AGRO-INVEST

JAMAICA'S AGRIBUSINESS AGENCY



INVESTMENT OPPORTUNITIES FOR THE SOUTHERN PLAINS AGRICULTURAL DEVELOPMENT PROJECT

Dear Investor

The Southern Plain Agro Park is a unique investment opportunity designed to empower and support you on your journey to success in raw production.

Imagine having all the essential ingredients for a thriving agribusiness venture conveniently under one roof. Our Agro Parks are meticulously planned and equipped with infrastructure development, including drainage, irrigation, and roadways, ensuring your farm operates smoothly and efficiently.

But that's just the beginning! When you lease one of our Agro Parks, you'll also gain access to Park Manager, strategically assigned to the project site. The Park Manager is an experienced agricultural professional ready to provide expert guidance and develop personalized production plans tailored to your goals.

The advantages don't stop there. Our Agro Parks come complete with a Technology Transfer Officer, who will equip you with cutting-edge knowledge and recommend the latest technologies to boost your business operations and stay ahead of the curve.

But wait, there's more! As part of our commitment to your success, we offer access to a network of Cluster Coordinators, connecting you directly to markets and opening doors to lucrative opportunities.

We understand that running an agribusiness can be complex, so we've got you covered with a team of specialists, including Business Development Experts, to provide additional expertise whenever needed.

The Southern Plain Agro Parks are your all-in-one solution to make a difference in the world of agriculture while reaping remarkable returns.

Don't miss this chance to sow the seeds of success. Secure your spot in the Southern Plain Agro Parks today by submitting an application.

Note applications are opening soon.

OVERVIEW OF THE SOUTHERN PLAIN AGRICULTURAL DEVELOPMENT OPPORTUNITY

The Southern Plain Agricultural Development Project, a government initiative, focuses on the development of agricultural land in two key areas: Amity Hall / Bridge Pen in St. Catherine and Parnassus in Clarendon. Covering 795 hectares, the project encompasses six major components, including infrastructure works, engineering, construction-related services, and project management. Funding for the project comes from the Caribbean Infrastructure Development Fund (CDB)/ United Kingdom Caribbean Infrastructure Development Fund (UKCIF), with additional support from the Government of Jamaica.

The Southern Plains Agricultural Development (SPAD) project holds great promise for Clarendon and St. Catherine parishes. The 795 hectares, formerly sugarcane lands, will be repurposed and made available for cultivating diverse crops such as Mango, Avocado, Tomatoes, Sweet Potato, Irish, and more, upon project completion.

Recognizing the crucial role of proper land and soil preparation in successful crop and livestock production, the SPAD project addresses the challenges faced by agri-business investors involved in the raw production phase of the value chain. Many investors lack the necessary infrastructure, machinery, and equipment. To tackle this, the initiative facilitates affordable access to these resources in and around the SPAD area. The primary objective is to bolster agricultural productivity, stimulate economic activity, and uplift the local farming community.

By embracing the Southern Plain Agricultural Development Project, investors have the opportunity to capitalize on the untapped potential of repurposed land and contribute to the growth of sustainable agriculture in the region. The project's strategic planning and government backing ensure a conducive environment for agricultural ventures to thrive, making it an attractive prospect for prospective investors seeking long-term returns and positive community impact.

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LIST OF ACRONYMS

AGRO-INVEST – Agro-Investment Corporation

AMID – Agricultural Marketing Information Division

CARDI – Caribbean Agricultural Research and Development Institute

GOJ – Government of Jamaica

ITC – International Trade Center

JMD – Jamaican Dollars

MICAF – Ministry of Industry, Commerce, Agriculture and Fisheries

NIC – National Irrigation Commission

RADA – Rural Agricultural Development Authority

STATIN - Statistical Institute of Jamaica

UK - United Kingdom

USA/US - United States of America

USD - United States Dollars

USDA - United States Department of Agriculture

WIR – West Indian Red

Executive Summary

Farm Size:	5 acres (2.02 hectares)
Project Description:	The project is seeking to establish a 5-acre Hot Pepper Farm. The average annual net profits over a ten (10) year period is projected to be approximately **J$3,720,102.04** The accumulated ten (10) year net profit is projected to be approximately **J$37.2M.** Capital Investment Cost: J$3.35M.
Project Sector	Agriculture: Crop Production of Hot Pepper (Scotch Bonnet and West Indian Red).
Financial and Economic Analysis and Recommendation	**Internal Rate of Return: 100% (at normal investment assumptions over a period of 10 years).** **Net Present Value: J$17.2M (at normal investment assumptions over a 10-year period).** Based on the outcomes of the analysis, the project is considered to be viable.

Product Profile

Scotch Bonnet (Yellow) Pepper



West Indian Red



Botanical Name and Origin: The Capsicum is a genus of plants of the Solanaceae family. Jamaica's indigenous landraces belong to the genus 'Capsicum Chinense Jacq'. Capsicum Chinense is believed originated from the Americas and the Caribbean Antilles (Sinha and Peterson 2011).

Species: The Capsicum Chinense contains varieties such as the Scorpion, Morgua Red, Scotch Bonnet and West Indies Red (CARDI 2019). Only the two latter varieties are cultivated on a commercial basis in Jamaica.

Health Benefits:

- Topical forms of capsaicin are recognized treatment for osteoarthritis pain.
- Burns fat and lose weight.

Value Added Products:

- Seasoning
- Pickled pepper
- Dried pepper mash
- Dehydrated pepper
- Ground/crushed pepper
- Pepper sauce
- Jerk sauce

Nutritional Value: Hot peppers contain about 83% water, 3% protein, 7% fiber, 6% carbohydrate, 0.6% fat and are excellent sources of vitamin C, vitamin A and most of the B vitamins (particularly vitamin B6).

Agronomics

Description

Scotch Bonnet: The fruit of the Scotch Bonnet pepper (Capsicum chinense Jacq.) is short and squat with an irregular shape resembling that of a traditional Scottish men's hat also known as a Tam o' Shanter (Bartz et al 2017). Scotch bonnet pepper is one of the hottest peppers with a heat rating of 363,000 to 456,000 Scoville units (Bosland, 1996). The yellow Scotch Bonnet variety has a length of about 5 cm and a diameter of 2.5 – 3.8 cm. The plant grows to a height of 69 cm and a canopy width of 94 cm. The plants start to flower at 44 days after transplanting. At maturity, the colour turns from green to yellow (Sinha and Peterson 2011).

West Indies Red: The West Indies Red (WIR) is a hardy, prolific bearer that is tolerant to most of the common pests and diseases affecting hot peppers. The average weight per fruit is about 14 g. The WIR plant grows to a height of 76 cm and has a canopy width of 104 cm. Flowering initiates at 40 days after transplanting (Sinha and Peterson 2011).

Planting

Crop success is determined largely by the quality of the seedlings used. Healthy, vigorous, evenly and well-developed seedlings from high yielding varieties will consistently express the genetic potential to produce high yields. If a farmer cannot produce seedlings on-farm, an order should be placed with a reliable commercial seedling nursery known for the production of disease-free and high-quality seedlings.

Suitable Locations

Hot peppers are widely grown in all parishes in Jamaica, but 70% of the island's total annual production comes from St. Elizabeth, Clarendon, Portland, St. Ann and Manchester (MICAF 2019).

Soil Type

Hot pepper can be produced on a wide variety of soil types. However, best growth is in deep, medium-textured sandy loam or loamy, well-drained permeable soils that are rich in organic matter with a pH of 5.5 to 6.8 (Sinha and Peterson 2011).

Post-harvest handling

How the hot peppers are handled during the reaping process before disposal impacts on shelf life. Scotch Bonnet peppers will last for two to five (2 – 5) days at temperatures of 25 - 27° C (77 – 80 ° F). After that, they will start to shrivel and show signs of decay.

Disease Control

For the production of hot peppers to remain a profitable investment, it is essential that farmers develop an integrated pest management system for diseases and pests.

Irrigation

Hot pepper does not thrive under drought conditions, and as such, irrigation is essential to produce consistent yields of high-quality hot pepper in the drier periods of the year.

SWOT Analysis for the Establishment of a 5-Acre Hot Pepper Farm

Strengths	Opportunities
• Internal rates of return up to 100% over a 10 year period for Hot Pepper farming. • High demand of Hot Pepper all year-round. • Access to experts and good networks (RADA, Agro-Invest and JAMPRO). • Available markets to sell produce such as agro-processing, municipal markets, restaurants and hotels. • Jamaican hot peppers have been listed among 52 horticultural crops for pre-clearance; a process to speed up the export process to the US (USDA, 2017).	• Access to production information/ technologies as a result of research and development work conducted by local, regional and international agencies. • High export potential (diaspora) • Access to the services of the Praedial Larceny Unit at MICAF. • Existence of Value-added opportunities available for hot pepper. • Intercropping with other cash crops is practiced.
Weakness	**Threats**
• Short life span of mature fruit. • Poor post-harvest practices can affect investment viability. • Limited financial resources can affect farm growth and development. • Lack of on-farm storage facilities can affect the viability of the crop.	• Natural disasters. • Praedial larceny. • Scotch Bonnet Pepper is also susceptible to several diseases and pests. Some of the more important diseases are the following: Anthracnose, Bacterial Spot, Fusarium Wilt, Phytopthora Wilt, Cercopora Leaf Spot and Southern Blight.

Market Analysis

The Scotch Bonnet and West Indian Red varieties of pepper are well-known by enthusiasts for their unique aroma and pungency and continues to have a high demand in the domestic as well as new and traditional export markets. As such, Jamaican hot peppers and value-added products are sought after by lovers of spicy foods worldwide. Thus, the existence of strong market opportunities for the fresh, semi-processed, and value-added products derived from the hot peppers. These peppers are fundamental inputs in the development of a variety of savory sauces, such as hot pepper sauce, the famous Jamaican Jerk seasonings and sauces, pepper mash, crushed peppers, dried pepper, pepper powder, hot ketchup, pepper jams, and jellies, salsas and pickles - all of which can attract a premium price in comparison to close substitutable products on the export market. The local and international demand for pepper is so high that Jamaica is currently unable to satisfy such demand.

The high capsaicin levels also make pepper attractive to the pharmaceutical industry for products such as pepper sprays including mace.

The value-added products of Scotch Bonnet and West Indian Red varieties such as pepper mash, hot pepper sauces and dried pepper ensure that the excellent Jamaican hot pepper flavours are available to local and overseas consumers.

The two varieties, the Scotch Bonnet and West Indian Red, have undoubtedly positioned hot pepper as an alternate high-value cash crop compared to traditionally produced vegetables in Jamaica.

Domestic Demand

It is important to note that the Scotch Bonnet pepper is preferred in the fresh and export markets while both the West Indian Red and Scotch Bonnet varieties are required in the agro processing industry for the manufacturing of sauces and jerk seasoning (RADA 2010). The two main colours of peppers purchased for processing are 'Reds' and 'Yellows' (Sinha and Peterson 2011).

Local Production

In line with the increased product demand, there are opportunities for increased production and productivity to generate a reliable supply of hot pepper. Production figures have increased from 14,263 metric tonnes in 2012, to 19,850 metric tonnes in 2021. Export revenue moved from US$1,539,000 to US$2,681,000 in 2019 (Ministry of Industry Investment & Commerce 2023).

The production of pepper in Jamaica is forecasted to change by an average of 13.18%. Up to 2019, the country had an estimated 58,416 hectares under pepper cultivation. (Selina Wamucii, 2023)

Exports from Jamaica

The high demand for Jamaican hot pepper mash has placed high importance on the country's hot pepper crop resulting in it being designated a priority commodity for export. To this end, hot peppers are among one of the priority crops being promoted by the Jamaican Government for increased production and productivity to meet demands in the local and export markets.

Hot pepper falls under the harmonized code: 090412 – pepper of the genus piper, crushed or ground. In the year 2022, Jamaica's major export destination of 090412 – pepper of the genus piper, crushed or ground is the United State of America and Canada. 86.78% of peppers produced in Jamaica are exported to the United States, while 13.2% are exported to Canada.

Jamaica pepper with harmonized code 090412 – pepper of the genus piper, crushed or ground fresh is valued at $US2.46M in the year 2022.

(ITC, 2022)

Global Demand

Hot pepper quality is primarily based on firmness, maturity, colour, shape, pest damage, bruises, cracks, and diseases. Proper pest management is critical to the production of quality peppers.

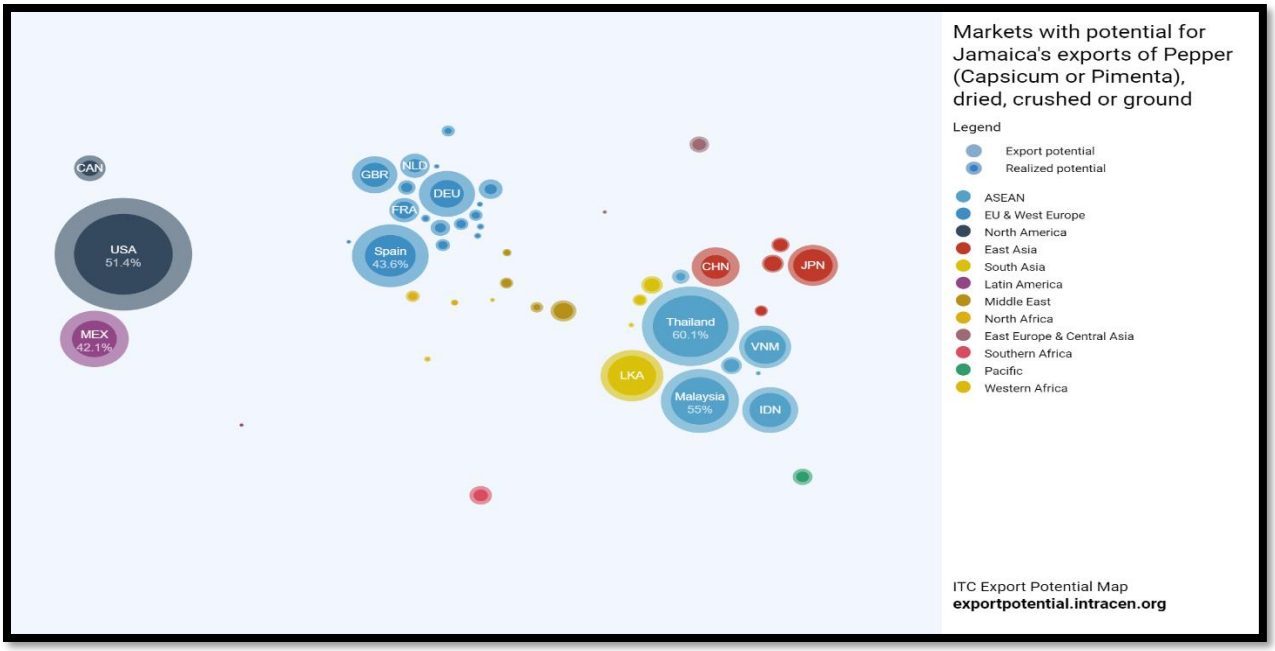
According to the ITC, in 2022, the world hot pepper market was valued at $US547M, with the United States having the highest demand for hot peppers valued at $US166M. The United Kingdom has the second highest demand which was valued at $US46M. The United Kingdom was followed by Japan (valued at $US32M) and Canada (valued at $US27M).

The United States took 29,289 Tons of hot peppers from 24 different countries across the world. Viet Nam is its major exporter and has a market with the United States valued at $US120M in the year 2022. In keeping with the export market value to the United States, Jamaica is the 20th exporter to the United States. The Jamaican export market to the United States was valued at $US105K.

(ICT, 2022)

Export Potential: The markets with the greatest potential for Jamaica's exports of semi-value-added hot pepper are the United States of America, Thailand and Malaysia (See Figure 1). The United States of America shows the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth US$215.6M (ITC 2020).

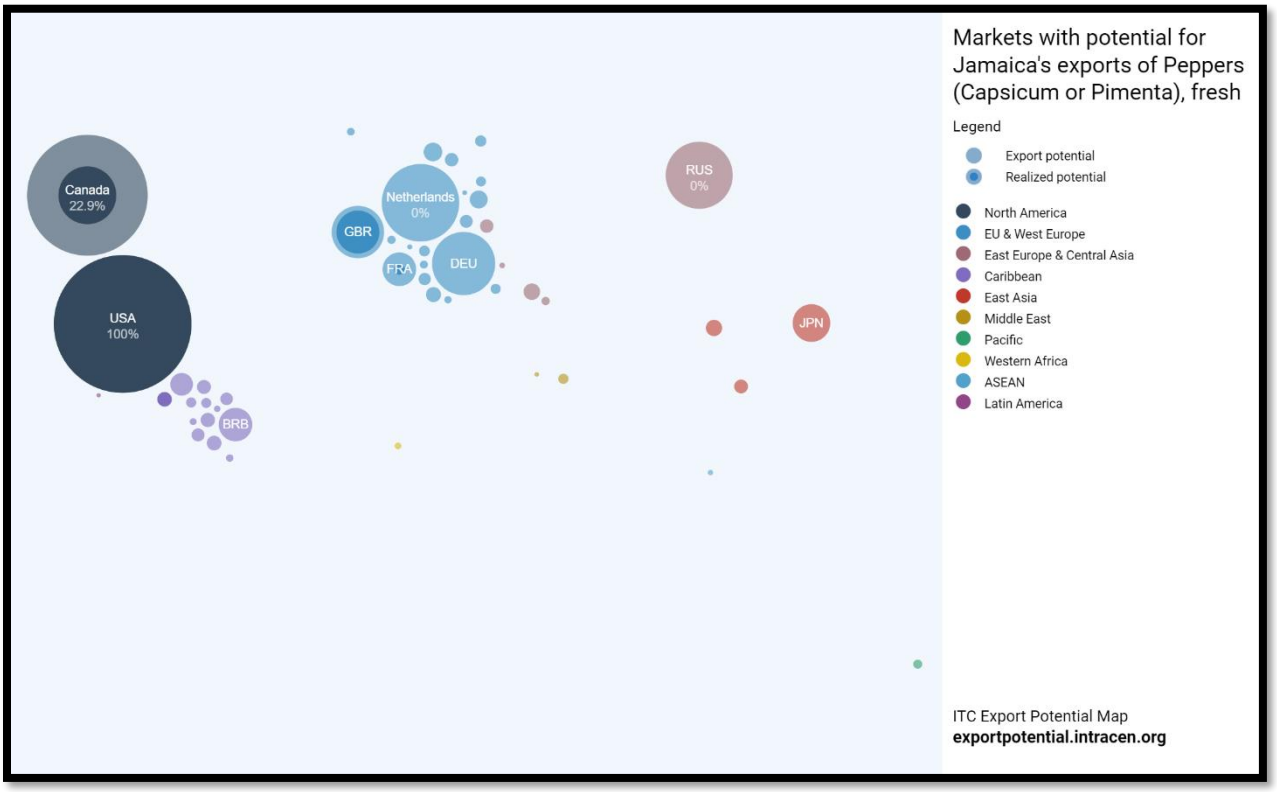
Figure 1: Percentage of each Market with the Greatest Potential for Jamaica's Exports of Semi-Value-Added Hot Pepper.



Source: ITC (2021)

Pertaining to fresh hot pepper, the markets with greatest potential for Jamaica's exports of fresh hot pepper are the United States of America, Canada and Netherlands. Canada shows the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth US$147.1 k (See Figure 2). Of importance to note however, is that the total global untapped export potential of fresh hot peppers stands at US$3.0B (ITC 2021).

Figure 2: Percentage of each Market with the Greatest Potential for Jamaica's Exports of Fresh Hot Pepper



ITC (202)

For investors to successfully take advantage of these markets, it requires several key components such as pricing to remain competitive and profitable, using attractive packaging similar other exporting countries and having a nearly all year-round presence in the market.

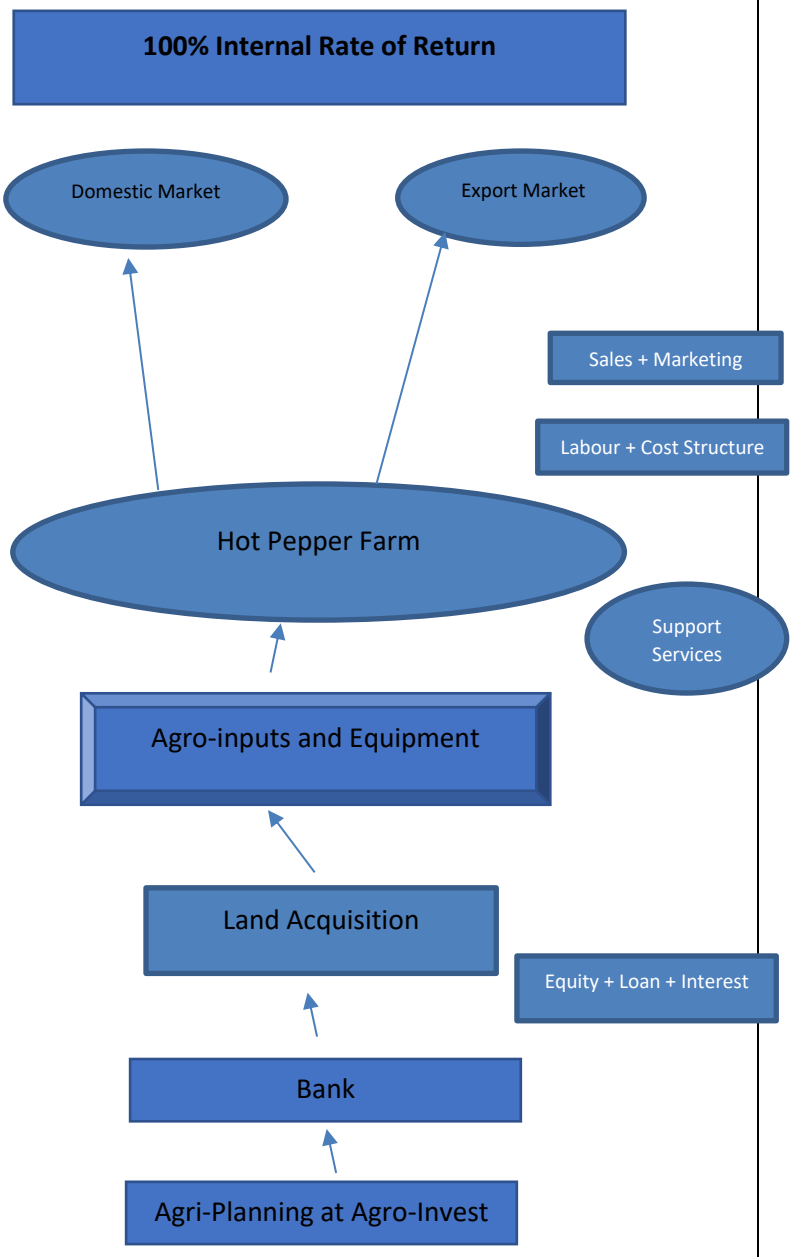
Business Model and Financial Analysis for Investment in Hot Pepper Farming

INVESTMENT OPPORTUNITY

Opportunity for Investment in Hot Pepper Farming

- J$3.35M investment opportunity for a 5 acre Hot Pepper Farm.
- **Sell produce** to domestic buyers, agro-processors and exporters for local and international markets.
- Estimates were calculated based on 60% equity financing and 40% loan financing at an interest rate of 10%.
- The estimates are made for a 5-acre area of production.
- Land rate utilized is J$15,000 per acre per annum.

BUSINESS MODEL



FINANCIALS

Investment Cost

The initial investment is estimated at **J$3.35M.**
The average yield is 5364 kg/acre and the average cost of production is J$120.00/kg.

Revenue Projection

Average revenue for the ten years is expected to amount to J$9M.

Return on Investment

The estimated financials of the project are promising and show an **Internal Rate of Return (IRR) of 100% and Net Present Value (NPV) of J$ 17M** when future cash flows were discounted utilizing a rate of 10% percent based on the going bank lending rate.

Projected Cash Flow

The cash flow projections for hot pepper production on a 5 acre farm are positive for the duration of the ten-year period. The net cash flow after debt service is expected to average **J$3.4M.**

BUSINESS MODEL

<table>
<tr>
<td rowspan="2">KEY PARTNERS

• Agro-Invest – (Business Plan)
• Financial Institutions
• MoAF (R&D)
• RADA
• Input suppliers
• Farmers/investors
• Supermarkets
• New and small Agro-processing investors</td>
<td>KEY ACTIVITIES

• R& D
• Capacity Development /Training
• Marketing & Sales</td>
<td rowspan="2">VALUE PROPOSITION

• High Quality and convenient products
• Freshness of produce
• Employment
• Contribution to Gross Domestic Product
• Import Substitution
• Value chain development Reduction in post-harvest losses</td>
<td>CUSTOMER RELATIONS

• Personal relations with customers
• Building a reputation for reliability and quality</td>
<td rowspan="2">CUSTOMER SEGMENT

• Business to Business (B2B)
• Hotels
• Supermarkets
• Exporters
• Agro-Processors
• Wholesalers</td>
</tr>
<tr>
<td>KEY RESOURCES
• Capital
• Land
• Infrastructure
• Human resources
• Partnerships
• Government</td>
<td>CHANNELS

• Direct sales
• Export
• Wholesaling</td>
</tr>
<tr>
<td colspan="3">COST STRUCTURE
• Wages
• Operating costs
• Infrastructure development and maintenance
• Machinery & Equipment
• Cost reduction via economy of scale
• Land
• Transportation</td>
<td colspan="2">REVENUE STREAMS
• Sweet Potato Sales (individuals and Businesses)</td>
</tr>
</table>

Illustrative

Agricultural Incentives and Support Services

A 5-acre hot pepper farm can benefit from agricultural incentives which comprises of two levels, the general approval for benefits of the Productive Inputs Relief (PIR) and the higher level approval that includes Income Tax relief. An entity or individual must be registered with the Rural Agricultural Development Authority (RADA) in their respective parish offices in which the farm exists, to benefit from the Productive Input Relief Incentive for the Agricultural Industry. The approval for the Productive Inputs Relief (PIR) benefit requires that the Commissioner of Customs be satisfied that the items imported are to be used in primary production/approved farming activity. The PIR can last from six (6) months to three (3) years. A farmer can also benefit from a twenty percent (20%) concession on farm vehicles.

Support Services

Agro-Investment Corporation (AIC)

The Agro-Investment Corporation (AIC) is an agricultural investment facilitation, advisory and management agency, which functions as the Ministry of Agriculture and Fisheries business facilitation department. The agency is responsible for agricultural investment promotion and facilitation, as well as project and market development. AIC provides investment support to entrepreneurs, covering the investment chain from the identification of opportunities through to feasibility studies, business planning, fundraising, operations management, long term business performance monitoring and technical support.

Jamaica Promotions Corporation (JAMPRO)

JAMPRO's continuous mission is to promote Brand Jamaica, attract and land jobs and wealth-creating investments to Jamaica and secure lucrative markets for quality Brand Jamaican products. As the Agency seeks to facilitate local investments, a number of support services are available, namely:

- Provision of business information and advisory services
- Export-related training
- Creation of business linkages

Rural Agricultural Development Authority (RADA)

The Rural Agricultural Development Authority (RADA) promotes agricultural development in Jamaica through an extension service. Farmers can solicit information and technical assistance in areas such as agronomy, plant health, irrigation post-harvest techniques, production and marketing.

Value-Added Support Services

Jamaica Manufacturers and Exporters Association (JMEA)

The Jamaica Manufacturers & Exporters Association (JMEA) serves as the voice of exporters, manufacturers, service providers micro, small and medium enterprises (MSMEs).

The JMEA provides vital support to the industry through advocacy, strategic partnerships, export services, research, capacity building and access to finance. The JMEA remains instrumental in helping local companies expand and export which is evident in the long-term success of renowned Jamaican brands.

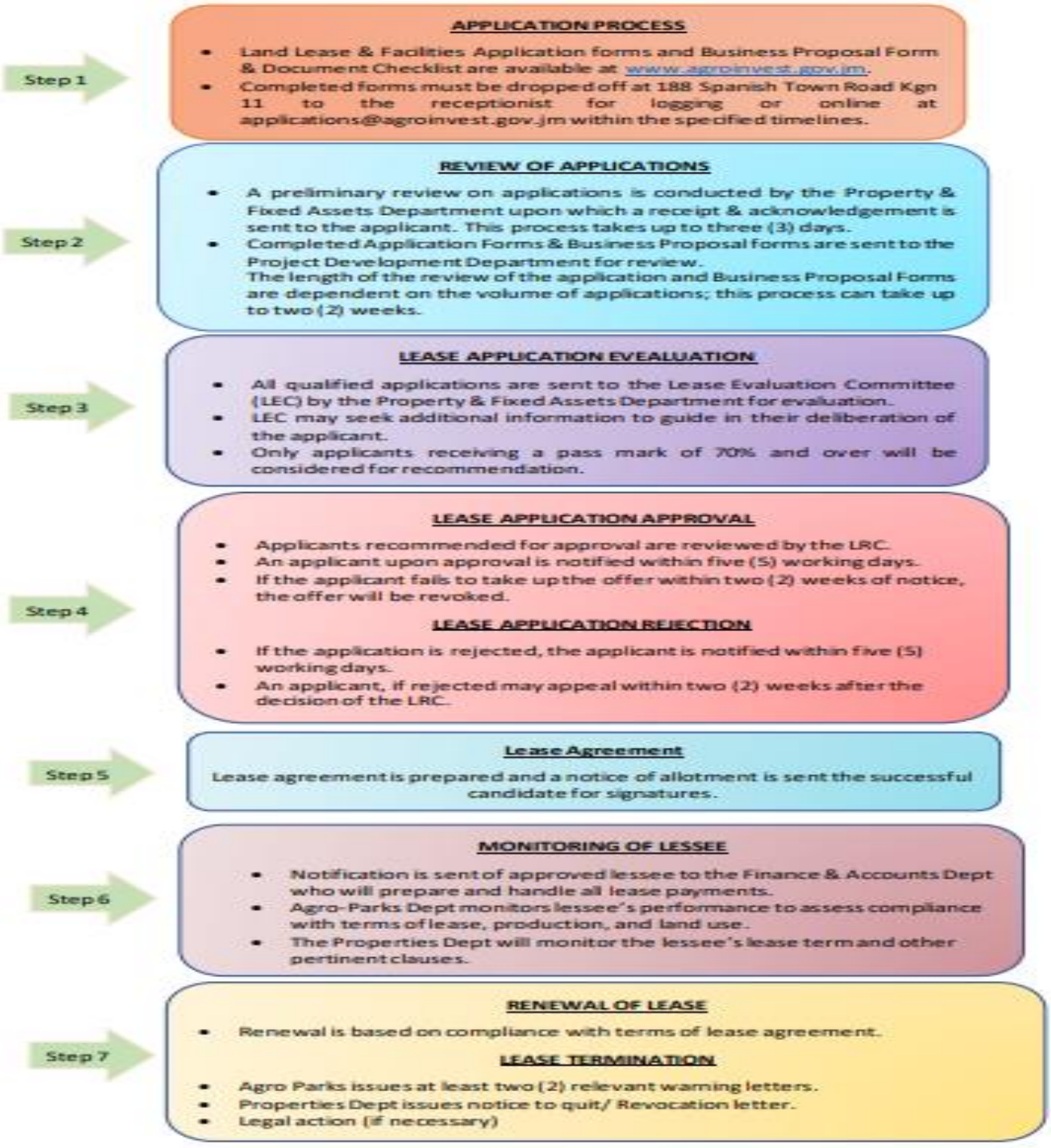
Bureau of Standards Jamaica (BSJ)

The Bureau of Standards Jamaica is a statutory body established by The Standards Act of 1969 to promote and encourage standardization in relation to commodities, processes and practices. However, over the years, its role has expanded to include the provision of services in relation to conformity assessment (certification, testing and calibration) and metrology.

Scientific Research Council (SRC)

The SRC supports the growth and development of the agro-industrial sector in Jamaica through research, adaptation of available technologies, creation of new and appropriate technologies and the provision of training and technical assistance. The Scientific Research Council is the only institution with a mandate by law to "collect, collate and review information concerning scientific research schemes or programmes relevant to the development of the resources of Jamaica (and) to establish and maintain a scientific information center for collection and dissemination of scientific and technical information".

Appendix 1: HOW TO APPLY FOR AVAILABLE LAND



Please note available land will be advertised once the application period commences.

Appendix 2: LIST OF INPUT SUPPLIERS

COMPANY	DESCRIPTION	CONTACT
Isratech Waterworks	Manufactures and supplies water infrastructure products and systems. Waterworks solutions, water, and wastewater treatment.	2 Kendal, P.O. Box 37, Shooters Hill, Mandeville, (876) 603-3564 info@isratech.com
Nutramix	Livestock feed for local and regional farmers in dairy, poultry, pig, and horse.	Newport Mills Ltd. Myers Wharf, Newport East, Kingston 15, (876) 922-2606 sales@the-big-feed.com
Hi-Pro Jamaica	Hi-Pro family of brands serves and offers farming supplies, broilers, layer birds, feed, home gardeners, and hardware supplies.	White Marl, St. Catherine (876) 984-7919-20
Agro Grace Jamaica Limited	Offers retail sale of farm supplies and equipment, feedings, and fertilizers.	697 Spanish Town Road Kingston 11 876-308-0165, 888-429-5465
Newport Fersan Jamaica Limited	Local supplier of blended inorganic fertilizers.	2A/2B Wherry Wharf Complex, 15 Newport E, Kingston (876) 967-5815
Central Agricultural Supplies Company Limited (CASCO)	Distributes feeds, fertilizers, agricultural chemicals, and equipment.	6 Ward Avenue Mandeville, Manchester (876) 962-3084/9719
Ag-Chem Plants Limited Agricultural Chemicals Plant (AGCHEM)	Formulates and distributes a wide range of pesticides for the agri-industry and home use.	AG-Chem Plant Ltd 2 East Ashenheim Rd. Kingston 11 (876) 757-0022
St. Jago Farm Supplies	Farm supplies and equipment, feedings, and fertilizers	Wellington Street Spanish Town, St. Catherine (876) 612-7825
T. Geddes Grant	Agricultural and veterinary products, including fertilizers and pesticides, and vegetable seeds.	109 Marcus Garvey Drive Kingston (876) 923-7311
Evergrow Garden Centre	Horticultural and farm supplies, garden tools, etc.	12 South Ave Kingston 10 (876) 906-9916

Appendix 3: Cost of Production for a 5 Acre Hot Pepper Farm

		Unit	No. of Units	Cost/Unit	Total Cost
Labour Operations					
Land Clearing		MD	20	2500	50,000
					50,000
Ploughing		MD	8	2500	20,000
Dig holes		MD	8	2500	20,000
Planting		MD	6	2500	15,000
Pesticide Application		MD	5	2500	12,500
Weed Control		MD	12	2500	30,000
Fertiliser Application			3	2500	7,500
Harvesting			**80**	2500	200,000
Lunch			133	500	66,500
SUBTOTAL					**371,500**
Material Input					
Planting Material	PACK	10	3000		30,000
Fertiliser:					
NPK 14-28-14	50 kg	5	6200		31,000
NPK 15-5-35	50 kg	3	5600		16,800
Insecticide					
Caprid	litre	5	6000		30,000
Fungicide:					
Dithane	500 g	6	2000		12,000
Sulcox	500 g	4	2300		9,200
Herbicide:					
Gramaxone	Gallon	1	6000		6,000
SUBTOTAL					**135,000.000**
**** Tools discounted for 5 years**					**9,400**
Transportation (10 percent of material)					**13,500**
Land Charges per crop cycle					**15,000**
Supervision (15 percent of labour and material					75975
SUBTOTAL					113,875
TOTAL					670,375.00

Contact our Investment Team today for more information on available investment opportunities!

CONTACT DETAILS

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