.96 billion or 25.5% of the annual value of agricultural products used in the tourism sector.

The estimated total annual leakage in the range of J$ 1.65 billion to J$4.96 billion is equivalent to 8.5% to 25.5% of the estimated total annual expenditure on agricultural products by the tourism sector. Accordingly, locally sourced agricultural products account for a minimum of about J$14.5 billion or 74.5% of the total value of agricultural products consumed by the tourism sector.

The estimated leakage of J$ 1.65 billion to J$4.96 billion also compares well with Jamaica Customs data showing agricultural imports by the tourism sector valued at about J$3.64 billion. Furthermore, the majority of the survey respondents had indicated that their businesses spend less than 10% of total agricultural product expenditures on imported goods, which corresponds to the lower end of the range. Notwithstanding the fact that the tourism sector appears to be linked sufficiently with the local agricultural sector, as evidenced in the low proportion of expenditure on imports for most agricultural products, there are certain products for which there are significant opportunities for increased consumption of local produce by the tourism sector. These include rice, sweet corn and most meat and fruit products. Excluding any agronomic constraints to the cultivation of these crops in Jamaica, the following crops offer the greatest opportunity for increasing local agricultural products content in the food demand of tourism sector:

- Apples
- Cantaloupes
- Grapes
- Iceberg Lettuce
- Irish Potatoes
- Red Jumbo Onions
- Rice
- Sweet Corn

3.3 DEMAND FOR MANUFACTURED PRODUCTS

ESTIMATION OF EXISTING LEVEL OF DEMAND FOR MANUFACTURED PRODUCTS

The monthly demand for manufactured products in the tourism sector and expenditure on these products are analysed according to the following categories:

- Processed Foods
- Fixtures and Fittings
- Office Stationery and Supplies
- Apparel, Accessories, and Textiles
- Chemicals, Cosmetics, and Pharmaceuticals
- Paper Products
- Furniture, Bedding, and Wooden Products

Processed foods on the one hand and apparel, accessories and textiles on the other, constitute the top two groups of manufactured goods consumed by the tourism sector in terms of expenditure. Together these two sectors account for 68% of the total expenditure of about J$1.94 billion on manufactured goods (see Table 8).

The detailed breakdown of the specific goods, including the quantity and expenditure on the items as well as the sources of supply, is provided in Appendices A19 to A25. The data contained in these tables reveal that local distributors are the predominant supplier of processed foods, fixtures and fittings, and paper products to hotels covered in the survey. These hotels mainly use both local distributors and foreign suppliers to meet their demands for office and stationery supplies and chemicals, cosmetics and pharmaceuticals. It is only in the demand for furniture, bedding and wooden products that the hotels use a variety of sources that include local manufacturers, local distributors, and foreign suppliers.

TOURISM SECTOR LINKAGES WITH THE MANUFACTURING SECTOR

Survey data show that the supply chain for manufactured goods involve mostly local distributors

except for furniture, bedding and wooden products which a sizeable proportion of hotels purchase directly from local manufacturers. Table 9 provides a summary of the specific manufactured goods that a high proportion (25% or more) of hotels purchase from foreign suppliers. In terms of expenditure, manufactured goods in the apparels, accessories and textiles and chemicals, cosmetics and pharmaceuticals categories are the ones that provide the more compelling reasons for import substitution and hence strong opportunities for the tourism sector to improve its linkages with local manufacturers. To a lesser extent, processed foods and office stationery and supplies also provide some opportunities for increased linkages.

ESTIMATION OF POTENTIAL DEMAND FOR MANUFACTURED PRODUCTS

Similar to what was done for agricultural products, the simulation model was applied to data on manufactured products. The simulation provided estimates for national expenditure on manufactured products and these estimates are reported for the broad category of manufactured products in Table 10 below. Detailed listing of the leakage for each manufactured product is provided in the appendices (A26-A32).

As shown in Table 10, more than a quarter of the total value of demand of apparel, accessories and textiles; chemicals; cosmetics and pharmaceuticals, and office stationery and supplies is estimated as leakage to

Table 8: Existing Monthly Demand of Manufactured Goods in the Tourism Sector

Goods (in order of expenditure share)	Quantity (pieces)	Expenditure (J$)	Percentage of Total Expenditure among Manufactured Goods
Processed Foods	245,772	741,335,675	38.24
Apparel, Accessories &Textiles	205,986	584,624,621	30.16
Chemicals, Cosmetics and Pharmaceuticals	1,396,064	324,495,620	16.74
Furniture, Bedding and Wooden Products	25,570	175,109,776	9.03
Paper Products	28,547	77,411,352	3.99
Office Stationery & Supplies	142,095	20,616,909	1.06
Fixtures & Fittings	2,745	15,087,907	0.78
Total		**1,938,681,860**	**100.0**

Table 9: Foreign Sourced Manufactured Products as a Major Component of Supply Chain

Products	Annual Quantity (various units)	Annual Expenditure (J$)	Total Number of Hotels	Number (%) of Hotels using only Foreign Suppliers
Processed Foods				
Alcoholic Beverages (whiskey)	812	15,547,040	12	3 (25%)
Chips	1,156	1,411,197	7	2 (29%)
Jam	755	5,787,181	8	2 (25%)
Sauce	58	17,519,609	6	2 (33%)
Syrup	200	788,233	4	1 (25%)
Fixtures and Fittings				
Baths	33	320,560	5	2 (40%)
Ceramic Sinks	52	1,693,331	3	1 (33%)
Chandeliers	19	3,892,974	2	1 (50%)
Electric Floor - Standing Lamps	539	3,684,055	2	2 (100%)
Electric Table/Desk Lamps	1,093	1,773,921	3	1 (33.3%)
Office Stationery and Supplies				
Books	10,068	8,570,685	9	3 (33%)
Brochures/Flyers	61,100	6,703,465	10	4 (40%)
Business Cards	20,450	108,500	9	3 (33%)
CDs and Records	3	92,174	2	1 (50%)
Magazines	0	497,200	2	1 (50%)
Paper Bags	150	4,753	5	2 (40%)
Paper Clips	339	5,966	8	2 (25%)
Paper Trays	206	18,000	5	2 (40%)
Apparel, Accessories &Textiles				
Bathrobes	987	11,523,600	9	3 (33%)
Bed Linens	65,497	99,676,753	9	4 (43%)
Drapery	6,015	21,649,440	4	1 (25%)
Napkins	11,637	4,260,855	9	3 (33%)
Slippers	18,300	1,015,850	7	2 (29%)
Sportswear		7,000,000	6	3 (50%)
Table Cloth	5,836	6,758,259	8	3 (37.5%)
Towels	30,769	389,609,232	10	4 (40%)
T-Shirts/Leisure Wear	31,417	826,913	9	4 (43%)
Uniforms	14,163	41,856,646	9	2 (23%)

Products	Annual Quantity (various units)	Annual Expenditure (J$)	Total Number of Hotels	Number (%) of Hotels using only Foreign Suppliers
Chemicals, Cosmetics, and Pharmaceuticals				
Aromatic Oils	800	455,900	9	3 (33%)
Other Spa Products		158,000	2	1 (50%)
Hair Shampoo and Conditioner		610,567	2	2 (100%)
Sanitizers	92813	66,648,173	4	1 (25%)
Toothpaste	90,749	184,396,443	5	2 (40%)
House Cleaning Products		18,702,265	2	1 (50%)
Industrial Chemicals	917,010	14,970,726	7	2 (29%)
Paints	670	7,129,723	6	2 (33%)
Water Treatment Chemicals	36,380	11,192,177	8	1 (12.5%)
Other Chemicals	540	13,740,026	3	1 (33%)
Furniture, Bedding, and Wooden Products				
Beds	20	75,000	4	1(25%)
Cabinet	13	700,000	4	1(25%)
Chairs	57	2,867,500	3	1 (33.3%)
Crockery	13	420,200	4	1 (25%)
Glassware	21,131	425,416	3	1 (33%)
Mattress Support	553	1,022,640	4	1(25%)
Pillow	948	2,889,267	1	1 (100%)

Table 10: Estimated Leakage in the Manufacturing Sector due to Tourism Imports

Product (in order of expenditure share)	Estimated Value of Leakage due to Imports (J$)	Leakage as a Percentage of Total Demand
Apparel, Accessories and Textiles	31,008,222,948	56
Chemicals, Cosmetics and Pharmaceuticals	18,360,030,775	49%
Office Stationery and Supplies	1,623,722,656	40%
Fixtures and Fittings	755,155,707	26%
Processed foods	11,856,971,558	21%
Paper Products	304,087,160	8%
Furniture and Beddings	1,450,353,062	4%
Total	**65,358,543,866**	**33%**

imports. The major items that contribute to this leakage and which provide the greatest opportunity for increased patronage of local manufacturers by the tourism sector include:

- Alcoholic beverages
- Books, brochures and magazines
- Bed frames and head boards
- Chairs
- Pillows
- Sanitizers
- Standing lamps
- Toothpaste
- Towels

In examining the supply chain of the various categories of manufactured products, it is evident that imports do play a role in satisfying demand, at least in terms of the

value of expenditure, if not in terms of quantity purchased.

3. 4 DEMAND FOR ENTERTAINMENT SERVICES

The demand for entertainment services by sampled hotels according to type of service and frequency of demand is presented in Table 11. The table shows that hotels generally demand entertainment services either daily or monthly. Apart from sports, recorded music, and literary arts, entertainment services are supplied locally. National estimates of demand for entertainment could not be performed because the utilization of these services is not uniform across hotels.

3.5 CONSTRAINTS TO TOURISM SECTOR LINKAGES WITH THE DOMESTIC ECONOMY

Quantitative and qualitative data gathered in this study suggest that the tourism sector is highly receptive to the domestic economy. However, at least six (6) identifiable constraints limit the extent of integration. A representative of the JHTA, in an elite interview, stated that the ability of local producers to meet high standards set by the hotels is a major constraint to the use of local goods and services. The consistency of supply was also cited as a hindrance. These factors limit the hotels in using local products exclusively. The representative also noted that for the larger hotels that use large volumes, it might not be profitable for them to rely on small local producers because they can negotiate for price discounts with distributors who supply in bulk quantities. In addition, it was stated that chain hotels are even more constrained in their choice of suppliers as only certain vendors are approved to supply the chain and each property is bound by the franchise agreement and the global control determined at their headquarters.

The views from the JHTA were corroborated by the independent distributor who was interviewed. The distributor indicated that the tourism sector is receptive to local goods and services but that cost and availability are major issues that constrain the use of local products. “Size of the farms in Jamaica are too small and therefore the output is not enough or cannot afford to be consistent in supply since they have to plant a range of crops,” said the distributor. The distributor also noted that farmers go by the highest bidder for their produce and will sell to whoever offers the best price, even when they have entered into a contract with a distributor. On the part of the distributor, hotels are known to pay premium price for high quality goods and that could serve as an incentive for suppliers to seek for the best quality goods, even if they have to import them.

An official of the MOAF differentiated between the smaller and larger hotels in their receptiveness to local agricultural products. The official indicated that the smaller properties are quite amenable to local produce but that the bigger chain properties are not as amenable. The main reason cited for this was that larger hotels need consistency and volume in supply but are reluctant to offer farmers contracts to produce in large quantities. This was ascribed to the facts that chain hotels have centralized purchasing departments, as was noted by both the JHTA and the independent distributor, and they “ don’t really drill down to small farmers here in Jamaica; they procure from wherever based on their global logistics infrastructure.” The use of middlemen by hotels was also cited as a factor:

> *Some of the hotels use middlemen, so they will have a bid and a particular middle man could win the bid to supply local or a person wins the bid [and] go to another farm and play each farmer against each other to get the best price. They are not interested in the long-term welfare of the farmer themselves, it’s wherever they can get the goods on spot and cheap they will buy it and take it to the hotel. So that does not augur well for structured relationship between the hotels and famers so if we’re going to change that the hotels have to be prepared to give contracts to farmers so that farmers can plan.*

Table 11: Demand for Entertainment Services

Services	Local Sourced only	Foreign Sourced only	Both Local and Foreign Sources	Total	Frequency of Procurement					
					Daily	Weekly	Monthly	Annually	Occasionally	Total
Comedy (live)	5 (100%)	0 (0%)	0 (0%)	**5 (100%)**	1 (33%)	-	2 (67%)	-	-	**3 (100%)**
Comedy (recorded)	1 (100%)	0 (0%)	0 (0%)	**1 (100%)**	-	-	1 (100%)	-	-	**1 (100%)**
Dance (live)	6 (100%)	0 (0%)	0 (0%)	**6 (100%)**	2 (67%)	-	1 (33%)	-	-	**3 (100%)**
Dance (recorded)	1 (100%)	0 (0%)	0 (0%)	**1 (100%)**	-	-	1 (100%)	-	-	**1 (100%)**
Games	4 (100%)	0 (0%)	0 (0%)	**4 (100%)**	-	-	-	-	-	**-**
Film and Theatre (live)	1 (100%)	0 (0%)	0 (0%)	**1 (100%)**	1 (50%)	-	1 (50%)	-	-	**2 (100%)**
Film and Theatre (recorded)	2 (100%)	0 (0%)	0 (0%)	**2 (100%)**	1 (50%)	-	1 (50%)	-	-	**2 (100%)**
Animation	4 (100%)	0 (0%)	0 (0%)	**4 (100%)**	1 (50%)	-	1 (50%)	-	-	**2 (100%)**
TV/Cable	7 (100%)	0 (0%)	0 (0%)	**7 (100%)**	3 (75%)	-	1 (25%)	-	-	**4 (100%)**
Sports	5 (72%)	1 (28%)	1 (28%)	**7 (100%)**	2 (100%)	-	-	-	-	**2 (100%)**
Music (live)	8 (100%)	0 (0%)	0 (0%)	**8 (100%)**	3 (100%)	-	-	-	-	**3 (100%)**
Music (recorded)	4 (80%)	1 (20%)	0 (0%)	**5 (100%)**	2 (100%)	-	-	-	-	**2 (100%)**
Literary Arts	1 (33.3 %)	1 (33.3 %)	1 (33.3 %)	**3 (100%)**	1 (50%)	-	1 (50%)	-	-	**2 (100%)**
Culinary Arts	2 (100%)	0 (0%)	0 (0%)	**2 (100%)**	2 (67%)	-	1 (33%)	-	-	**3 (100%)**

The system of payment for goods supplied to the hotel was also cited as an obstacle to local businesses:

> *Another problem is that hotels, for some reasons, are reluctant to pay the farmers on time, you cannot owe a famer for three months and expect him to survive. Remember a famer, most of them can't even go to a bank to get into finance, so when you owe a farmer for three months for a crop that takes three months to grow, you're putting the man out of business for the entire crop cycle and that cannot work.*

Representatives of the JMA expressed similar sentiments in relations to hoteliers' dealings with local manufacturer during the elite interview with them, as one interviewee stated:

> *If I look to the foreign owned entities there is a barrier there because many of them are being dictated to that they need to purchase goods from their homeland, and I think that is one of the largest barrier.*

The JMA representatives were of the view that foreign-owned hotels do not have the incentives to patronize local manufacturers as the government has not pushed enough for new foreign investors to consider local products but rather eager to have the investors come to Jamaica and by the time they start operating, they are less incentivized to patronize local manufacturers.

> *I think JAMPRO and anybody looking at bringing new investments in Jamaica has to put that language into the contract, so it is not about we would like them to, or they should be, but the language should go into the contract. What are the requirements of Jamaica if you are going to invest here, there are certain requirements; put it in the contract.*

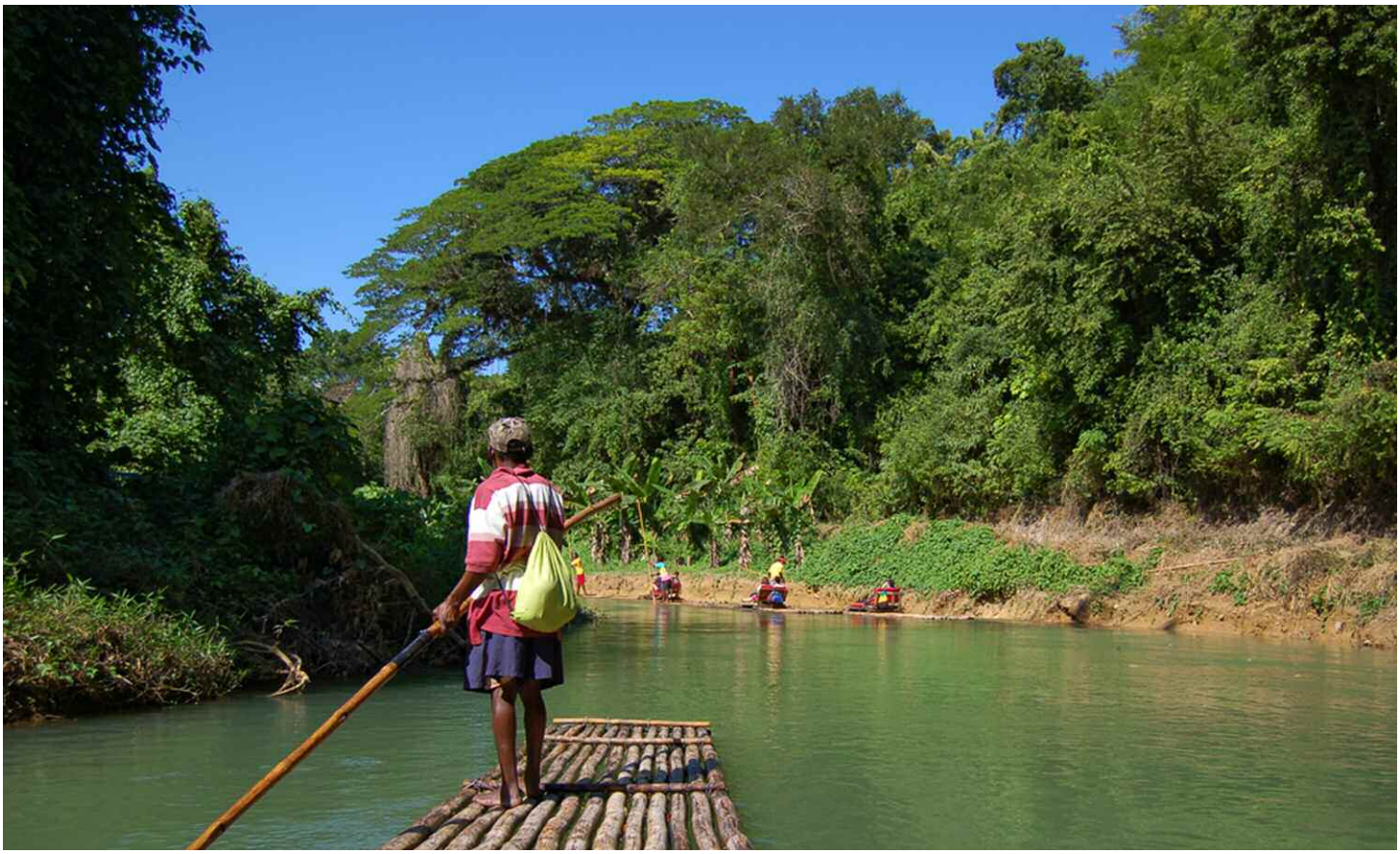
The JMA representatives pointed out that the issue of capacity to supply the tourism sector is not so much of an issue with the manufacturing sector but queried the practice by the hotels approaching manufactures within an unrealistic time frame for product delivery.

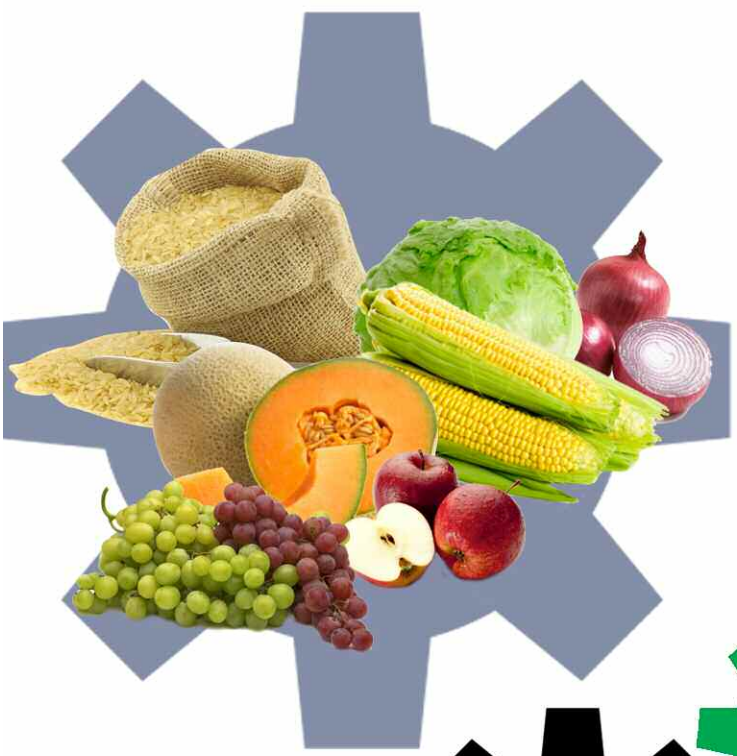
> *On manufacturing, we have the capabilities to ramp up, and it goes back to when you structure a deal. Every deal for a new bill probably has a year and a half minimum in there, two years, and maybe even three years. There is adequate amount of time to say we are going to need X amount of chairs, tables, beds etc. and engage in those conversations. I guarantee you, our manufacturing sector will meet that. But to come to us to say we are opening in ten days and we need two hundred beds, you know the answer even before you ask the question, and that is the excuse to go and purchase it somewhere else.*

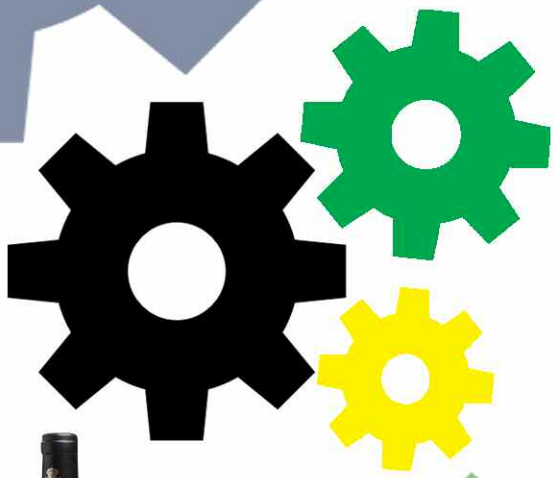
Most of the factors highlighted as constraints to tourism sector linkages with the domestic economy are not new. Indeed the Vision 2030 Jamaica Tourism Sector Plan acknowledged economic linkages as one of the key issues to address in order to sustain the long-term economic growth of the sector. In particular, the plan proposed to enhance linkages between tourism and the agricultural sectors through the "development of local agricultural production targeted at import substitution for hotels and other tourism facilities that meet requirements for quality, standards and consistency of supply" (Tourism Task Force, 2009, p. 26). To that end, specific strategies to link local producers and buyers in the tourism sector as well as to strengthen the capacity of local supplier to meet tourism sector's demands were proposed for implementation. A review of the extent to which these strategies have been pursued and the success of their implementation need to be conducted to ascertain the degree to which quality and consistency of supply (along with the other factors revealed in this study) continue to be hindrances to the increased linkage of the tourism sector with local producers of agricultural products. This task is beyond the scope of the current study.

Stakeholders in the manufacturing sector have raised concerns about the GOJ's tourism growth model that provide tax incentives for large, all-inclusive hotels to establish in Jamaica without any binding requirement for them to patronize local goods and services. The

World Bank (2011) has also identified this strategy as contributing to the vulnerability of the local economy, contributing to "high leakage rates and limited linkages to the rest of the economy" (World Bank 2011, 257). However, this phenomenon of high leakage does not appear to be as prevalent in the agricultural sector as in the manufacturing sector. An Inter-American Institute for Cooperation on Agriculture (IICA)'s study (Arias Segura 2011) identified the hotels and restaurants sub-sector as one of three sub-sectors in the domestic economy with the strongest backward linkages to the primary agricultural sector. This implies that local agricultural products contribute a significant proportion of intermediate goods used by the hotels and restaurants industry, further providing evidence that the tourism sector constitutes an established market for local agricultural produce.







CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

The potential of the tourism sector to drive growth in agriculture and manufacturing is unquestionably substantial. This study has established that the demand for goods and services in the tourism sector mainly comes from local sources. However, importation does constitute a reasonably high proportion of expenditure by tourism businesses. Depending on the particular product, importation could even be the sole or major source of supply. Therefore, there are opportunities for increased linkages with local suppliers to facilitate import substitution of some goods of high value used in the tourism sector. In the agricultural sector, these products include:

- Apples
- Cantaloupe
- Grapes
- Iceberg lettuce
- Irish potatoes
- Red jumbo onions
- Rice
- Sweet corn

In the manufacturing sector, the main products are:

- Alcoholic beverages
- Books, brochures, and magazines
- Bed frames, and head boards
- Chairs
- Pillows
- Sanitizers
- Standing lamps
- Toothpaste
- Towels

The prospect for import substitution is great as there exists a high level of receptivity among tourism sector stakeholders to local goods and services. This could be converted to business opportunity as the projected demand for agricultural products and manufactured goods indicate that there is tremendous opportunity for trade. This could be as high as J$56.7 billion annually for processed foods, J$5.3 billion for fruits and J$1.6 billion for vegetables. It could not be ascertained, however, how much of the potentially expenditure is unaccounted for due to survey non-response and how much is lost due to lack of appropriate supply chain linkages.

In absolute and relative terms, there is significantly higher leakage in the manufacturing sector than in the agricultural sector. The estimated annual leakage in the manufacturing sector is J$65.4 billion, equivalent to 33% of estimated total annual expenditure of the tourism sector businesses on manufactured goods. In contrast, the leakage in the agricultural sector is estimated to be in the range of J$1.6 billion to J$5.0 billion, representing 8.5% to 25.5% of annual expenditure on agricultural products.

The major constraints hindering tourism linkage with the domestic economy include lack of capacity to supply in large quantities, lack of consistency of supplies, and poor quality of products in the case of the agricultural sector. For the manufacturing sector, the lack of support in promoting locally manufactured goods to foreign investors in the tourism sector is the main obstacle identified.

This study was conducted using limited primary data. This necessitated the use of a simulation approach to estimating the national demand for goods and services and the leakages associated with imports. For a more robust assessment of the linkages that exist between the tourism sector and the local industries, more data need to be collected and tourism sector stakeholders have to play a key role in making sure that comprehensive data are made available to support such analysis.

4.2 RECOMMENDATIONS

IMPROVING MARKETING AND DISTRIBUTION

The size of local agricultural producers has been cited as a factor in limiting the linkages between the tourism sector and the domestic food producers. The small size of farm holdings limit their capacity to supply in large quantities and with the consistency and quality required in the hospitality industries. These in turn make it difficult for them to secure contracts for supply of farm produce to tourism establishments.
The Agro Park Development Programme of MOAF is uniquely positioned to address this constraint by providing a single location for an agglomeration of small individual farm holdings. The Agro Parks, through the Agro-Investment Corporation (AIC), should facilitate the marketing and distribution of local agricultural products to hotels and restaurants by entering into contractual agreements with these tourism sector businesses to supply their demands for selected vegetables, fruits, grains, and ground provisions. The Agro Parks should then organize farmers into cooperatives to produce the required quantities with proper technical guidance and material support provided by the Rural Agricultural Development Authority (RADA) to ensure that standards are met and the quality requirements set by the hotels and restaurants are satisfied.

For independent local farmers not involved in an Agro Park, the introduction and implementation of food safety standards and tracing system by MOAF will introduce quality control standards for locally produced foods that are meant for import substitution and would enhance the patronage of local products by the tourism sector.

The tax relief and duty concessions that investors get under the Hotel Incentives Act provide significant financial benefits to foreign investors and contributes to leakages in the sector. As a condition for receiving these benefits, hotels and restaurants must be strongly encouraged, if not mandated to patronize local supplier for those goods and services that are locally produced and that meet the quality standards required by the tourism sector. In the same manner that the tax relief and duty concessions increase with hotel size under the Act, the GOJ should introduce regulations that will provide graduated tax relief for tourism sector investors according to the proportion of their total expenditure on certain goods and services on local products from the agriculture and manufacturing sectors.

The entertainment industry is already highly integrated into the tourism sector with these services being almost exclusively provided by local entertainers expect for literary arts where is there is room for greater engagement of local artists. This should be done through the promotion of literary arts opportunities in the tourism sector at the nation's arts institutes and centres.

CONSISTENT DATA COLLECTION AND DISSEMINATION

Knowledge gained in the conduct of this study shows a clear need for a mechanism for continuous collection of data in the tourism sector beyond that on arrival and stop-overs. The sector requires a more systematic market information system to address the needs of the different sub-sectors, particularly the hotels and restaurants industry in which more than half of the membership of the JHTA operates. The current approach of relying on surveys for primary data on tourism sector's demand of local and foreign products is inefficient and the burden of response placed on stakeholders contributes to their reluctance to provide data which are essential in gaining a deeper understanding of the linkages of the tourism sector to other local industries.

To address this, we recommend establishing a Tourism Sector Market information System that is structured in a similar way to the Jamaica Agriculture Market Information System (JAMIS) but with a different purpose and functionality. A unit should be established in the MOTE to monitor all hotels and restaurants that have capacity beyond a minimum level and collect information on agricultural products consumed at each property on a regular basis, either weekly or monthly.

The information to be collected will include quantity, expenditure, and source. Similarly, information on manufactured goods used by tourism sector businesses should be collected on a quarterly or semi-annual basis. The data collected should then be entered into a database and maintained at MOTE for research, policy planning, and monitoring of the sector. An annual publication of the aggregated figures of quantities of and expenditures on the various products demanded by the tourism sector should be produced based on this database.

FOCUSING ON POTENTIAL HIGH-VALUE LINKAGES

The MOTE, in collaboration with MOAF and the JMA, should promote import substitution of the following listed products consumed in the tourism sector and for which local production capacity exists:

- Bed frames and head boards
- Cantaloupe
- Chairs
- Grape
- Iceberg lettuce
- Irish potato
- Pillows
- Red jumbo onion
- Rice
- Sanitizers
- Standing lamps
- Sweet corn
- Toothpaste
- Towels

Promotion of these products should include targeted marketing to foreign investors, through JAMPRO, ahead of new businesses' establishment in Jamaica and provision of technical and material support to local producers to meet quality standards required by the tourism sector.

ADDRESSING THE CONSTRAINTS ON CLOSER LINKAGES

The strategies for addressing the constraints and limitations to tourism linkages are cross-cutting and have already been articulated under different headings. These are itemized as follows:

- Use the Agro Parks Programme to organize farmers into cooperatives that will have the requisite pooled capacity to produce the required quantities of agricultural products demanded by the tourism sector.
- Engage RADA and MOAF in the quality assurance of local agricultural products to ensure that standards set by the hotels and restaurants industry are met in relation to quality and consistency of supply.
- Introduce local industries promotion regulation that will include graduated tax relief for tourism sector investors according to the proportion of their total expenditure on local goods and services in the agriculture and manufacturing sectors.
- JAMPRO should promote local products to foreign investors contemplating business in Jamaica at the same time that they promote the incentives available to foreign investors.

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APPENDIX

APPENDIX

Table A1: Demand for Herbs and Associated Monthly Expenditures[a]

Herbs							
Products	**Value**		**Number (%) of Suppliers**				
	Monthly Quantity (lbs)	**Monthly Expenditure (J$)**	**Farmers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Basil	189.4	69207.84	5 (42%)	4 (33%)	2 (17%)	1 (8%)	12 (100%)
Celery	3818.75	321962.57	5 (56%)	3 (33%)	1 (11%)	0 (0%)	9 (100%)
Cinnamon Leaf	8	-	2 (67%)	1 (33%)	0 (0%)	0 (0%)	3 (100%)
Coriander/Cilantro	267.56	131043.29	4 (80%)	1 (20%	0 (0%)	0 (0%)	5 (100%)
Escallion	6205.931	671636.12	11 (79%)	1 (7%)	1 (7%)	1 (7%)	14 (100%)
Fennel	355.5	5700	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Ginger	1439.02	274166.17	12 (86%)	1 (7%)	1 (7%)	0 (0%)	14 (100%)
Hot Pepper	1922.13	287417.21	9 (90%)	1 (10%)	0 (0%)	0 (0%)	10 (100%)
Leek	145.42	38832.09	1 (25%)	2 (50%)	1 (25%)	0 (0%)	4 (100%)
Mushrooms	1912.02	1017698.35	4 (36%)	4 (36%)	2 (19%)	1 (9%)	11 (100%)
Onion	21925.38	1844389.23	5 (50%)	4 (40%)	1 (10%)	0 (0%)	10 (100%)
Onion (Pearl White)	218	3500	4 (67%)	2 (33%)	0 (0%)	0 (0%)	6 (100%)
Onion (Red Jumbo)	3509.77	2846585.94	4 (44%)	4 (44%)	1 (12%))	0 (0%)	9 (100%)
Parsley	396.69	143892.13	4 (50%)	3 (37.5%)	1 (12.5%)	0 (0%)	8 (100%)
Pimento	111.6	7312.66	7 (87.5%)	1 (12.5%)	0 (0%)	0 (0%)	8 (100%)
Rosemary	147.08	58325.06	6 (75%)	1 (12.5%)	1 (12.5%)	0 (0%)	8 (100%)
Shallot	15.33	1974756.88	7 (87.5%)	0 (0%)	1 (12.5%)	0 (0%)	8 (100%)
Sweet Pepper	3619.79	296656.62	7 (100%)	0 (0%)	0 (0%)	0 (0%)	7 (100%)
Thyme	1250.66	197264.64	5 (72%)	1 (14%)	1 (14%)	0 (0%)	7 (100%)
Other herbs	68	16982.13	5 (100%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A2: Demand for Fruits and Associated Monthly Expenditures[a]

Fruits							
Products	Value		Number (%) of Suppliers				
	Monthly Quantity (lbs)	Monthly Expenditure (J$)	Farmers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Ackee	980	867927.3	4 (40%)	4 (40%)	1 (10%)	1 (10%)	10 (100%)
Apple (Gold)	1145.35	2012088.33	1(25%)	3 (75%)	0 (0%)	0 (0%)	4 (100%)
Apple (Granny Smith)	1266.14	49089.89	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Apple (Red)	1220.57	123809.93	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Apple (Otaheite)	5110.62	114335.94	7 (64%)	2 (18%)	1 (9%)	1 (9%)	11 (100%)
Avocado	6439.13	574558.56	5 (62.5%)	3 (37.5%)	0 (0%)	0 (0%)	8 (100%)
Banana (Ripe)	19568.94	2101717.86	7 (78%)	2 (22%)	0 (0%)	0 (0%)	9 (100%)
Blueberry	2174.22	113850.84	3 (75%)	1 (25%)	0 (0%)	0 (0%)	4 (100%)
Cantaloupe	14988.67	2957284.09	6 (60%)	2 (20%)	1 (10%)	1 (10%)	10 (100%)
Carambola	3371.33	175550	4 (66%)	1 (17%)	1 (17%)	0 (0%)	6 (100%)
Cherry Tomato	695.85	683487.67	4 (50%)	4 (50%)	0 (0%)	0 (0%)	8 (100%)
Dried Coconut	899.79	695685.52	7 (78%)	0 (0%)	1 (11%)	1 (11%)	9 (100%)
Grape (Black)	463.37	31000	4 (50%)	1 (12.5%)	2 (25%)	1 (12.5%)	8 (100%)
Grape (Seedless)	712.02	18719769	4 (67%)	2 (33%)	0 (0%)	0 (0%)	6 (100%)
Grape (Red Globe)	1832.59	164479.42	6 (75%)	1 (12.5%)	1 (12.5%)	0 (0%)	8 (100%)
Grapefruit	4138.85	54740.1	3 (75%)	1 (25%)	0 (0%)	0 (0%)	4 (100%)
Honey Dew Melon	9076.99	3060730.43	9 (90%)	1 (10%)	0 (0%)	0 (0%)	10 (100%)
Jelly Coconut	3306.22	318339.33	7 (87.5%)	1 (12.5%)	0 (0%)	0 (0%)	8 (100%)
Kiwi	3779.26	455867.36	2 (50%)	1 (25%)	1 (25%)	0 (0%)	4 (100%)
Lime	4622.36	385347.63	7 (70%)	2 (20%)	1 (10%)	0 (0%)	10 (100%)
Mango	14236.99	662571.52	6 (86%)	1 (14%)	0 (0%)	0 (0%)	7 (100%)
Orange	39248.25	1597704.55	8 (100%)	0 (0%)	0 (0%)	0 (0%)	8 (100%)
Papaya	23254.25	1466077.06	7 (87.5%)	1 (12.5%)	0 (0%)	0 (0%)	8 (100%)
Pear Red	8519.76	322607.33	7 (78%)	1 (11%)	1 (11%)	0 (0%)	9 (100%)
Pineapple	23656.83	4330257.38	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)
Plum (Black)	114.77	29700	6 (100%)	0 (0%)	0 (0%)	0 (0%)	6 (100%)
Plum (Red)	570	2402.5	3 (75%)	0 (0%)	1 (25%)	0 (0%)	4 (100%)
Raspberry	23076.08	149412	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)
Strawberry	24647.81	511018.75	5 (62.5%)	0 (0%)	2 (25%)	1 (12.5%)	8 (100%)
Sweet Sop	23167.42	107454.83	3 (37.5%)	5 (62.5%)	0 (0%)	0 (0%)	8 (100%)
Tamarind	8395	-	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)
Tangerine	43993.92	108012.25	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)

Fruits							
Products	Value		Number (%) of Suppliers				
	Monthly Quantity (lbs)	Monthly Expenditure (J$)	Farmers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Tomato Yellow Beefsteak Large	11611.1	30000	3 (75%)	1 (25%)	0 (0%)	0 (0%)	4 (100%)
Tomato	23178.05	5946840.89	2 (100%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
Watermelon (Red)	143704.89	7115006.5	4 (100%)	0 (0%)	0 (0%)	0 (0%)	4 (100%)
Watermelon (Yellow)	8809.92	268466	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)
Other Fruits	18240	200	2 (100%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A3: Demand for Vegetables and Associated Monthly Expenditures[a]

Vegetables							
Products	Value		Number (%) of Suppliers				
	Quantity (lbs)	Monthly Expenditure (J$)	Farmers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Artichoke	14	9160.37	1 (33.3%)	1 (33.3%)	1 (33.3%)	0 (0%)	3 (100%)
Asparagus	334.55	162491.8	1 (17%)	4 (66%)	1 (17%)	0 (0%)	6 (100%)
Beetroot	859.35	67388.79	7 (87.5%)	1 (12.5%)	0 (0%)	0 (0%)	8 (100%)
Broccoli	2158.91	643233.56	4 (44%)	3 (33%)	2 (23%)	0 (0%)	9 (100%)
Cabbage	12388.96	2802889.11	11 (85%)	2 (15%)	0 (0%)	0 (0%)	13 (100%)
Cabbage (Savoy)	1648	-	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Cabbage (Red)	992.375	193167.02	4 (50%)	2 (25%)	2 (25%)	0 (0%)	8 (100%)
Callaloo	5635.71	421449.65	11 (92%)	1 (8%)	0 (0%)	0 (0%)	12 (100%)
Carrot	15880.23	4355346.52	11 (79%)	1 (7%)	1 (7%)	1 (7%)	14 (100%)
Cauliflower	28973.21	253371.35	7 (78%)	2 (22%)	0 (0%)	0 (0%)	9 (100%)
Celery	1474.67	114826.36	5 (62.5%)	2 (25%)	1 (12.5%)	0 (0%)	8 (100%)
Cho-cho	4070.8	280440.88	7 (78%)	2 (22%)	0 (0%)	0 (0%)	9 (100%)
Cucumber	8601.47	1001909.73	10 (83%)	2 (17%)	0 (0%)	0 (0%)	12 (100%)
Eggplant	2437.8	100527.34	6 (67%)	2 (22%)	1 (11%)	0 (0%)	9 (100%)
Lettuce (Iceberg)	14153	5268754.71	10 (72%)	2 (14%)	1 (7%)	1 (7%)	14 (100%)
Lettuce (Boston)	3680.08	442485.08	4 (100%)	0 (0%)	0 (0%)	0 (0%)	4 (100%)
Lettuce (Romaine Heart)	4406.42	3155871.61	8 (100%)	0 (0%)	0 (0%)	0 (0%)	8 (100%)
Lettuce (Romaine Wood Crate)	360	679873.33	2 (50%)	1 (25%)	1 (25%)	0 (0%)	4 (100%)
Okra	840.48	211006.26	8 (89%)	1 (11%)	0 (0%)	0 (0%)	9 (100%)
Pak Choi	3868.52	250935.11	9 (90%)	1 (10%)	0 (0%)	0 (0%)	10 (100%)
Pumpkin	8358.88	975607.6	10 (91%)	1 (9%)	0 (0%)	0 (0%)	11 (100%)
Radicchio	1106.88	67263	2 (100%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
Squash	2106.54	451560.26	5 (71%)	0 (0%)	2 (29%)	0 (0%)	7 (100%)
String Bean	3210.77	288134.03	8 (80%)	1 (10%)	1 (10%)	0 (0%)	10 (100%)
Sweet Pepper (green)	6454.8	2962703.3	9 (90%)	1 (10%)	0 (0%)	0 (0%)	10 (100%)
Sweet Pepper (red)	3885.11	1067781.42	5 (72%)	1 (14%)	1 (14%)	0 (0%)	8 (100%)
Sweet Pepper (yellow)	2306.64	910794.81	5 (62.5%)	2 (25%)	1 (12.5%)	0 (0%)	8 (100%)
Turnip	134.03	14629	4 (80%)	1 (20%)	0 (0%)	0 (0%)	5 (100%)
Other Vegetables	988	39806	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A4: Demand for Cereals and Grains and Associated Monthly Expenditures[a]

Cereals & Grains							
Products	**Value**		**Number (%) of Suppliers**				
	Monthly Quantity (lbs)	**Monthly Expenditure (J$)**	**Farmers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Hybrid Corn	0	0	-	-	-	-	-
Corn (regular)	320	213177.56	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Rice	17325.83	2864708.12	2 (17%)	4 (33%)	4 (33%)	2 (17%)	12 (100%)
Sweet Corn	3286	584824	1 (16.67%)	1 (16.67%)	3 (50%)	1 (16.67%)	6 (100%)
Other Cereals and Grains	340	80000	0 (0%)	0 (0%)	2 (100%)	0 (0%)	2 (100%)

[a] A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A5: Demand for Teas and Associated Monthly Expenditures[a]

Teas							
Products	**Value**		**Number (%) of Suppliers**				
	Monthly Quantity (lbs)	**Monthly Expenditure (J$)**	**Farmers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Bissy	0	0	-	-	-	-	-
Cerassie	1.5	2750	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Chocolate	0	0	-	-	-	-	-
Lemon Grass	177.5	1072728	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Mint	22.5	34793.59	0 (0%)	4 (100%)	0 (0%)	0 (0%)	4 (100%)
Other Teas	122.5	49143.22	0 (0%)	3 (100%)	0 (0%)	0 (0%)	3 (100%)

[a] A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A6: Demand for Tubers and Associated Monthly Expenditures[a]

Teas							
Products	Value		Number (%) of Suppliers				
	Monthly Quantity (lbs)	Monthly Expenditure (J$)	Farmers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Coco	306.99	75247.72	2 (100%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
Dasheen	1466.9	20700	3 (75%)	1 (25%)	0 (0%)	0 (0%)	4 (100%)
Irish Potato	43988.07	6776621.33	7 (64%)	2 (18%)	1 (9%)	1 (9%)	11 (100%)
Sweet Potato	8023.78	864776.19	7 (78%)	2 (22%)	0 (0%)	0 (0%)	9 (100%)
Sweet Cassava	51	-	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Yellow Yam	9637.29	1526744.98	4 (67%)	2 (33%)	0 (0%)	0 (0%)	6 (100%)
Sweet Yam	0	0	-	-	-	-	-
Other Tubers	0	0	-	-	-	-	-

[a] A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A7: Demand for Legumes and Associated Monthly Expenditures[a]

Legumes							
Products	Value		Number (%) of Suppliers				
	Monthly Quantity (lbs)	Monthly Expenditure (J$)	Farmers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Broad Bean	429	51112	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)
Cow Pea	0	0	-	-	-	-	
Gungo Pea	1139.19	202896.8	2 (67%)	3 (33%)	0 (0%)	0 (0%)	5 (100%)
Peanut	0	0	-	-	-	-	-
Red Pea	3165.7	668523.7	4 (40%)	4 (40%)	1 (10%)	1 (10%)	10 (100%)
Sugar Bean	440	-	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Other Legumes	0	0	-	-	-	-	-

[a] A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A8: Demand for Other Fresh Produce and Associated Monthly Expenditures[a]

Other Fresh Produce							
Products	**Value**		**Number (%) of Suppliers**				
	Monthly Quantity (lbs)	**Monthly Expenditure (J$)**	**Farmers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Banana (Green)	5681.84	201495.48	7 (87.5%)	1 (12.5%)	0 (0%)	0 (0%)	8 (100%)
Breadfruit	1060.76	80846.67	6 (86%)	1 (14%)	0 (0%)	0 (0%)	7 (100%)
Plantain (Green)	1493.21	115810.21	7 (100%)	0 (0%)	0 (0%)	0 (0%)	7 (100%)
Plantain (Ripe)	5935.97	802990.66	7 (100%)	0 (0%)	0 (0%)	0 (0%)	7 (100%)
Sorrel	184.4	4780	3 (100%)	0 (0%)	0 (0%)	0 (0%)	3 (100%)
Sugar Cane	242	30100	2 (100%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
Other Crops	0	0	-	-	-	-	-

[a] A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A9: Demand for Poultry, Meat and Seafood and Associated Monthly Expenditures[a]

Poultry, Meat and Seafood							
Products	Value		Number (%) of Suppliers				
	Monthly Quantity (lbs)	Monthly Expenditure (J$)	Farmers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Beef Bones	2861.54	43787.11	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Beef Kidney	976.66	85807.22	2 (25%)	4 (50%)	1 (12.5%)	1 (12.5%)	8 (100%)
Beef Liver	1018.08	172199.9	2 (25%)	4 (50%)	1 (12.5%)	1 (12.5%)	8 (100%)
Beef Mince	3571.33	3082528	3 (27%)	5 (46%)	2 (18%)	1 (9%)	11 (100%)
Beef Outside Skirt	880	713395.4	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)
Beef Oxtail Whole	3353.15	5506060	2 (25%)	4 (50%)	1 (12.5%)	1 (12.5%)	8 (100%)
Beef Rib Eye	1793.76	1118748	2 (22%)	5 (56%)	1 (11%)	1 (11%)	9 (100%)
Beef Shortloin Choice	115.43	1481862	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)
Beef Striploin	4888.52	9654448	1 (20%)	4 (80%)	0 (0%)	0 (0%)	5 (100%)
Beef Tenderloin	4954.72	7361727	2 (20%)	6 (60%)	2 (20%)	0 (0%)	10 (100%)
Beef Top Butt	2364.3	3619112	1 (17%)	3 (50%)	2 (33%)	0 (0%)	6 (100%)
Other Beef Cuts	5987.21	1375223	2 (33.3%)	2 (33.3%)	2 (33.3%)	0 (0%)	6 (100%)
Chicken (breast quarters)	6783.24	1156575	1 (33%)	2 (67%)	0 (0%)	0 (0%)	3 (100%)
Chicken (deboned breast)	13453.43	6771430	3 (43%)	4 (57%)	0 (0%)	0 (0%)	7 (100%)
Chicken (leg quarters)	13862.83	124685.8	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Chicken (thighs)	65.74	206929.1	0 (0%)	3 (100%)	0 (0%)	0 (0%)	3 (100%)
Chicken (wings)	7565.11	1837507	4 (44%)	4 (44%)	1 (12%)	0 (0%)	9 (100%)
Chicken Sausage	2468.47	6675165	3 (60%)	2 (40%)	0 (0%)	0 (0%)	5 (100%)
Egg Whole	37204	10862773	6 (86%)	1 (14%)	0 (0%)	0 (0%)	7 (100%)
Egg Powdered	50	40706	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Egg Liquid	690.47	36367.49	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)
Conch	872.39	270518.4	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Conch Fritters	-	8000	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Fish (fresh water)	4673	458344	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Fish (sea water)	9036.35	7098655	3 (43%)	4 (57%)	0 (0%)	0 (0%)	7 (100%)
Lobster	6165.9	11815467	4 (36%)	5 (46%)	1 (9%)	1 (9%)	11 (100%)
Shrimp	9730.14	14093620	2 (25%)	5 (62.5%)	1 (12.5%)	0 (0%)	8 (100%)

[a] A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A9: Demand for Poultry, Meat and Seafood and Associated Monthly Expenditures[a]

Poultry, Meat and Seafood							
Products	Value		Number (%) of Suppliers				
	Monthly Quantity (lbs)	Monthly Expenditure (J$)	Farmers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Smoked Marlin	1434.02	5785507	2 (25%)	5 (62.5%)	1 (12 5%)	0 (0%)	8 (100%)
Salmon	2766.83	3085447	1 (16.6%)	4 (67%)	1 (16.6%)	0 (0%)	6 (100%)
Tilapia	3075.43	1285030	1 (16.6%)	3 (50%)	2 (33.3%)	0 (0%)	6 (100%)
Pork (leg shank portion)	1028.21	570271.8	1 (16.67%)	4 (67%)	1 (16.67%)	0 (0%)	6 (100%)
Pork Leg Whole	6153.66	2102626	2 (40%)	3 (60%)	0 (0%)	0 (0%)	5 (100%)
Pork Loin Blade Roast	18096.34	539050.4	2 (40%)	2 (40%)	1 (20%)	0 (0%)	5 (100%)
Pork Shoulder Arm Picnic	284.25	859927.3	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Pork Shoulder Arm Roast	0	0	-	-	-	-	-
Pork Shoulder Blade (Boston) Roast	0	0	-	-	-	-	-
Pork Shoulder Blade Steak	50	79817	0 (0%)	1 (50%)	1 (50%)	0 (0%)	2 (100%)
Pork Spare Ribs	1369.94	938525.2	2 (22%)	5 (56%)	2 (22%)	0 (0%)	9 (100%)
Smoked Pork Loin Rib Chops	1013.14	383025.5	1 (20%)	4 (80%)	0 (0%)	0 (0%)	5 (100%)
Ground Pork	2697.35	2025729	1 (20%)	3 (60%)	1 (20%)	0 (0%)	5 (100%)
Bacon	24292.82	11255502	2 (29%)	4 (57%)	1 (14%)	0 (0%)	7 (100%)
Pork Sausage	5217.1	2180472	1 (14%)	4 (57%)	2 (29%)	0 (0%)	7 (100%)
Other Pork Cuts	379.75	253533.8	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
	994.33	1680845	1 (25%)	3 (75%)	0 (0%)	0 (0%)	4 (100%)
Lamb Leg	2116.87	702192.9	1 (16.6%)	4 (67%)	1 (16.6%)	0 (0%)	6 (100%)
Lamb (chops)	222	2065400	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Lamb (sausage)	1593.58	2185343	1 (20%)	3 (60%)	1 (20%)	0 (0%)	5 (100%)
Mutton	3881.59	1729826	1 (33%)	2 (67%)	0 (0%)	0 (0%)	3 (100%)
Rabbit Meat	986.82	7000	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Goat Meat	360.68	223936	1 (20%)	4 (80%)	0 (0%)	0 (0%)	5 (100%)
Sausages (other)	1734.7	353566	0 (0%)	2 (67%)	1 (33%)	0 (0%)	3 (100%)
Other	9986	1058200	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)

[a] A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A10: Estimated National Demand and Expenditure on Herbs and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Basil	7,563	3,377,697	844,424
Celery	186,375	17,677,599	1,944,536
Cinnamon Leaf	1,757	-	-
Coriander/Cilantro	19,587	14,390,063	-
Escallion	209,687	22,693,348	3,177,069
Fennel	26,025	834,568	-
Ginger	48,622	9,263,570	648,450
Hot Pepper	64,945	10,520,573	-
Leek	15,969	8,528,422	2,132,105
Mushrooms	104,981	63,860,001	17,880,800
Onion	687,903	67,511,727	-
Onion (Pearl White)	31,919	1,537,361	-
Onion (Red Jumbo)	192,707	208,391,949	25,007,034
Parsley	17,424	6,320,405	790,051
Pimento	8,170	642,411	-
Rosemary	6,460	2,846,562	355,820
Shallot	2,245	-	-
Sweet Pepper	176,664	16,288,157	-
Thyme	36,623	7,220,643	1,010,890
Other herbs	9,956	7,459,334	844,424
Total	**1,855,582**	**469,364,391**	**53,791,179**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A11: Estimated National Demand and Expenditure on Fruits and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Ackee	86,092	54,461,951	10,892,390
Apple (Gold)	100,618	441,900,949	-
Apple (Granny Smith)	79,450	5,390,635	-
Apple (Red)	89,355	13,595,756	-
Apple (Otaheite)	280,602	8,370,269	1,506,648
Avocado	235,697	31,546,574	-
Banana (Ripe)	781,416	102,574,591	-
Blueberry	136,431	16,669,511	-
Cantaloupe	731,524	129,897,542	25,979,508
Carambola	370,211	25,703,216	4,369,547
Cherry Tomato	30,565	33,357,697	-
Dried Coconut	98,807	43,653,876	9,603,853
Grape (Black)	67,844	13,616,628	5,106,236
Grape (Seedless)	52,125	2,740,861,675	-
Grape (Red Globe)	100,620	14,449,388	1,806,173
Grapefruit	363,595	6,011,093	-
Honey Dew Melon	443,004	168,051,728	-
Jelly Coconut	207,463	34,957,325	-
Kiwi	166,003	40,047,590	10,011,897
Lime	184,578	18,806,937	1,880,694
Mango	568,504	41,575,991	-
Orange	1,567,240	77,976,161	-
Papaya	928,576	71,552,066	-
Pear Red	534,610	35,426,001	3,896,860
Pineapple	1,154,574	190,204,855	-
Plum (Black)	16,804	6,522,804	-
Plum (Red)	83,457	1,055,289	263,822
Raspberry	1,448,011	21,876,211	-
Strawberry	1,546,636	32,066,140	12,024,802
Sweet Sop	2,035,240	23,599,556	-
Tamarind	1,843,735	-	-
Tangerine	3,864,831	15,814,652	-
Tomato Yellow Beefsteak Large	850,022	13,177,382	-
Tomato	925,533	290,236,279	-
Watermelon Red	7,890,226	390,654,833	-
Watermelon Yellow	967,431	117,922,636	-
Other Fruits	2,002,962	87,849	-
Total	**32,834,393**	**5,273,673,640**	**87,342,431**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A12: Estimated National Demand and Expenditure on Vegetables and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Artichoke	3,075	2,011,828	669,939
Asparagus	29,390	17,843,471	3,033,390
Beetroot	47,183	4,228,609	-
Broccoli	94,829	31,393,091	7,220,411
Cabbage	453,484	102,596,503	-
Cabbage (Savoy)	361,939	-	-
Cabbage (Red)	62,271	14,141,309	3,535,327
Callaloo	225,042	16,829,100	-
Carrot	634,121	173,915,351	24,348,149
Cauliflower	1,590,796	18,548,728	-
Celery	92,535	8,406,171	1,050,771
Cho-cho	162,553	13,686,951	-
Cucumber	343,469	48,898,324	-
Eggplant	118,977	7,359,373	809,531
Lettuce (Iceberg)	621,665	289,284,977	40,499,897
Lettuce (Boston)	538,820	97,179,917	-
Lettuce (Romaine Heart)	241,938	154,022,690	-
Lettuce (Romaine Wood Crate)	79,064	99,543,897	24,885,974
Okra	46,147	10,298,186	-
Pak Choi	154,476	13,777,783	-
Pumpkin	367,161	47,614,645	-
Radicchio	243,096	9,848,336	-
Squash	185,058	33,057,679	9,586,727
String Bean	141,032	14,062,416	1,406,242
Sweet Pepper (green)	236,270	144,595,088	-
Sweet Pepper (red)	243,788	78,169,799	10,943,772
Sweet Pepper (yellow)	144,740.37	100,015,761	12,501,970
Turnip	11,774.43	2,141,910	-
Other Vegetables	144,658.37	17,484,629	-
Total	**7,619,352**	**1,570,956,523**	**140,492,100**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A13: Estimated National Demand and Expenditure on Cereals and Grains and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Hybrid Corn	-	-	-
Corn (regular)	46,853	31,212,469	-
Rice	845,589	139,812,421	69,906,210.71
Sweet Corn	360,841	85,627,215	57,370,234.18
Other Cereals & Grains	149,344	35,139,686	35,139,685.86
Total	**1,402,626**	**291,791,791**	**162,416,131**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A14: Estimated National Demand and Expenditure on Teas and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Bissy	-	-	-
Cerassie	658.87	1,207,926.70	-
Chocolate	-	-	-
Lemon Grass	38,983.09	235,595,780.86	-
Mint	3,294.35	3,056,589.56	-
Other teas	13,451.91	5,396,491.60	-
Total	**56,388.21**	**245,256,788.72**	**-**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A15: Estimated National Demand and Expenditure on Tubers and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Coco	67,422.08	16,526,132.77	-
Dasheen	161,082.52	3,030,797.91	-
Irish Potato	1,756,507.91	372,075,538.68	66,973,596.96
Sweet Potato	320,401.26	47,481,193.22	-
Sweet Cassava	11,200.77	-	-
Yellow Yam	423,314.18	83,827,092.17	-
Sweet Yam	-	-	-
Other tubers	-	16,526,132.77	-
	-	3,030,797.91	-
Total	**2,739,928.717**	**522,940,754.74**	**66,973,596.96**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A16: Estimated National Demand and Expenditure on Legumes and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Broad Bean	62,812.19	5,612,686.32	-
Cow Pea	-	-	-
Gungo Pea	62,548.09	12,731,661.64	-
Peanut	-	-	-
Red Pea	126,411.03	26,695,126.20	5,339,025.24
Sugar Bean	193,268.27	-	-
Other legumes	-	-	-
Total	**445,039.58**	**45,039,474.16**	**5,339,025.24**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A17: Estimated National Demand and Expenditure on Other Fresh Produce and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Banana (Green)	277,302.88	11,063,262.30	-
Breadfruit	66,562.09	5,918,597.06	-
Plantain (Green)	75,218.94	5,797,765.59	-
Plantain (Ripe)	260,735.15	35,271,049.43	-
Sorrel	26,998.99	1,049,798.12	-
Sugar Cane	35,432.52	4,407,102.27	-
Other crops	-	11,063,262.30	-
Total	742,250.57	63,507,574.75	-

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Table A18: Estimated National Demand and Expenditure on Poultry, Meat and Seafood and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Beef Bones	418,973	4,808,329	-
Beef Kidney	85,799	9,422,621	2,355,655
Beef Liver	89,438	18,909,527	4,727,382
Beef Mince	174,299	150,443,166	40,619,655
Beef Outside Skirt	386,537	156,678,068	-
Beef Oxtail Whole	294,572	483,703,034	120,925,759
Beef Rib Eye	157,580	122,851,366	27,027,300
Beef Shortloin Choice	50,702	325,450,944	-
Beef Striploin	1,354,919	706,779,717	-
Beef Tenderloin	197,849	359,289,951	71,857,990
Beef Top Butt	259,627	317,936,114	104,918,917
Other Beef Cuts	657,465	151,015,320	-
Chicken (breast quarters)	744,878	127,005,284	-
Chicken (deboned breast)	844,195	594,864,797	-
Chicken (leg quarters)	1,527,789	13,691,938	-
Chicken (thighs)	28,876	30,297,591	-
Chicken (wings)	415,368	161,423,563	19,370,828
Chicken Sausage	271,066	418,862,863	-
Egg Whole	1,543,111	954,286,039	-
Egg Powdered	13,617	5,959,984	-
Egg Liquid	151,643	3,993,569	-
Conch	55,997	29,706,040	-
Conch Fritters	-	1,756,984	-
Fish (fresh water)	684,199	50,331,451	-
Fish (sea water)	509,874	311,805,648	-
Lobster	249,088	576,655,295	103,797,953
Shrimp	474,881	884,366,725	110,545,841
Smoked Marlin	69,988	317,657,659	39,707,207
Salmon	151,915	225,878,425	37,495,819
Tilapia	192,982	141,111,080	46,989,990
Pork (leg shank portion)	112,909	62,622,414	10,395,321
Prok Leg Whole	540,594	153,928,378	-
Pork Loin Blade Roast	1,324,791	39,462,628	7,892,526
Pork Shoulder Arm Picnic	124,856	126,078,899	-
Pork Shoulder Arm Roast	-	-	-
Pork Shoulder Blade (Boston) Roast	-	-	-
Pork Shoulder Blade Steak	21,962	17,529,652	8,764,826

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage.

Products	Estimated National Annual Demand (lb)	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Pork Spare Ribs	120,348	83,516,066	18,373,535
Smoked Pork Loin Rib Chops	111,254	42,060,610	-
Ground Pork	246,096	222,448,406	44,489,681
Bacon	1,542,244	988,787,007	138,430,181
Pork Sausage	381,932	159,627,317	46,291,922
Other Pork Cuts	83,402	28,192,329	-
	145,585	184,726,391	-
Lamb Leg	132,832	44,062,210	7,314,327
Lamb (chops)	48,756	182,058,712	-
Lamb (sausage)	235,521	479,951,757	95,990,351
Mutton	426,243	126,636,518	-
Rabbit Meat	144,486	2,855,099	-
Goat Meat	39,607	24,592,158	-
Sausages (other)	152,392	67,544,077	22,289,545
Other	2,193,156	232,405,097	-
Total	**20,186,194**	**10,926,028,819**	**1,130,572,510**

Table A19: Demand for Processed Foods and Associated Annual Expenditures[a]

Processed Foods							
Products	Value		Number (%) of Suppliers				
	Annual Quantity	Annual Expenditure (J$)	Manufacturers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Alcoholic Beverages (beer)	68165	66714527.59	6 (46%)	5 (38%)	1 (8%)	1 (8%)	13 (100%)
Alcoholic Beverages (wine)	24632	90949770.89	0 (0%)	8 (80%)	1 (10%)	1 (10%)	10 (100%)
Alcoholic Beverages (vodka)	7888	167360099.3	1 (7%)	9 (60%)	3 (20%)	2 (13%)	15 (100%)
Alcoholic Beverages (whiskey)	812	15547040.2	0 (0%)	8 (67%)	3 (25%)	1 (8%)	12 (100%)
Alcoholic Beverages (rum)	6894	94654749.23	3 (25%)	6 (50%)	2 (17%)	1 (8%)	12 (100%)
Breads and Pastry	12343	34037556.25	4 (44%)	4 (44%)	1 (12%)	0 (0%)	9 (100%)
Candies	4496	1442659.76	1 (20%)	4 (80%)	0 (0%)	0 (0%)	5 (100%)
Canned Meats	-	636512	1 (17%)	5 (83%)	0 (0%)	0 (0%)	6 (100%)
Canned Seafood	576	250321.622	0 (0%)	4 (80%)	1 (20%)	0 (0%)	5 (100%)
Cheese	33660	40087050.53	0 (0%)	7 (87.5%)	1 (12.5%)	0 (0%)	8 (100%)
Chips	1156	1411197.49	0 (0%)	5 (71%)	2 (29%)	0 (0%)	7 (100%)
Coffee	7594	11861133.33	3 (30%)	5 (50%)	1 (10%)	1 (10%)	10 (100%)
Coffee (Blue Mountain)	5687	15527635.11	2 (18%)	6 (55%)	2 (18%)	1 (9%)	11 (100%)
Cooking Oil	2055	18255329	0 (0%)	8 (89%)	1 (11%)	0 (0%)	9 (100%)
Corn Products	1903	1823466.06	1 (16.5%)	4 (67%)	1 (16.5%)	0 (0%)	6 (100%)
Drink Mix	240	510434.09	0 (0%)	6 (75%)	1 (12.5%)	1 (12.5%)	8 (100%)
Ice Cream	215	74476.56	2 (22%)	5 (56%)	2 (22%)	0 (0%)	9 (100%)
Jam	755	5787181.28	1 (12.5%)	5 (62.5%)	2 (25%)	0 (0%)	8 (100%)
Juice	1161	18857820.1	2 (25%)	6 (75%)	0 (0%)	0 (0%)	17 (100%)
Milk (whole)	8390	56815063.03	2 (20%)	7 (70%)	1 (10%)	0 (0%)	10 (100%)
Milk (low fat)	6048	1182358.98	0 (0%)	6 (86%)	1 (14%)	0 (0%)	7 (100%)
Non-alcoholic Beverage	2320	6812029.82	1 (11%)	7 (78%)	1 (11%)	0 (0%)	9 (100%)
Oats	1489	310261.4	2 (18%)	6 (55%)	2 (18%)	1 (9%)	11 (100%)
Pasta/Macaroni	12032	3165792.53	0 (0%)	6 (86%)	1 (14%)	0 (0%)	7 (100%)
Patties	4199	1163184.303	2 (40%)	2 (40%)	1 (20%)	0 (0%)	5 (100%)

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Processed Foods							
Products	Value		Number (%) of Suppliers				
	Annual Quantity	Annual Expenditure (J$)	Manufacturers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Porridge	11285	18942392	1 (16.5%)	4 (67%)	1 (16.5%)	0 (0%)	6 (100%)
Puree	-	1239246	0 (0%)	3 (100%)	0 (0%)	0 (0%)	3 (100%)
Sauce	58	17519609.08	0 (0%)	4 (67%)	2 (33%)	0 (0%)	6 (100%)
Spice (dried)	474	1269062.65	0 (0%)	5 (83%)	1 (17%)	0 (0%)	6 (100%)
Spice (wet)	106	4767876.27	1 (20%)	3 (60%)	1 (20%)	0 (0%)	5 (100%)
Soup	18	1421297.23	1 (17%)	5 (83%)	0 (0%)	0 (0%)	6 (100%)
Syrup	200	788233.38	0 (0%)	3 (75%)	1 (25%)	0 (0%)	4 (100%)
Tea Bag	1734	7915534.26	2 (40%)	3 (60%)	0 (0%)	0 (0%)	5 (100%)
Veggie Chunks	1553	6660210.02	0 (0%)	5 (100%)	0 (0%)	0 (0%)	5 (100%)
Water	11082	14742421	1 (20%)	3 (60%)	1 (20%)	0 (0%)	5 (100%)
Yogurts	4542	10832132.87	1 (20%)	3 (60%)	1 (20%)	0 (0%)	5 (100%)
Other Beverage	12	10	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)

Table A20: Demand for Fixtures and Fittings and Associated Annual Expenditures[a]

Fixtures and Fittings							
	Value		Number (%) of Suppliers				
	Annual Quantity	Annual Expenditure (J$)	Manufacturers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Baths	33	320560	1 (20%)	2 (40%)	2 (40%)	0 (0%)	5 (100%)
Bidets	-	50000	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Ceramic Sinks	52	1693330.56	0 (0%)	2 (67%)	1 (33%)	0 (0%)	3 (100%)
Chandeliers	19	3892974	0 (0%)	1 (50%)	1 (50%)	0 (0%)	2 (100%)
Electric Floor - Standing Lamps	539	3684054.96	0 (0%)	0 (0%)	2 (100%)	0 (0%)	2 (100%)
Electric Table/Desk Lamps	1093	1773920.96	1 (33.3%)	1 (33.3%)	1 (33.3%)	0 (0%)	3 (100%)
Flushing Cisterns	19	-	0 (0%)	2 (100%)	0	0 (0%)	2 (100%)
Non-electrical Lamps	-	2800	-	-	-	-	-
Paintings & Drawings	845	400649.12	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Portable Electric Lamps	0	0	-	-	-	-	-
Urinals	14	3257057.4	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Wash Basins	123	12560	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Other Fixtures	0	0	-	-	-	-	-
Other Sanitary	8	-	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A21: Demand for Office and Stationery Supplies and Associated Annual Expenditures[a]

Office and Stationery Supplies							
Products	**Value**		**Number (%) of Suppliers**				
	Annual Quantity	**Annual Expenditure (J$)**	**Manufacturers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Books	10068	8570685	0 (0%)	4 (45%)	3 (33%)	2 (22%)	9 (100%)
Brochures/Flyers	61100	6703465	1 (10%)	3 (30%)	4 (40%)	2 (20%)	10 (100%)
Business Cards	20450	108500	2 (23%)	3 (33%)	3 (33%)	1 (11%)	9 (100%)
CDs and Records	3	92174	0 (0%)	1 (50%)	1 (50%)	0 (0%)	2 (100%)
Diaries/Planners	35	-	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Filing Cabinets	2	-	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Magazines	-	497200	1 (50%)	0 (0%)	1 (50%)	0 (0%)	2 (100%)
Paper Bags	150	4753.42	1 (20%)	1 (20%)	2 (40%)	1 (20%)	5 (100%)
Paper Clips	339	5966.42	0 (0%)	5 (62.5%)	2 (25%)	1 (12.5%)	8 (100%)
Paper Trays	206	18000	0 (0%)	2 (40%)	2 (40%)	1 (20%)	5 (100%)
Pencils	1877	9388.25	1 (17%)	3 (49%)	1 (17%)	1 (17%)	6 (100%)
Pens	46232	1860014	1 (12.5%)	5 (62.5%)	1 (12.5%)	1 (12.5%)	8 (100%)
Signs	1633	2746763	2 (40%)	2 (40%)	1 (20%)	0 (0%)	5 (100%)

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A22: Demand for Apparel, Accessories and Textiles and Associated Annual Expendituresa

Apparel, Accessories &Textiles							
	Value		Number (%) of Suppliers				
	Annual Quantity	Annual Expenditure (J$)	Manufacturers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Bathrobes	987	11523599.75	2 (23%)	3 (33%)	3 (33%)	1 (11%)	9 (100%)
Bed Linens	65497	99676752.89	2 (23%)	2 (23%)	4 (43%)	1 (11%)	9 (100%)
Blinds	21000	-	0 (0%)	0 (0%)	0 (0%)	1 (100%)	1 (100%)
Drapery	6015	21649440.2	2 (50%)	0 (0%)	1 (25%)	1 (25%)	4 (100%)
Hats	12	5679.8	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Leather Bags	0	0	-	-	-	-	-
Leather Shoes	0	0	-	-	-	-	-
Mops	350	441394.35	2 (20%)	4 (40%)	2 (20%)	2 (20%)	10 (100%)
Napkins	11637	4260854.91	2 (23%)	3 (33%)	3 (33%)	1 (11%)	9 (100%)
Slippers	18300	1015850	1 (14%)	3 (43%0	2 (29%)	1 (14%)	7 (100%)
Sportswear	-	7000000	2 (33%)	1 (17%)	3 (50%)	0 (0%)	6 (100%)
Table Cloth	5836	6758258.5	2 (25%)	2 (25%)	3 (37.5%)	1 (12.5%)	8 (100%)
Towels	30769	389609231.8	2 (20%)	2 (20%)	4 (40%)	2 (20%)	10 (100%)
T-Shirts/Leisure Wear	31417	826912.8	2 (23%)	2 (23%)	4 (43%)	1 (11%)	9 (100%)
Uniforms	14163	41856645.76	2 (23%)	3 (31%)	2 (23%)	2 (23%)	9 (100%)
Other Apparel	3		1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Other Textiles	0	0	-	-	-	-	-

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A23: Demand for Chemicals, Cosmetics and Pharmaceuticals and Associated Annual Expenditures[a]

Chemicals, Cosmetics & Pharmaceuticals							
Products	**Value**		**Number (%) of Suppliers**				
	Annual Quantity	**Annual Expenditure (J$)**	**Manufacturers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Aromatic Oils	800	455900	1 (11%)	4 (45%)	3 (33%)	1 (11%)	9 (100%)
Candles	2615	3502328	1 (9%)	6 (55%)	2 (18%)	2 (18%)	11(100%)
Other Spa Products	-	158000	0 (0%)	1 (50%)	1 (50%)	0	2 (100%)
Hair Shampoo and Conditioner	-	610566.6667	0 (0%)	0 (0%)	2 (100%)	0 (0%)	2 (100%)
Sanitizers	92813	66648173.31	0	3 (75%)	1 (25%)	0 (0%)	4 (100%)
Soaps	567	1370864.66	1 (20%)	3 (60%)	1 (20%)	0 (0%)	5 (100%)
Toothpaste	90749	184396443.3	1 (20%)	1 (20%)	2 (40%)	1 (20%)	5 (100%)
Other Personal							
Care Products	8	1618426.62	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)
Cooking Gas	250000	-	1 (25%)	2 (50%)	1 (25%)	0 (0%)	4 (100%)
House Cleaning Products	-	18702265	0 (0%)	1 (50%)	1 (50%)	0 (0%)	2 (100%)
Industrial Chemicals	917010	14970726.23	1 (14%)	3 (43%)	2 (29%)	1 (14%)	7 (100%)
Laundry Detergent	3913	-	1 (33.3%)	1 (33.3%)	1 (33.3%)	0 (0%)	3 (100%)
Paints	670	7129722.7	1 (17%)	2 (33%)	2 (33%)	1 (17%)	6 (100%)
Water Treatment Chemicals	36380	11192177.12	2 (25%)	4 (50%)	1 (12.5%)	1 (12 1/2%)	8 (100%)
Other Chemicals	540	13740026.17	0 (0%)	2 (67%)	1 (33%)	0 (0%)	3 (100%)

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A24: Demand for Paper Products and Associated Annual Expenditures[a]

Paper Products							
	Value		Number (%) of Suppliers				
	Annual Quantity	Annual Expenditure (J$)	Manufacturers only	Local Distributors only	Foreign Source only	Local & Foreign Source	Total
Paper Cups	4557	439816.77	3 (43%)	3 (43%)	1 (14%)	0 (0%)	7 (100%)
Paper Napkins	8092	6848608.04	3 (37.5%)	4 (50%)	1 (12.5%)	0 (0%)	8 (100%)
Paper Towels	2704	16328669.86	2 (25%)	5 (62.5%)	1 (12.5%)	0 (0%)	8 (100%)
Tissue	13193	9630581.46	2 (25%)	5 (62.5%)	1 (12.5%)	0 (0%)	8 (100%)
Other	-	5458000	-	-	-	-	-

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A25: Demand for Furniture, Bedding and Wooden Products and Associated Annual Expenditures[a]

Furniture, Bedding and Wooden Products							
Products	**Value**		**Number (%) of Suppliers**				
	Annual Quantity	**Annual Expenditure (J$)**	**Manufacturers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Accessory Table	1	612500	0 (0%)	1	0 (0%)	0 (0%)	1 (100%)
Bean Bag	1	24500	0 (0%)	1	0 (0%)	0 (0%)	1 (100%)
Bed Frame and Head Board	543	8354300	1 (20%)	2 (40%)	1 (20%)	1 (20%)	5 (100%)
Beds	20	75000	1(25%)	1(25%)	1(25%)	1(25%)	4 (100%)
Cabinet	13	700000	1(25%)	1(25%)	1(25%)	1(25%)	4 (100%)
Chairs	57	2867500	1 (33.3%)	0 (0%)	1 (33.3%)	1 (33.3%)	3 (100%)
Chest of Drawers	27	3375000	-	-	-	-	-
Countertop	38	-	-	-	-	-	-
Crockery	13	420200	1 (25%)	1 (25%)	1 (25%)	1 (25%)	4 (100%)
Cushion	1245	990000	2 (50%)	2 (50%)	0 (0%)	0 (0%)	4 (100%)
Desk	15	1746666.667	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Dining Chair	75	46070000	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Dining Table	18	261000	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Door	23	87500	1 (25%)	3 (75%)	0 (0%)	0 (0%)	4 (100%)
Glassware	21131	425416.38	0 (0%)	2 (67%)	1 (33%)	0 (0%)	3 (100%)
Hardwood/Laminate Flooring	290	1391000	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)
Kiosks	2	140000	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Luggage Rack	15	65000	0 (0%)	3 (100%)	0 (0%)	0 (0%)	3 (100%)
Magazine Rack	13	735000	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Mattress Support	553	1022640	1(25%)	2 (50%)	1(25%)	0 (0%)	4 (100%)
Mattress	255	12311600	1 (33%)	2 (67%)	0 (0%)	0 (0%)	3 (100%)
Mirror	28	1745000	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Night Stand	40	945000	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Picture Frame	70	300000	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Pillow	948	2889266.667	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
Pool Furniture	3	122000	-	-	-	-	-
Roofing Sheet	0	0	-	-	-	-	-
Salad Bars	0	0	-	-	-	-	-
Side Table	0	0	-	-	-	-	-
Sofa	28	1300000	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)

Furniture, Bedding and Wooden Products							
Products	**Value**		**Number (%) of Suppliers**				
	Annual Quantity	**Annual Expenditure (J$)**	**Manufacturers only**	**Local Distributors only**	**Foreign Source only**	**Local & Foreign Source**	**Total**
Souvenir/Craft Items (Wooden)	15	82701266	-	-	-	-	-
Souvenir/Craft Items (Jewellery)	0	0	-	-	-	-	-
Souvenir/Craft Items (of Beads)	3	3200	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Souvenir/Craft Items (Painting)	0	0	-	-	-	-	-
Souvenir/Craft Items (Sculpture)	-	7000	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Souvenir/Craft Items (Carving)	0	0	-	-	-	-	-
Souvenir/Craft Items (Ceramic)	0	0	-	-	-	-	-
Souvenir/Craft Items (Leather)	0	0	-	-	-	-	-
Souvenir/Craft Items (Aromatherapy)	30	5220	0 (0%)	2 (100%)	0 (0%)	0 (0%)	2 (100%)
Souvenir/Craft Items (made from Straw)	7	17000	-	-	-	-	-
Vanity/Dresser	15	1800000	0 (0%)	1(100%)	0 (0%)	0 (0%)	1 (100%)
Wall Painting	0	0	-	-	-	-	-
Window	30	1600000	-	-	-	-	-
Other	0	0	-	-	-	-	-

a A value of zero (0) indicates zero quantity demanded, zero dollar spent, or no supply from indicated source. A dash (-) indicates that no information was provided.

Table A26: Estimated National Demand and Expenditure on Processed Foods and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Alcoholic Beverages (beer)	4,990,189	3,256,010,475	520,961,676
Alcoholic Beverages (wine)	1,803,227	4,438,814,415	887,762,883
Alcoholic Beverages (vodka)	494,973	12,252,044,407	4,043,174,654
Alcoholic Beverages (whiskey)	59,414	975,568,052	321,937,457
Alcoholic Beverages (rum)	504,700	5,939,532,417	1,484,883,104
Breads and Pastry	1,355,385	2,135,837,561	256,300,507
Candies	493,713	158,420,659	-
Canned Meats	-	93,195,132	-
Canned Seafood	126,503	36,650,930	7,330,186
Cheese	2,112,146	3,521,615,907	440,201,988
Chips	101,554	154,965,739	44,940,064
Coffee	1,111,878	1,302,489,060	260,497,812
Coffee (Blue Mountain)	499,598	974,350,393	263,074,606
Cooking Oil	180,501	1,603,716,316	176,408,795
Corn Products	139,326	133,491,718	22,026,133
Drink Mix	26,355	74,735,390	18,683,847
Ice Cream	23,609	10,904,512	2,398,993
Jam	66,304	423,666,109	105,916,527
Juice	84,994	1,656,644,686	165,664,469
Milk (whole)	614,188	6,238,948,335	873,452,767
Milk (low fat)	379,509	129,836,635	18,177,129
Non-alcoholic Beverage	203,803	498,692,892	54,856,218
Oats	163,509	34,070,275	9,198,974
Pasta/Macaroni	880,835	198,651,705	27,811,239
Patties	307,399	127,731,034	25,546,207
Porridge	4,956,746	2,080,092,826	343,215,316
Puree	-	136,083,485	-
Sauce	8,492	1,539,083,899	507,897,687
Spice (dried)	41,641	139,357,696	23,690,808
Spice (wet)	15,520	349,045,155	69,809,031
Soup	3,953	156,074,807	-
Syrup	43,925	173,114,209	43,278,552
Tea Bag	152,331	869,216,835	-
Veggie Chunks	113,692	731,367,775	-
Water	1,622,587	3,237,775,268	647,555,054
Yogurts	285,003	951,594,366	190,318,873
Total	**N/A**	**56,733,391,074**	**11,856,971,558**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage. N/A means not applicable.

Table A27: Estimated National Demand and Expenditure on Chemicals, Cosmetics and Pharmaceuticals, and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Aromatic Oils	175,698	40,050,457	17,622,201
Candles	229,726	256,397,304	92,303,029
Other Spa			
Products	-	23,133,627	11,566,813
Hair Shampoo			
and Conditioner	-	134,094,505	134,094,505
Sanitizers	10,191,900	5,854,989,684	1,463,747,421
Soaps	62,263	150,536,730	30,107,346
Toothpaste	9,965,285	20,248,853,416	12,149,312,050
Other Personal			
Care Products	54,905,759	355,443,769	-
Cooking Gas	-	-	-
House Cleaning Products	-	4,107,448,232	2,053,724,116
Industrial Chemicals	100,698,297	2,191,944,237	942,536,022
Laundry Detergent	572,850	-	-
Paints	98,098	782,925,675	391,462,837
Water Treatment Chemicals	3,994,918	1,638,706,617	409,676,654
Other Chemicals	79,064	2,011,750,847	663,877,780
Total	**N/A**	**37,796,275,099**	**18,360,030,775**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage. N/A means not applicable.

Table A28: Estimated National Demand and Expenditure on Office Stationery and Supplies and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Books	1,474,110	1,882,319,866	621,165,556
Brochures/Flyers	6,709,484	981,490,226	677,228,256
Business Cards	1,796,516	23,829,099	10,484,804
CDs and Records	1,318	20,243,534	10,121,767
Diaries/Planners	7,687	-	-
Filing Cabinets	878	-	-
Magazines	-	218,393,148	109,196,574
Paper Bags	65,887	2,087,921	1,252,753
Paper Clips	37,226	873,576	327,591
Paper Trays	45,242	7,906,429	4,743,858
Pencils	164,893	1,374,584	467,359
Pens	5,076,806	272,334,615	68,083,654
Signs	358,644	603,252,431	120,650,486
Total	**N/A**	**4,014,105,429**	**1,623,722,656**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage. N/A means not applicable.

Table A29: Estimated National Demand and Expenditure on Apparels and Textiles and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Bathrobes	144,463	2,530,847,970	1,113,573,107
Bed Linens	4,109,900	7,297,103,718	3,940,436,008
Blinds	4,612,084	-	-
Drapery	880,688	2,377,357,899	1,188,678,950
Hats	2,635	1,247,415	-
Leather Bags	-	-	-
Leather Shoes	-	-	-
Mops	38,434	38,776,147	15,510,459
Napkins	638,938	311,927,298	137,248,011
Slippers	1,607,641	148,736,041	63,956,498
Sportswear	-	3,074,722,513	1,537,361,257
Table Cloth	366,206	593,707,702	296,853,851
Towels	1,689,395	34,226,865,036	20,536,119,022
T-Shirts/Leisure Wear	3,449,948	121,072,733	64,168,549
Uniforms	1,036,840	4,596,341,823	2,114,317,239
Total	**N/A**	**55,318,706,296**	**31,008,222,948**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage. N/A means not applicable.

Table A30: Estimated National Demand and Expenditure on Fixtures and Fittings and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Baths	3,623.78	70,402,361	28,160,944
Bidets	-	21,962,304	-
Ceramic Sinks	7,613.60	371,894,400	122,725,152
Chandeliers	2,781.89	854,986,771	-
Electric Floor - Standing Lamps	78,917.88	539,402,225	539,402,225
Electric Table/Desk Lamps	96,019.19	194,796,954	64,867,386
Flushing Cisterns	2,781.89	-	-
Non-electrical Lamps	-	1,229,889	-
Paintings and Drawings	92,790.73	87,991,776	-
Portable Electric Lamps	-	-	-
Urinals	3,074.72	715,324,837	-
Wash Basins	18,009.09	5,516,931	-
Total	**N/A**	**2,863,508,448**	**755,155,707**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage. N/A means not applicable.

Table A31: Estimated National Demand and Expenditure on Paper Products and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Paper Cups	667,215	38,637,558	3,863,756
Paper Napkins	888,595	501,370,698	62,671,337
Paper Towels	237,574	1,195,384,020	149,423,002
Tissue	1,159,017	705,032,515	88,129,064
Other	-	1,198,702,534	-
Total	**N/A**	**3,639,127,325**	**304,087,159**

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage. N/A means not applicable.

Table A32: Estimated National Demand and Expenditure on Furniture, Beddings and Wooden Products and Value of Leakage Due to Imports[a]

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Accessory Table	5,491	269,038,220	-
Bean Bag	366	10,761,529	-
Bed Frame and Head Board	79,430	1,223,197,823	489,279,129
Beds	2,928	16,471,728	8,235,864
Cabinet	5,491	307,472,251	153,736,126
Chairs	8,272	419,846,038	281,296,846
Chest of Drawers	5,820	741,227,749	-
Countertop	16,472	-	-
Crockery	5,491	92,285,600	46,142,800
Cushion	182,287	217,426,806	-
Desk	3,294	383,608,237	-
Dining Chair	16,472	10,118,033,298	-
Dining Table	3,843	57,321,613	-
Door	3,319	12,811,344	-
Glassware	2,320,427	62,287,491	20,554,872
Hardwood/Laminate Flooring	63,691	305,495,644	-
Kiosks	732	61,494,450	-
Luggage Rack	3,294	14,275,497	-
Magazine Rack	5,491	322,845,864	-
Mattress Support	60,689	112,297,651	28,074,413
Mattress	56,004	2,703,910,978	-
Mirror	6,040	383,242,199	-
Night Stand	8,785	207,543,770	-
Picture Frame	15,374	65,886,911	-
Pillow	138,851	423,033,013	423,033,013
Pool Furniture	659	53,588,021	-
Roofing Sheet	-	-	-
Salad Bars	-	-	-
Side Table	-	-	-
Sofa	6,040	571,019,895	-

a A dash (-) indicates insufficient data to allow for an estimation of expenditure or value of leakage. N/A means not applicable.

Products	Estimated National Annual Demand	Estimated National Annual Expenditure (J$)	Estimated Leakage Due to Imports (J$)
Souvenir/Craft Items (Wooden)	3,185	18,163,103,174	-
Souvenir/Craft Items (Jewellery)	-	-	-
Souvenir/Craft Items (of Beads)	659	1,405,587	-
Souvenir/Craft Items (Painting)	-	-	-
Leakage Due to Imports (J$)			
Souvenir/Craft Items (Sculpture)	-	3,074,723	-
Souvenir/Craft Items (Aromatherapy)	6,589	2,292,865	-
Souvenir/Craft Items (made from Straw)	1,537	7,467,183	-
Vanity/Dresser	3,294	790,642,932	-
Wall Painting	-	-	-
Window	6,589	702,793,717	-
Total	**N/A**	**38,827,203,802**	**1,450,353,062**