

AN ANALYSIS OF LOCAL AGRIBUSINESS TRENDS:

PROMOTING OPPORTUNITIES FOR YOUNG BARBADIAN AGRIPRENEURS



Prepared by Jason Francis



**FUTURE
FARMERS!**



ACKNOWLEDGEMENT

The report is part of the dedicated and ongoing efforts of the Inter-American Institute for Cooperation on Agriculture (IICA) to encourage the growth and development of young people in agriculture.

The report forms part of the Future Farmers project funded and supported by the Barbados Environmental Conservation Trust (BECT). The report provides insight into some of the potential opportunities young people can explore in the agribusiness sector as well as recommendations on how to support greater youth involvement. The completion of the report was due in no small part to the willingness of a number of stakeholders in the sector to be interviewed. These stakeholders included

Mr. Alvin Romeo (Senior Extension Officer, Ministry of Agriculture),
Ms. Chadeene Roett (Agripreneur and Agribusiness Consultant),
Mr. Jeremy Stephen (Lecturer in Economics at the University of the West Indies),
Ms. Keriah Scantlebury (Mixed Farmer and Young Agripreneur) and
Ms. Ayanna Young-Marshall (Lecturer in International Business and Facilitator of the SEED Programme, UWI Cave Hill).

Special thanks also to

Mrs. Ena Harvey, Representative IICA Delegation in Barbados and
Dr. Roxanne Waithe Technical Specialist and Future Farmers Project Manager
for their tremendous guidance and support in the completion of this report. Special mention must also be made of Mr. Brent Theophile, National Specialist for the IICA Delegation in Saint Lucia whose insight on youth and agribusiness across the region was extremely valuable.

LIST OF ACRONYMS ■

ADF	Agricultural Development Fund
BADMC	Barbados Agricultural Development and Marketing Corporation
BGIS	Barbados Government Information Service
CABA	Caribbean Agri-Business Associaton
CARDI	Caribbean Agricultural Research and Development Institute
CBB	Central Bank of Barbados
CDB	Caribbean Development Bank
CNCDs	Chronic Non-Communicable Diseases
CTA	Technical Centre for Agricultural and Rural Cooperation
CVQs	Caribbean Vocational Qualifications
FAO	Food and Agriculture Organization
FEED	Farmers Empowerment and Enfranchisement Drive
FDI	Foreign Direct Investment
HACCP	Hazard Analysis Critical Control Points
IDB	Inter-American Development Bank
IICA	Inter-American Institute for Cooperation on Agriculture
MAFS	Ministry of Agriculture and Food Security
MSME	Micro Small and Medium Enterprises
NCF	National Cultural Foundatin
NVQs	National Vocational Qualifications
NIFCA	National Independence Festival of Creative Arts
RCCIP	Regional Coconut Commodity Innovation Platform
SEED	Student Entrepreneurial Empowerment Development
SIDS	Small Island Developing States
SJPI	Samuel Jackman Prescod Institute of Technology
SOE	State of Emergency
STEM	Science Technology Engineering Maths
UNDP	United Nations Development Programme
UWI	University of the West Indies
YES	Youth Entrepreneurship Scheme

CONTENTS



8



18



25



37

6. Introduction

7. CHALLENGES AND OPPORTUNITIES IN THE BARBADIAN AGRIFOOD SECTOR:

- 7. An Overview
- 7. Agriculture in Barbados and the Caribbean
- 8. Problems Faced by the Sector
- 9. COVID and the IMPACT on AGRICULTURE
- 12. Agriculture an industry of Possibilities
- 16. Methodology

17. KEY PERSPECTIVES ON YOUTH ENGAGEMENT IN AGRIBUSINESS

- 17. Barriers to Youth Involvement Agriculture
- 19. Opportunities in the Agribusiness Sector
 - 19. COVID-19 and the Refocus on the Barbadian Agricultural Sector
 - 20. Scaling-up Local Production
 - 21. Non- Traditional Areas
 - 23. Agroprocessing
 - 24. Pre-packaged Products
 - 25. Marketing, Ecommerce and Delivery Opportunities
 - 26. Health/Wellness and Beauty
 - 28. Agro-tourism and Agribusiness Management, Training
 - 29. Agriculture and the Culinary Arts

31. PLACING YOUTH AT THE CENTRE OF THE AGRICULTURE SECTOR SOME RECOMMENDATIONS

- 31. Improving Technical Competency
- 32. Business Development and Funding
- 33. Increased policy support
- 34. Role Modelling and Promoting of Networking Opportunities

36. CONCLUSION

- 37. Works Cited
- 40. Appendix I – Sample Interview Questions

INTRODUCTION ■

Agriculture in the Caribbean has often been undervalued given the region's focus on sectors such as tourism, international business and oil and gas. With limited investment and low technology uptake along with the traditional views of the sector, it has remained less attractive to young people. Youth also face other barriers to involvement such as access to capital and acquiring physical assets such as land and machinery. Yet there are several success stories which give hope for the pursuit of agribusiness opportunities by young people.

Young people can be a force for change as is witnessed by their transformational influence and innovativeness across other sectors globally, in particular in technology. This report explores the opportunities available to young people in agribusiness both in the traditional and emerging areas along the agricultural value chain. The report highlights the barriers young people face but also provides recommendations and solutions for successful exploitation of agribusiness opportunities. The recommendations are drawn from suggestions of well-informed stakeholders interviewed, along with a review of existing literature produced by key institutions working for the advancement of agriculture in Barbados and across the region.

A person wearing a green t-shirt and tan pants is holding a black plastic crate filled with fresh green leafy vegetables. They are standing in a field of similar plants. The text "CHALLENGES AND OPPORTUNITIES IN THE BARBADIAN AGRIFOOD SECTOR: AN OVERVIEW" is overlaid in white, bold, sans-serif font.

CHALLENGES AND OPPORTUNITIES IN THE BARBADIAN AGRIFOOD SECTOR: AN OVERVIEW

This section provides an overview on key perspectives on agriculture in Barbados and the Caribbean. It draws on a range of studies, reports, blogs and insights by experts in the industry. The effect is both an overall as well as a specific perspective on the context of agribusiness particularly with recent global health and economic events.

AGRICULTURE IN BARBADOS AND THE CARIBBEAN ■



The agricultural sector in the Caribbean no longer enjoys the prominence it did in the early years of independence for most states. The sector has seen a drastic decline in its contribution to regional economies with greater attention and significant investments being made in tourism and related services.

Despite this decline Bishop (2013) notes that the agriculture sector plays a key role in maintaining community cohesion, social stability and lessening the region's food insecurity. Beckford and Rhiney (2019) also support this point as they argue that the sector makes important contributions to Caribbean economies including: generating foreign exchange, absorbing surplus labour, providing new economic opportunities through inputs for agroprocessing and sustaining the livelihoods of thousands of people, particularly in rural areas.

As it relates to Barbados, Shik et al (2016) in an Inter-American Development Bank (IDB) commissioned report noted that although agriculture has not been a major contributor to GDP or to employment, the sector continues to be important for the sustainable social and economic development of Barbados. Barbados' rural population benefits from job opportunities the sector provides, and agriculture also serves as an important source of inputs for the growing agro-processing industry, and for foreign exchange earnings.

PROBLEMS FACED BY THE SECTOR ■

The agricultural sector in the region once dominated by sugar and bananas is currently sustained by small farmers (Bishop 2013). Yet these farmers face significant challenges with respect to resource allocation, lack of physical and institutional infrastructure, access to financial credit, a paucity in research and development and inadequate marketing and distribution arrangements (Beckford and Rhiney 2019). These problems are compounded by climate change, natural hazards and global financial shocks.

A recent study commissioned by the IICA Delegation in Barbados on Barbadian youth in agriculture notes that youth face several challenges including access to land, capital, technical expertise and mentorship (Zazula and Mayes, 2019).

Barbados continues to face challenges in the production of food crop production to 1990s levels (Shik et al 2016). However there has been growth in the livestock sector which has grown significantly in comparison to twenty years ago and at a rate of 4 per cent average between 2011-2016. At the same time, Barbados is a major agri-food importer, with an agri-food import bill reaching US\$351 million in 2015. It mostly imports meat, dairy, and prepared food, but it also imports fresh fruits and vegetables. Local production is insufficient to fulfil the demand for food items and the country's small size also means that there are limited land resources. Issues of water scarcity also compound this problem. Roughly ninety percent of farmers in Barbados continue to operate holdings of 0.5 hectares or less and therefore face higher costs in the absence of economies of scale (Shik et al 2016).

Concerns about the island's food security and high food import bill have also been a major source of concern for public officials. At a ceremony to launch a new government agricultural initiative titled Farmers Empowerment and Enfranchisement Drive (FEED), the island's Prime Minister The Hon. Mia Mottley lamented that the country must reduce the amount of foreign exchange it spends on food imports.

"We cannot afford to have a food import bill of \$700 million odd dollars, 685 million to be precise for 2018, of which vegetables and fruits account for just under 10 per cent, at 66 million dollars rough. It is simply not good enough, and Barbadians can do better if we pull together and work together."
(Barbados Government Information Service: 2019)

The Prime Minister further reiterated her belief that increased agricultural production could lead to reduced foreign exchange outflows, increased jobs and new wealth creation particularly at a time where the country continued to struggle with economic growth.

COVID AND THE IMPACT ON AGRICULTURE ■



The agricultural sector in Barbados has been thrust into the spotlight with the recent COVID-19 global pandemic. While some might consider the sector to be fledgling there is a new appreciation for the importance of the industry and those who work in it given the challenges posed by COVID-19 pandemic.

Given the serious challenges posed by the global health crisis, key organisations such as the Inter-American Institute for Cooperation on Agriculture have been at the forefront of assessing and proposing solutions for the region's agriculture sector as countries grapple with food security concerns. In a recent forum on the topic an IICA expert panel highlighted key issues brought to the fore by the pandemic. The experts highlighted five key issues currently facing small island states in the Caribbean.

These include the impacts of climate change namely

1. The risk of hurricane damage and drought conditions
2. High debt levels among countries,
3. High rates of chronic non-communicable diseases,
4. Continued dependence on tourism
5. Food insecurity (IICA 2020).

In Barbados the tourism sector has been particularly hard hit due to the cancellation of international and regional airlift as well as cruise visits to the island. The Central Bank of Barbados (2020) reported that due to the impact of the global health crisis, the island would likely see a double-digit decline in economic activity. The decline of the tourism industry has also had a negative spill-over effect on ancillary sectors including transportation, marketing, entertainment and the food and beverage industries. Several concerns have also been raised about the island's food security as Barbados is a net importer of 80% of its food. However, a policy brief prepared by IICA on the impact of the pandemic on the local agricultural sector, indicates that government has been making a concerted effort to allay the fears of citizens by working with farmers to boost production in vegetables, poultry and rabbit production (IICA 2020b). IICA has also identified areas it can assist Barbados with including: providing access to planting material for vegetable production; access to animal feed and information on use of locally available forages; information on water harvesting and storage and information on Climate Smart technologies for water conservation.

Barbadian food and agricultural commentator Daphne Ewing-Chow (2020) warns that the socio-economic impacts caused by COVID could be compounded by increases in food prices, increased demand for food,

reduced production, altered supply chains, transportation issues, more restrictions and food safety issues as well as significant fluctuations in oil prices which could impact food inflation.

With similar sentiments to those of Ewing-Chow about the impact of the pandemic on Caribbean countries, IICA (2020) urges a revival of the regional agricultural sector and a greater focus on the contribution it can make to national development and food security. The organization highlights opportunities available to Caribbean countries with greater investment in agriculture including the creation of new jobs and businesses related to food production, the improvement of products by replacing imported food with more nutritious, local products and revitalization of the regional economies through increased production.

Similarly, the FAO (2020) calls for urgent action to be taken to boost domestic food production in the short and medium term. It urges the provision of financial services to enable small-scale producers and small and medium enterprises to overcome cash flow issues. It also calls for the provision of inputs for primary agricultural production to ensure food availability in the poorest areas and the provision of digital services for agriculture and education. The organisation also highlights potential opportunities emerging for the agricultural sector from the COVID-19 situation for Small Island Developing States (SIDS). These opportunities include the adoption of digital platforms, the enhancement of digital capabilities (digitization of value chain actors, e-payments) and the strengthening of island and inter-island communication networks and trade.

Despite the issues facing the agricultural sector in Barbados and the region, strengthening of the food production systems is key to enhancing local food security and to lessening the impacts caused by current and future economic shocks. For the aforementioned to be achieved and sustained, the sector must have greater input and participation of youth. According to Isaac et al (2019) effective engagement and participation of youth in agriculture are critical especially as the sector in the Caribbean is currently dependent on an ageing population.

In assessing the contribution of young persons in Trinidad to agriculture, the authors note that there is a lack of motivation and a willingness to engage in agricultural activities due to the negative stigma associated with those involved in agricultural activities.

To remedy this Isaac et al call for a youth-focused approach to revive youth interests, encourage entrepreneurship, and provide viable jobs for youth in the sector.

The Caribbean Development Bank (CDB) (2019) calls for new training approaches for Caribbean youth to be established which include introducing education at the primary and secondary school level as well as offering more tertiary opportunities in the agricultural field. The CDB suggests that training programmes need to be established focusing not only on agriculture in the strictest sense, but on “sustainable socio-economic entrepreneurship”, including the development of human skills (e.g. cultural, social, technical, organizational and economic) and the linking of agriculture to other industries and the services sector.

Similar sentiments were expressed in a recently held forum by the FAO entitled - “Private Sector Investment in Agriculture and Fisheries: the Preparation and the Payoff”. Experts felt that the interest of young people in agriculture had to be captured from early and that there was the need to employ new technologies to maintain this interest. In addition the integration of agriculture in the curriculum at the primary school level as well as integration of the subject into Science Technology Engineering and Maths (STEM) areas would ensure a better appreciation and understanding. (Barbados July 5, Advocate 2020)

AGRICULTURE AN INDUSTRY OF POSSIBILITIES ■

Despite the difficulties faced, the Barbadian agriculture sector provides much opportunity for youth in several key areas ranging from primary production to value-added products and support services. There are positive signs that more young people are taking advantage of these opportunities in the traditional and non-traditional areas in agriculture both in primary production and along the value chain.

AGRICULTURE

The Barbados Advocate (March, 12 2019) in an interview with President of the Barbados Apiculture Association Mr. Damien Hinds highlighted that the association had seen an increase in young people interested in apiculture. The President stated that there were several young entrants who had applied to join the association during the 2018-2019 period and felt that increased information sharing and public awareness about bee-keeping had been paying dividends for the association. The entry of more young people in apiculture is backed by experts from outside the region who have been providing technical assistance to countries like Barbados. Argentinian specialist Elian Tourn noted that Barbados is in a unique position to be able to develop its industry based on the production of authentic natural honey and its byproducts, using hives that allow the bees to feed naturally throughout the year, without the use of inorganic chemical products. He also proposed that there be greater linkages between the apiculture sector and tourism and called for the marketing of local honey to tourists to support local beekeepers thus generating income through import substitution. (IICA 2019)

THE COCONUT WATER ECONOMY

Like bee-keeping it is undeniable that youth across Barbados have been finding the vending of coconut water a lucrative business opportunity. With the increased focus on the coconut sector and its potential for significant economic gains, the Caribbean Agricultural

Research and Development Institute (CARDI) has been at the forefront of promoting the development of the regional coconut industry as a priority commodity. The organisation has been working with other donor and support partners through a mechanism titled the “Regional Coconut Commodity Innovation Platform (RCCIP)” with the aim of harmonising key actors and stakeholders work programmes, making better use of scarce resources and serving as a coordinating mechanism for the advancement of regional policy as well an oversight for the implementation of regional coconut initiatives.

SEAWEED HARVESTING

Other opportunities are being realised in non-traditional areas such as the harvesting of seaweed. The University of the West Indies (UWI) and other partners have been focusing on how best to utilise frequent influxes of Sargassum seaweed which have been seen as an unwanted invasion for tourism dependent Caribbean economies. While the continuous influx has caused problems the UWI has taken an inter-disciplinary approach to finding alternative uses for seaweed. Some of the major areas identified include animal feed, cosmetics and mulch. Additionally the seaweed has been identified as a potentially viable fertiliser to improve soil health and increase plant growth thereby helping to reduce environmental stress and reduce the costs of agricultural production. (University of the West Indies 2016)

VALUE ADDED PRODUCTS

Young agripreneurs in the region particularly those involved in product development can see their products taken to the international market. This however requires training and certification in food health and safety best practices and standards. A 2017 report by the Technical Centre for Agricultural and Rural Cooperation (CTA) highlights that Caribbean agripreneurs have significant potential and have been known to produce

several products in demand by international markets including sweet potato fries, jams and jellies, cassava flour, spices such as nutmeg and a variety of sauces. However the CTA notes that the ability to export such products is dependent on meeting health and safety standards which are increasingly being demanded by regional and international markets. The report also notes that regional agencies such as Caribbean Export and networks such as the Caribbean Agri-Business Association (CABA) have been working to help companies achieve standards for export. The CTA cautions that most buyers such as hotels, restaurants and cruise ships expect suppliers to have Hazard Analysis and Critical Control Point (HACCP) certification and it is therefore critically important both to raise awareness of such standard and to provide training opportunities and certification for Caribbean companies. (CTA 2017)

The potential for youth to become successful in agribusiness is enhanced by a number of organisations across Barbados undertaking various support initiatives to youth in agribusiness. In 2017 IICA Barbados in collaboration with the Ministry of Agriculture hosted a forum titled Youth in Agribusiness Support Forum where organizations and individuals discussed on going programmes and their mandates to support youth. The organizations provided support ranging from Business and Entrepreneurship, Technical Support and Capacity Building, Advocacy, Networking and Access to Finance.

The forum concluded that there was a need for greater coordination among agencies providing support to youth in agribusiness as well as a need to link mature farmers to youth in agribusiness so as to effect greater knowledge transfer and learning (IICA 2017).

The IICA agribusiness forum also discussed the need for greater exposure and training in climate smart agriculture for the sustainable development of agriculture in Barbados and the sustainability of

youth in agribusiness. Participants also discussed strategies for helping to change the public's mindset about the sector and those who work in it, noting that agriculture needed to be promoted in ways which people can relate to it such as making linkages between agriculture and tourism, food, health and the environment. Key challenges and solutions were also tabled on matters related to access to land and financing for young agripreneurs. It was also felt that youth in agribusiness continually upgrade their skills by having access to certified short courses to build their technical skills and competencies while also benefitting from networking opportunities, trade shows and expos. (IICA 2017).

METHODOLOGY ■

This paper was completed utilizing a mixed approach of desk research and key informant interviews. The interviews utilized semi-standardized questions to elicit information from five (5) individuals who were selected for their knowledge and experience in the agriculture sector. These interviewees included an economist, two young agripreneurs, a senior agricultural extension officer and a university lecturer/coordinator of a regional entrepreneurship programme.

Interviewees provided insight on aspects of the agrifood industry and the state of agribusiness in Barbados particularly among small-scale producers. The interviewees explored key questions such as:

- What are the main challenges facing the local agrifood sector?
- What is the attitude of young people towards agriculture?
- What are the emerging areas for growth in the sector?
- What is the outlook of the sector in light of the ongoing global health pandemic ?
- What recommendations can be provided to help youth maximise opportunities along the local agricultural value chain ?

The responses to these questions, in addition to the desk research conducted provide the main content of the report and help to provide a series of concrete recommendations to better enable the participation of youth in the local agribusiness sector.

A smiling man wearing a straw hat and a plaid shirt stands in front of a wooden structure with horizontal slats. He is holding a large bundle of green grass. In the foreground, the head of a white and black goat is visible, looking towards the right. The background shows lush green foliage.

KEY PERSPECTIVES ON YOUTH ENGAGEMENT IN AGRIBUSINESS

The following section provides a synthesis of key informant interviews as well as the desk research undertaken. The section highlights some of the challenges to youth involvement in agriculture, existing and new opportunities in agribusiness which can be explored and important tools for creating an enabling environment for youth participation in the sector.

BARRIERS TO YOUTH INVOLVEMENT AGRICULTURE



Opportunities abound in the agribusiness sector for young people, however it must be acknowledged that there are several challenges which prevent the smooth entry of youth into the sector. There was significant consensus among interviewees that youth faced several challenges to greater involvement in the agriculture sector. The most significant challenge identified was the socio-cultural attitude towards agriculture. The traditional view of agriculture as a labour-intensive undertaking with limited use of new technologies and equipment, and with few rewards persists in Barbadian society. For this reason some young people avoid the sector as it seen as one reserved for those who are not academically inclined.

“In secondary school there was no significant interest in agriculture, although there was Agri-Science at school there was no encouragement to take it up.” – (Keriah Scantlebury, Mixed Farmer and Young Agripreneur)

While there is still much work to be done to overcome the negative stereotypes associated with the sector, interviewees felt that those young people currently involved were considering careers in agriculture given the introduction of new technology, the persistent issues of youth unemployment and a desire for financial independence.

“As an extension officer, the young people I’ve encountered across the sector have very positive attitudes towards agriculture even though there are challenges.” - Alvin Romeo (Senior Extension Officer, Ministry of Agriculture and Food Security)

These positive attitudes however are constrained by the many challenges youth face in navigating the sector. Availability of and access to land continue to be significant impediments to youth wishing to establish themselves in the industry as Barbados’ continued focus on tourism expansion and housing has significantly limited the arable land available for production. The issue of alternative use of scarce land compounds the current problem

faced by small scale farmers most of whom have less than 0.5 hectares available to them to farm (Shik et al 2016). In addition to land availability the difficulty in accessing credit and the absence of dedicated entrepreneurial programmes to assist youth in exploring agricultural ventures means that the entry of would-be agripreneurs and the expansion of the operations of those already involved is constrained.

“Some of the major challenges facing the agricultural sector include financing, availability of land at good prices and praedial larceny.” Alvin Romeo

Insufficient exposure and awareness of jobs and opportunities available in the sector have also constrained youth involvement. While some training opportunities exist for youth there have been challenges with quality of available internships. Some older persons in the sector have also been averse to mentoring and sharing knowledge for fear of competition from youth. These persons also tend to oppose innovation, the uptake of new technologies and exploring new business ventures.

“The attitude of some older persons in the sector can be discouraging - there is strong resistance to trying new ways and methods of farming especially when proposed by young people.” – (Keriah Scantlebury)

Insufficient data and research on the local agribusiness sectors have also impacted youths’ entrepreneurial drive. The paucity in information means there is no holistic view of the sector to allow young people to make better informed decisions on the underserved areas in agriculture which they can better explore. This point is also underscored by Beckford and Rhiney (2019) who note that a paucity in research and development is hampering the agriculture sector in the region.

“There is a dire lack of market research and information on the agricultural sector which can be useful for younger persons getting into the industry.” – Ayanna Young-Marshall (UWI Lecturer and SEED Programme Coordinator)

OPPORTUNITIES IN THE AGRIBUSINESS SECTOR



Opportunities in the agricultural sector are often focused on scaling up primary production. While this is to be expected given Barbados' high food import bill, there is also the potential to explore value-added products and to provide new services to the sector.

COVID-19: THE REFOCUS ON THE BARBADIAN AGRICULTURAL SECTOR

This research has been conducted at a historically significant moment for the local agricultural sector. Interviewees acknowledged that for several years stakeholders have called for a greater focus on the island's food security relative to its agricultural production, greater investment and support for the local agricultural sector and the need to explore value-added products and services arising from the sector.

The COVID-19 global health pandemic has highlighted the challenges as well as opportunities in the agricultural sector in Barbados. Significant discussion has been generated on the importance of increasing local production to ensure food security. This focus has resulted from disruptions caused to global food supply chains and the precarious position in which import dependent states like Barbados have found themselves. Consequently, and in addition to the significant job loss related to the pandemic, there has been a resurgence in interest in agriculture as several persons are now seeking to become registered farmers.

"Since the pandemic, applications for farmers' licenses to the Ministry of Agriculture have grown from two per day to approximately thirty applications a day." – (Alvin Romeo)

The pandemic has shown the importance of Barbadians being able to grow at least some of their own food, if not for retail at least for self-sufficiency. It is also acknowledged that while the sector has its challenges there has been growth in the various subsectors such as poultry and livestock production (Shik et al 2016). Covid-19 has also highlighted the need to look at the policy framework in place to support farmers. As jobs have been lost in the traditional sectors of tourism and related services, the agricultural sector has been highlighted as a key area which can stimulate job creation and economic growth (IICA 2020a). The sector can also aid in the long overdue diversification of the Barbadian economy which faces the stark reality of a prolonged economic recession as noted by the Central Bank of Barbados (2020). This contribution can be reached through the development of new agricultural products and services.

SCALING-UP LOCAL PRODUCTION

The COVID-19 crisis provides an opportunity for existing and new farmers to increase production in local fruits, vegetables, root crops and livestock as encouraged by the Ministry of Agriculture and Food Security in their discussions with Barbadian farmers IICA (2020b). There is also a significant opportunity to practise import substitution by producing some of the imported vegetables which farmers have been hesitant to produce. Vegetables such as broccoli, cauliflower and specialty lettuces can be grown locally with the right mindset and technical know-how. While the island is largely self-sufficient in poultry and egg production there are opportunities to scale up production with respect to beef, lamb, rabbit and mutton.

“ With tourism down, food supply issues and much uncertainty surrounding the economy, there is a definite opportunity to invest more in agriculture particularly in value added products.” – (Jeremy Stephen- Economist and UWI Cave Hill Lecturer)



NON- TRADITIONAL AREAS

There is also room to increase production in non-traditional areas of agriculture which have not been sufficiently explored. Areas such as bee keeping (apiculture), aquaponics, hydroponics and protected agriculture (the cultivation of high-value vegetables in greenhouses) present a significant opportunity for young farmers particularly those facing issues of access to land.

“The attitude of young people towards agriculture and entrepreneurship is positive, it has definitely changed over the last few years with young willing to explore new areas”. – (Ayanna Young- Marshall)

Young agripreneur Damian Hinkson has shown that local innovation can be achieved for youth using non-traditional farming methods and employing new technologies. Mr. Hinkson has been using waste from tilapia and other fish to produce crops such as eggplants, onions, okras, spinach. The agripreneur has also been able to invest in renewable energy to save on the cost of production. Specialised batteries which store energy from solar panels are used to power a water system for crop irrigation with the excess water being pumped into a filter that sends it back into the fish tanks. (Nation Newspaper, June 7, 2018)

Another example of innovation in a non-traditional area has been the increasing focus on the use of Sargassum seaweed. Caribbean people are known for their resilience and turning obstacles into opportunities. Young agri-preneurs have embarked on creating beauty products from the seaweed. In St. Lucia the company Algas Organics has successfully developed the formulation for its flagship product the Total Plant Tonic. In an

interview with leading online publication Medium, young agripreneur Johanan Dujon explained that through the use of proprietary extraction technology the company was been able to produce an all natural Total Plant Tonic. The tonic serves as a rich blend of growth hormones and micronutrients to plants enabling them to better access water and nutrients present in the soil and thus improving climate resilience and yield. The company has also offered seaweed management services to regional governments and other organizations. Its flagship product the Total Plant Tonic is sold to local, regional and international markets. (Mathurin 2019)

The influx of Sargassum seaweed also presents an opportunity for young Barbadians in harvesting the product and making the raw material readily available for potential manufacturers. There are also opportunities to further identify the properties of the seaweed and its use in areas such as health and beauty and agriculture as has been done by Algas Organics. One local company which has been doing this is Oasis Laboratories, a group of young entrepreneurs who during their time at the University of the West Indies, Cave Hill Campus began exploring the potential of seaweed. The Oasis team has stressed that seaweed is excellent for skin care given its properties. These properties include anti-aging, anti-inflammatory and ultra-hydrating qualities. The group through their scientific research have also found that seaweed has anti-bacterial properties which make it ideal for fighting acne and is a natural exfoliant with potential for toning of the skin. The group has been producing soap based-products from seaweed but has also been working on other seaweed-based products including hair products, scrubs and masks, deodorants, and lip balms. (Green Antilles 2019)



AGROPROCESSING

Agroprocessing, whether through complete transformation of the agricultural product or postharvest management and packaging to extend the shelf life can provide jobs and help to reduce the high food import bill.

“Value-added products in the sector present an opportunity for young persons to explore.” – (Alvin Romeo)

There is a sentiment that not enough emphasis has been placed on developing new products through food technology applications. Opportunities also exist for healthy locally processed meat products as there are expected gluts in the local poultry and pork sectors due to reduced demand in the hotel and restaurant sector.

“If we can get more young people trained and educated along the value chain then there is the possibility of producing more value-added products especially where there is excess produce.” - (Chadeene Roett Young Agripreneur and Agribusiness Consultant)

The growth of agroprocessing during the last decade has been led by Barbados’ state agency the Barbados Agriculture and Development Marketing Corporation (BADM). BADMC has displayed a high level of innovation and has been supplying the local market with a range of products from sweet potato, breadfruit and cassava. These products have included cassava and sweet potato flours as well as pancake and cake mixes. The BADMC has also shown innovation with local meats including blackbelly lamb, pork and beef which are all locally sourced from Bajan farmers. Byproducts have included burgers, sausages, meatballs and ham. Other innovations have also included soft serve icecream and sorbets made from cassava and sweet potato. The innovations of the BADMC are matched by such organisations as Addis Alem Co-op. Taking advantage of training opportunities provided in agroprocessing through the IICA IM.P.A.C.T Project the recently established farmers cooperative under its BetaHill brand has been able to produce a number of flours and sauces which have been retailed in local supermarkets.

Increasing attention has also been paid to coconuts especially their usefulness in processed products such as coconut oil which over the years has increased in popularity in the health food industry. The sale of coconut water along the highways of Barbados has grown exponentially in the past decade with coconut water once only available on Sunday now being available on a daily basis. It has provided employment for several young Barbadian men and women from sourcing and transport of the coconuts to the sale of the water. While fresh coconut water is available almost on a daily basis along the highways the industry holds significant potential for processed products including the production of virgin coconut oil, coconut cream, coconut milk and even coconut flour. The production of skin and personal care items such as soaps and cosmetics is also very much a reality given the world wide craze over coconut. The sector can also provide employment in areas such as use of the husk for mulch, use of the shells for artwork and wooden products such as cups and other utensils and even the use of coconut leaves for craft.

PRE-PACKAGED PRODUCTS

In addition to the suggestion of newly processed products, capitalizing on the busy lifestyle of Barbadians is as an opportunity which has not been sufficiently explored. The packaging of produce such as pre-cut vegetables could lessen the preparation time for cooking for Barbadians. Packaged pre-cut produce is available in some supermarket chains on a very limited scale and there is significant opportunity for expansion.

“People need the convenience when it comes to food, however the access needs to be taken to another level through packaging and marketing of local vegetables.” – (Chadeene Roett)

In addition to pre-packaged products, the creation of unique products such as vegetable boxes presents new opportunities for the sale of produce in an era where social distancing is being encouraged. The introduction of ‘veg boxes’ during the pandemic has been a novelty widely accepted by Barbadians. Yet there is room for growth with respect to the variations and offerings not only of fresh produce but also the inclusion of other locally produced products in these boxes such as jams, sauces and flours. Such an endeavour would call for greater collaboration and linkages between agripreneurs who can realise the value of coming together to promote their products and joint investment in small scale food processing facilities.

MARKETING, ECOMMERCE AND DELIVERY OPPORTUNITIES

The Government of Barbados declared a Public Health State of Emergency (SOE) from mid-March 2020 which significantly impacted consumers' ability to purchase food supplies. The SOE highlighted the need for improvement in the use of e-commerce platforms across the Barbadian business landscape as many food retail businesses struggled to leverage existing digital technologies to market and sell their products. This highlighted a significant opportunity for youth to develop software applications (apps), websites and social media pages to assist supermarkets and even farmers to market and sell their produce to the public.

The United Nations Development Programme (UNDP) as part of its COVID-19 recovery programme for Barbados and the OECS and with a focus on economic transformation and recovery of Micro, Small and Medium Enterprises (MSMEs) rolled out a programme which sought to assist and sensitize MSMEs to digitise their operations. The programme titled the #eFUTURE initiative has seen the use of digital platforms provided by young entrepreneurs for the purchasing of locally based agricultural produce notably through the website www.farmerfinder.org; partnerships with young service providers offering delivery services via e-platforms and training for agripreneurs in using digital solutions to promote their businesses and conduct transactions. (UNDP 2020)

The programme highlights the opportunities available to youth to leverage digital technologies to provide solutions to the local agricultural sector. This is especially important as concerns about contracting COVID-19 remain at the forefront of consumers' minds. Exploiting opportunities for the creation of dedicated delivery services for locally grown produce and to utilise digital payment services can lessen human to human contact and further allay fears of COVID-19 transmission.



HEALTH/WELLNESS AND BEAUTY

A thriving local health & wellness and beauty industry also provides significant opportunities for agribusiness both on the production side as well as the processing and development side. Medicinal products including packaged teas, salt and sugar scrubs and massage oils for spas and medicinal rubs based on local plants are opportunities which can be explored. The number of persons involved in the health and beauty industry primarily through soap and lotion production has grown significantly in the last decade. Potential exists in other industry areas such as the manufacture of make-up, facial cleansers, mosquito repellents especially for

babies/children, men's hair and beard products, and treatments for and eczema and skin exfoliation. There are also opportunities to offer services to small manufacturers to assist them in the marketing, branding and packaging of their products for sale to consumers. This creates other services and opportunities of employment particularly for young people.

While many persons have been getting into the soap and lotion industry due to its ease in market penetration there is certainly greater need for training, testing and market research that may not be readily available in-country. Local businesses such as Hello-Naturalle have been offering an extensive range of products from mainly locally sourced materials including soaps, deodorants, hair care products, creams and more recently hand sanitizer. Recognising the need for training of other small scale producers the company has also been offering soap making courses as another means of revenue and improving the technical competency of young persons seeking to enter the sector.

Other players in the industry such as Soothing Touch Spa have been using a variety of locally sourced products in providing spa treatments such as pedicures, manicures and massages. Included in these treatments are products made from mango, coconuts, pawpaw, guava, bananas and other agricultural produce used for purposes of moisturising the skin and exfoliation.

On the regional level, the small scale company Ikooma - founded by a young Belizean entrepreneur – has been using locally sourced seaweed to produce hair care products. These products are sold to Belizeans and have also become popular with tourists making their usage international. The business has created both backward and forward linkages as the seaweed is sourced from local seaweed farmers while the labelling of the products is done by other small graphic businesses. Speaking during a recent IICA organised regional seminar titled - *“Rural youths building the new agriculture post covid-19”*, founder of Ikooma Jolie Pollard also underscored her efforts to create linkages with other young entrepreneurs in the health and beauty industry by promoting co-branding and offering packages which contain locally produced products in particular to visitors. (IICA 2020)

“Our agro-industry needs to respond to our problems such as our high rate of Chronic Non Communicable Diseases (CNCDs). More emphasis can be placed on the production of local pharmaceuticals from locally grown plants and the production of beauty products such as face creams and hair products.”
– (Ayanna Young-Marshall)

AGRO-TOURISM AND AGRIBUSINESS MANAGEMENT, TRAINING

While the tourism industry has been severely impacted, there are opportunities for those in agribusiness to innovate and create greater linkages with the tourism sector. While the operations of the industry have slowed down significantly youth can develop plans to ensure greater linkages with hotels, restaurants and tourists attractions to promote their products when tourist arrivals recommence. Opportunities such as eco-friendly farms have can also become an attraction for visitors to the island in particular cruise ship passengers.

“There is a lot more that can be done with between the agriculture and tourism industries, young people can explore these opportunities.” - (Chadeene Roett)

Young people can also seek to grow products demanded by the tourism and hospitality sector which are not

currently being produced locally. These may include specialty lettuces, herbs and micro greens, among other products.

“Several of the imported vegetables can be grown locally with technical knowledge, the application of technology and a willingness by farmers to try new things”. – (Keriah Scantlebury)

An area which has not been sufficiently explored is the offering of agribusiness management services. Little attention has been paid to what can be a potentially rewarding field for young people who undergo the necessary training and develop the skills to manage or consult with various agribusinesses. Additionally youth with significant skills in agribusiness management, technologies such as green house production, specialised training in agriculture health and food safety among other areas are in a unique position to offer training to other young people. Given that short term courses are not always available, training presents another opportunity for youth to earn income and to explore entrepreneurial opportunities. One example of such training which can be offered is seen in the company Safe Food Essentials a food safety training and consultancy company based in Barbados which offers training in areas such as HACCP as well as food safety consulting and auditing of food safety standards for businesses. The company which is co-owned by a young female entrepreneur, provides both technical assistance and hands-on experience. It offers both face-to-face and online training solutions.

“Agribusiness management is an area with significant potential to be explored by young people.” – (Chadeene Roett)



AGRICULTURE AND THE CULINARY ARTS

Young people also have significant opportunities in the Culinary industry which has significant linkages to the local agricultural sector and exposes youth to food which is grown and manufactured locally. Young people have an opportunity to become entrepreneurs experimenting with locally grown foods and even innovating to offer new food products for sale to local and international markets through a combination of innovation and entrepreneurship.

Such opportunities are available through the Barbados Hospitality Institute which is a full-service hospitality training facility offering a wide range of courses and programmes. The Institute consists of the Hotel PomMarine,

the Golden Apple Cafe, the Muscovado Restaurant and a number of purpose built classrooms. The Institute plays a key role in building the human resources capacity of the tourism industry particularly those in the culinary arts and exposing youth to the use of locally grown food and local manufactured products which can be used in the hospitality industry.

In recent years increased training opportunities have been presented to youth in National Vocational Qualifications (NVQs) in Food Preparation and the Caribbean Vocational Qualification (CVQ) offered in Commercial Food Preparation. Furthermore, Food and Nutrition Science is now offered at the advanced level across some secondary schools in Barbados.

There are also opportunities available through the Barbados/Caribbean Junior Duelling Challenge a long running programme for secondary school students initiated by Barbados Chef Peter Edey. The competition has provided invaluable experience and exposure for Barbadian and even Caribbean youth aiming to pursue a career in the hospitality sector.

Additionally the National Independence Festival of Creative Arts (NIFCA) Culinary Arts Exhibition and Expo provides as an opportunity for learning, growth and exposure for youth on an annual basis. The festival has both an adult and junior segment and the National Cultural Foundation (NCF) notes that the culinary arts competition encourages innovation, the promotion of locally grown foods, the fostering of greater community participation and the use of new industry technology in the preparation of traditional foods (NCF 2019). The NCF also provides various cash incentives to encourage innovation and the use of local sourced products and ingredients with the most substantial prize being the Governor General's Award.



PLACING YOUTH AT THE CENTRE OF THE AGRICULTURE SECTOR SOME RECOMMENDATIONS

For young people to take advantage of existing and emerging agribusiness opportunities an enabling environment must be created for current and future agripreneurs. This environment should include training, stronger policy initiatives and investment by governments, the private sector, civil society and regional agricultural institutions.

Access to finance and funding has always been an issue for small businesses but it becomes even more problematic for young people who may not have any collateral to gain access to funding. There is also the possibility for youth to become frustrated with all of the requirements needed to become globally competitive. Certifications such as HACCP are increasingly important for businesses to compete or even export but these certifications can also be costly to obtain and maintain and if the business is a small one.

Likewise, areas such as traceability have become more pressing for governments particularly in light of the current global pandemic and its origins. In order to adequately prepare youth to maximise opportunities requires cooperation, support and a proactive approach by youth in identifying gaps in the market and taking advantage of these opportunities. A number of key recommendations are therefore advanced which if acted upon can see positive results for young people involved in the sector.

IMPROVING TECHNICAL COMPETENCY ■

The provision of training for young people has been highlighted as a major force behind assisting youth in the sector. Training initiatives such as the Youth Farm project developed by IICA provide youth with necessary skills to thrive in the sector as well as technical and vocational certification. Other programmes such as the Farmers' Empowerment and Enfranchisement Drive (FEED) programme by the Ministry of Agriculture and Food Security (MAFS) are also beneficial to young people seeking to enter the sector. Barbadian youth can also take advantage of agricultural science training programmes offered at the Barbados Community College (BCC) and the Samuel Jackman Prescod Institute of Technology (SJPI). The BCC offers an Associate Degree in agriculture which covers such areas as fisheries and aquaculture, postharvest technology, food science & technology, agricultural Marketing as well as a farm attachment. The SJPI offers a two year diploma programme in crop production and animal husbandry. The diploma covers such topics as animal science, small business management, plant science, crop protection and principles of agriculture theory and practice.

It was also felt that while the Caribbean's premier regional institution offered various degrees in agriculture at its St. Augustine, Trinidad campus, there is a need to expand more training courses in agriculture at the other campuses across the region. This would provide persons desirous of improving their knowledge and skills in the sector with an opportunity to do so making greater levels of technical expertise available across Caribbean countries. Training opportunities in agribusiness should also be explored via online platforms to reach a greater number of youth and to spur interest in the sector.

"There is a need for greater invest in key programmes such as IICA's Youth Farm and the 4-H foundation as these are critical to providing awareness and encouragement for youth to get into the sector. UWI also needs to expand its agricultural programming beyond the St. Augustine Campus." – (Chadeene Roett)

BUSINESS DEVELOPMENT AND FUNDING ■



While the technical know-how is key to improving productivity, success in agribusiness ventures is equally dependent on sound financial decision making. Financial literacy and business management are important to the success of young agripreneurs. Training programmes such as those offered by the Youth Entrepreneurship Scheme (YES) and the Student Entrepreneurial Empowerment Development (SEED) which expose potential entrepreneurs to the essentials of business management should be promoted and sustained. Civil Society organisations such as the Barbados Youth Business Trust, the Young Equipped to Achieve and the Caribbean Centre of Excellence for Sustainable Livelihoods have also been providing business support and mentorship to young people through various projects. Young agripreneurs also need opportunities to pitch their ideas or business ventures to seek investment and to help with refining their ideas and to capitalize on networking opportunities.

“Small farmers with the right business skills and business acumen will do well particularly in the current price sensitive market.” – (Jeremy Stephen)

Funding opportunities are also available through such government enterprises as Fund Access and the Enterprise Growth Fund Limited. The latter agency administers the Agricultural Development Fund (ADF) which provides loan financing to farming and fishing communities in Barbados become more competitive. The ADF also provides incentives, technical assistance and grants to this sector. Loan financing is provided between BDS\$50,000 to BDS\$1 million at an interest rate of 6.5% per annum calculated on a reducing basis.

INCREASED POLICY SUPPORT ■

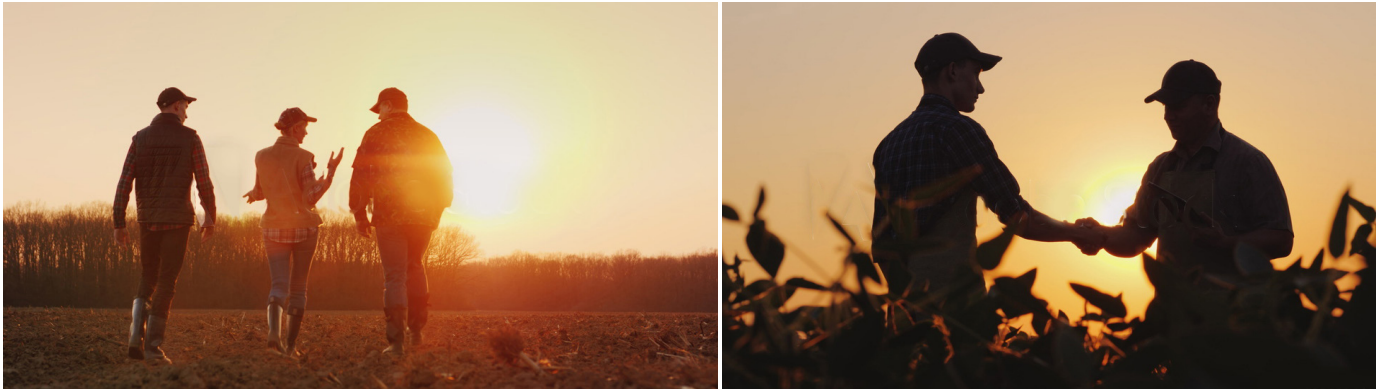


For young people to be successful in agribusiness more attention needs to be given to current policies which are attractive for entry into the agricultural sector and more so youth involvement in the sector. This includes making more land available to young people, the provision of access to farming equipment, access to low interest loans, assistance with business plan development and the creation of useful internship and apprenticeship programmes.

“We will never have economies of scale, so it is about the most effective use of the land we have. People who are not utilizing their vacant lots must be encouraged through policy incentives to offer them for rent to young agripreneurs so that greater economic activity can be generated.” – (Ayanna Young-Marshall)

Policy should not only provide incentives to become part of the sector but also to protect those in the sector especially from criminal acts like praedial larceny which has been a major headache for small farmers across Barbados and has frustrated some established farmers out of the sector. Greater emphasis must also be placed on research and data collection to inform decision making with respect to business ventures and opportunities within the sector.

ROLE MODELLING AND PROMOTING OF NETWORKING OPPORTUNITIES ■



There is no better way to encourage youth involvement in agribusiness than to promote youth who are already involved in the sector. The promotion of young agripreneurs should be done to encourage other young people to explore opportunities in agriculture especially as the sector is seen as dominated by those over the age of fifty.

“Young people need to see younger role models in the sector so they don’t become intimidated about getting involved”. - (Keriah Scantlebury)

Networking opportunities are also seen as important for young people to broaden their knowledge about the agricultural sector, for seeking investment and partnerships which can lead to sustainable agribusiness development.

‘Networking in the agricultural sector is extremely important, farmers who cultivate relationships with buyers are more likely to get increased business.’ – (Ayanna Young-Marshall)

Youth have also been urged to strongly consider the formation of formal networks such as cooperatives and other cluster type arrangements which provide them with a greater voice to articulate their concerns and to push their products. The cooperative model can enable youth

to market their products under a single brand even if they are producing different goods. The cooperative model can also help youth to achieve cost savings in areas such as marketing and packaging to negotiate with suppliers and potential customers and to share the burden of risks associated with undertaking a new investment.

“A youth farming cooperative provides young people with benefits such as a stronger voice, training, access to different resources and greater bargaining power.” – (Jeremy Stephen)

A person with curly hair, wearing a blue denim shirt over a red and white striped shirt, is holding a woven basket filled with fresh produce, including red tomatoes and purple eggplants. They are standing in a field of green leafy plants. In the background, a large, modern, cylindrical building is visible under a clear sky. The entire image has a warm, golden-hour light overlay.

CONCLUSION

At a time when the world faces a major health crisis the agriculture sector in the Caribbean has been hailed as key the key to ensuring a measure of socio-economic stability. This signifies that despite developments which have largely pushed the sector in obscurity the sector remains resilient thanks in large part to the small-scale producers involved. There is no question about agriculture's importance to the economic, social and physical wellbeing of Caribbean societies. Agriculture has significant potential to help bolster Barbados' food security and can be a key driver in the reduction of the debilitating effects caused by large scale unemployment.

Young people are key to the sector's development and stand to benefit from existing and emerging opportunities. Entrepreneurial and job opportunities exist in the agrifood value chain ;from the planting, growing and harvesting of produce; the research and introduction of new varieties of crops; to the packaging, branding and marketing of produce or agroprocessed food as well as the sale and distribution of these goods. Further research work can aid in identifying not only current gaps but future ones based on the development challenges of Barbados and the Caribbean region. With an entrepreneurial mindset, a focus on innovation and the requisite technical skills and institutional support young people can be the drivers of agribusiness development and socio-econoimc transformation in Barbados.

WORKS CITED ■

- Barbados Advocate. (March 12, 2019). Barbados Apiculture Association Calls For Suitable Areas of Land for Bee-Keeping. Retrieved from <https://www.barbadosadvocate.com/news/barbados-apiculture-association-calls-suitable-areas-land-bee-keeping>
- Barbados Advocate. (July 5, 2020). Focus On Attracting Youth To Agriculture. Retrieved from <https://www.barbadosadvocate.com/news/focus-attracting-youth-agriculture>.
- Barbados Government Information Service. (2019). Food Import Bill A Concern To Prime Minister. Retrieved from <https://gisbarbados.gov.bb/blog/food-import-bill-a-concern-to-prime-minister/>.
- Beckford, C & Rhiney, K.(2019). Globalisation, Agriculture and Food in the Caribbean. United Kingdom: Palgrave MacMillan
- Bishop, L.(2013). The Political Economy of Caribbean Development. United Kingdom: Palgrave MacMillan
- Caribbean Development Bank. (2019). Study on the State of Agriculture in the Caribbean. Food and Agricultural Organisation.
- Ewing-Chow, D. (2020). Five Ways That COVID-19 Has Changed What Food Insecurity Looks Like In The Caribbean. Forbes Magazine
- Food and Agriculture Organisation. (2020). Small Island Developing States Response to COVID-19: Highlighting food security, nutrition, and sustainable food systems. Retrieved from <http://www.fao.org/3/ca8994en/CA8994EN.pdf>.
- Green Antilles. (2019). Green Antilles interview: OASIS Laboratory. Retrieved from <http://www.greenantilles.com/green-antilles-interview-oasis-laboratory/>
- Inter-American Institution for Cooperation on Agriculture. (2020). Pandemic Highlights The Urgency of Strengthening Caribbean Agriculture to Produce More Food, Connect to the Tourism Sector and Reduce Imports. Retrieved from <https://iica.int/en/press/news/pandemic-highlights-urgency-strengthening-caribbean-agriculture-produce-more-food>.

- Inter-American Institute for Cooperation on Agriculture. (2020a). Diagnosis of the Impact of COVID on the Barbadian Economy. Inter-American Institute for Cooperation on Agriculture.
- Inter-American Institution for Cooperation on Agriculture. (June 30, 2020b). “Rural Youths Building the New Agriculture Post COVID-19”. Retrived from <https://www.iica.int/en/press/events/northern-and-caribbean-forum-rural-youths-building-new-agriculture-post-covid-19>
- Inter-American Institution for Cooperation on Agriculture. (2019). “ API CARIBE PROJECT: SPECIALISTS FROM ARGENTINA ASSIST BARBADOS AND DOMINICA TO DEVELOP THEIR HONEY INDUSTRIES”. <https://www.iica.int/en/press/news/api-caribe-project-specialists-argentina-assist-barbados-and-dominica-develop-their-honey>
- Inter-American Institution for Cooperation on Agriculture. (2017). Report of the Youth in Agri-Business Support Forum. . Inter-American Institute for Cooperation on Agriculture.
- Isaac et al. (2019). Sustainable Climate-Smart Agriculture Solutions to Improve Food and Nutrition Security in Trinidad. In Bisseassar, M. Development, Political and Economic, Difficulties in the Caribbean. Palgrave McMillan: Switzerland.
- Mathurin, C. (2019).Turning Seaweed Into Food Security: Johanan Dujon & Algas Organics. Retrieved from <https://medium.com/caribbeanentrepreneur/turning-seaweed-into-food-security-johanan-dujon-algas-organics-a356176244f>
- Nations Newspaper. (June 7, 2018). Aquaponics at Work. Retrieved from <https://www.nationnews.com/nationnews/news/165144/aquaponics>
- Shik, O, et al. (2016). Analysis of agricultural policies in Barbados. Inter-American Development Bank
- Technical Centre for Agricultural and Rural Cooperation. (2017). A Year in Review 2017: Moving To Next-Generation Farming. Retrived from <https://www.cta.int/en/issue/a-year-in-review-2017-moving-to-next-generation-farming-sid078a797e0-eae4-469c-81bd-3d66ebdbad07>
- United Nations Development Programme. (2020). Fisherfolk and Farmers Going Digital In response to COVID-19, UNDP partners with Farmfinder to boost e-commerce growth among fisherfolk and farmers for the #eFUTURE. Retrieved from <https://www.bb.undp.org/content/barbados/en/home/presscenter/pressreleases/20191/fisherfolk-and-farmers-going-digital-.html>
- University of the West Indies. (2016). Scientist Seek Opportunity in Sargassum Threat. Retrieved from <https://issuu.com/uwimarketing/docs/uwipelicanissue14/22>.
- Zazula, N & Mayes, J. (2019). An Analysis of the State of the Barbadian Youth Farming and the Establishment of Youth Farming Engagement Tools. Inter-American Institute for Cooperation on Agriculture

APPENDIX I – SAMPLE INTERVIEW QUESTIONS ■

1. What is your view of the agricultural sector in Barbados ? (e.g declining, stable, growing)
2. What is the attitude of young people you encounter towards agriculture and entrepreneurship?
3. What are the major challenges faced by young farmers/agripreneurs in making their ventures viable ?
4. What are the main areas young people are involved in agriculture?
5. Are there any existing opportunities which you think young agripreneurs in particular are not exploring?
6. Are there any areas of growth you can identify in the agribusiness sector (processing, marketing, manufacturing, crops and livestock) ?
7. What recommendations can you provide on how to better support young agripreneurs to assist them in their growth? This could be support from government in terms of policy, support from institutions such as IICA, polytechnic etc.
8. What advice do you have for young people getting into the sector ?



**FUTURE
FARMERS!**



Delegation in Barbados

