Food and Agriculture Organization of the United Nations

RURAL POVERTY IN THE CARIBBEAN

Assets, social exclusion and agricultural livelihoods

CASE STUDY

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by

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Preface

Environmental shocks and stresses have significant negative effects on all aspects of social and economic wellbeing. These negative effects are more immediately apparent in the agricultural sector. Extreme variations in the weather not only directly impact agricultural production, but there are also adverse effects on livelihoods, especially in rural agricultural/fisheries-dependent communities. The income-poor and people suffering from inequality are particularly vulnerable to the shocks and stresses of climate change.

While it is important to measure poverty and determine its correlates, it is also important to understand the processes that cause and exacerbate its effects. There are complex interlinkages between the environment, climate change, and agriculture, and these can work together to cause food insecurity, poverty and inequalities. Understanding these relationships allows us to develop better-informed policies and to implement more effective programmes.

In the Caribbean, poverty is often hidden in middle- to high-income countries, where inequalities and other deprivations, beyond income, can impede their efforts to address climate change and natural resource degradation, as well as access to healthy and sustainably-produced foods. An overarching problem is that much of the data required for undertaking poverty analysis in the agriculture and environmental sectors are still quite scarce, or do not sufficiently address the most marginalized populations.

Seeking to provide a greater understanding of the links between rural inequality, food security, agriculture and the environment, this report takes a qualitative approach to the exploration of assets and asset-building mechanisms in agricultural and fisheries communities in Barbados and Grenada. Assets in this respect refer not just to physical and financial assets, but also human and social capital. While possessing such assets is important for current livelihoods, access to asset-building mechanisms, such as education, healthcare, social networks and natural ecosystems, is important for sustainable livelihoods in future.

The study was conducted during a period of great economic uncertainty due to the onset of COVID-19 pandemic, which generated long-lasting negative effcts on the vulnerability of farmers and fisherfolk to poverty and food security worldwide. Drawing on in-depth interviews with people living in agriculture- and fisheries-dependent communities in two small island developing states (SIDS), the report provides empirical material and a series of policy recommendations for improving access to assets and asset-building mechanisms. The results can be used to enhance the resilience of these two critical groups by supporting social mobility as well as insulation from the effects of future crises. The United Nations Food and Agriculture Organization (FAO) has an essential role to play in this regard.

Acknowledgements

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Hyancinth Skervin served as research coordinator for the data collection process in Grenada with the assistance of Louraine Modeste. Melanie Callender-Ford and Mitch Hartman provided valuable research support to the project. Desiree Alleyne, Danielle Walcott and Shaniece Walcott assisted in the data collection exercise in Barbados, while Cartina Williams, Glenda Williams, Gloria Thomas and Shania David assisted in Grenada. Their dedication throughout the process was invaluable in ensuring the successful completion of the study.

We would also like to thank the Ministries of Agriculture and their related agents in Barbados and Grenada, and the various non-governmental organizations that assisted in the project.

Special thanks go to the individuals who voluntarily gave their time and shared their experiences to provide us with the information needed for the study. This report is based on their testimonies and would not have been possible without them.

Abbrevations

AGRICOM	OECS Regional Agriculture Competitiveness Project
BACT	Barbados Agricultural Credit Trust Limited
BADMC	Barbados Agricultural Development and Marketing Company
BAMC	Barbados Agricultural Management Company
BARNUFO	Barbados National Union of Fisherfolk Organizations
BAS	Barbados Agricultural Society
BDS$	Barbados dollar
CARDI	Caribbean Agricultural Research and Development Institute
CARICOM	Caribbean Community
CDB	Caribbean Development Bank
CERMES	Centre for Resource Management and Environmental Studies
CLT	Community Land Trust
COVID-19	Coronavirus 2019
CPA	Country Poverty Assessment
CPDC	Caribbean Policy and Development Centre
EC$	Eastern Caribbean dollar
FAO	Food and Agriculture Organization of the United Nations
FEED	Farmers' Empowerment and Enfranchisement Drive
GAFO	Grenada Federation of Agriculture and Fisheries Organizations
GDP	gross domestic product
GEF	Global Environmental Facility
GRENCODA	Grenada Community Development Agency
GRENROP	Grenada Rural Women Producers
G-WASP	Grenada Water Stakeholder Platform
HH	head of household
IDA	International Development Agency
IFAD	International Fund for Agricultural Development
IICA	Inter-American Institute for Cooperation on Agriculture
ISIC	International Standard Industrial Classification
LAC	Latin America and the Caribbean
MAFS	Ministry of Agriculture and Food Security
MALF	Ministry of Agriculture, Lands and Forestry
MAREP	Market Access and Rural Enterprise Project
MPI	Multi-dimensional Poverty Index

NCD	non-communicable disease
NEET	not in employment, education or training
NFRE	non-farm rural enterprise
NGOs	non-governmental organizations
NIS	national insurance scheme
NVQ	national vocational qualification
PAM	Programme for Adolescent Mothers
OECS	Organization of Eastern Caribbean States
PESTLE	political, economic, social, technological, legal and environmental
RDC	Rural Development Commission
R-MPI	Rural Multi-dimensional Poverty Index
SALISES	Sir Arthur Lewis Institute of Social and Economic Studies (University of the West Indies)
SEED	Support for Education, Empowerment and Development
SLC	survey of living conditions

Executive summary

The project primarily sought to investigate and understand the interrelationships between poverty and inequality in the agricultural sector and issues related to food security and the environment. Barbados and Grenada were selected as country sites.

The main framework used for the analysis, as shown in **Figure 2**, involves the interactions between individual characteristics and asset stocks and various intervening factors and asset-building mechanisms which contribute to the level of social exclusion or inclusion experienced by individuals. **Table 2** details the various components of the framework.

The main research question was: *What are the linkages between food security, agriculture and the environment, and poverty and inequality in the Caribbean?* In addition, a series of sub-questions were developed to frame the research into the various components of the main question in relation to describing livelihoods, constraints to accessing assets and asset-building mechanisms, availability of support, and issues surrounding food security.

Project data was mainly gathered through in-depth interviews with people in agriculture- and fisheries-dependent communities and interviews with "elites" directly involved in agriculture or fisheries (e.g. government officials, non-governmental organizations [NGOs] and development agency officials). In total, six communities were selected, three in Barbados and three in Grenada. Community data collection activities took place between September and November 2020.

MAIN FINDINGS

Livelihoods of the most vulnerable people

The research revealed that the most vulnerable people generally have limited or low-quality physical or financial assets; this is particularly the case for women with childcare responsibilities. In general, rural livelihoods for the vulnerable are characterised by low or unstable income and many individuals have multiple jobs (mainly low or semi-skilled) that are generally based on traditional gender roles.

The most vulnerable also lack human and social capital. Financial constraints, lack of encouragement, childcare and teenage pregnancy, and the desire to earn money, are some of the reasons cited for not completing schooling. There is also limited involvement in any social groups outside of the family.

External livelihood support

Several livelihood support programmes operate in Barbados and Grenada which provide training, technical assistance, and social welfare payments. However, there is a lack of utilisation due to the manner of administration of the programmes (bureaucracy, limited scale, short-term outlook and limited dissemination of information on support available).

Access to assets and asset-building mechanisms

While there is moderate access to asset-building mechanisms in the two countries, there is a lack of utilisation, particularly in education. Consequently, jobs are generally in low-skill activities. Access to related asset-building mechanisms, such as healthcare and transport, did not appear to be a serious issue for many people. Waiting times for healthcare and transport costs for goods were however noted as constraints.

Another cost barrier related to access to equipment and supplies for many people. Infrastructure issues were also prominent in relation to the condition of the dock and market in Grenada and the absence of sheltered docking facilities in Barbados.

In relation to addressing cost-related constraints, the lack of effective formal social networks, such as cooperatives, is a particular matter for concern. There are few active cooperatives, and those that exist are often thought to be elitist. This is concerning as many of the barriers experienced by the communities could be addressed through advocacy by a cooperative.

Availability, access and use of food

Food is generally available in the communities. The poorest people are heavily dependent on ground provisions for their diets, with only limited use of meat, fish or poultry. Many miss meals or relied on family or neighbours. COVID-19 lockdowns revealed a level of food insecurity when normal food sources were not available to community members, either due to constrained production by farmers or closed markets.

Environmental effects on livelihoods

Three main environmental effects were noted in relation to farming and fishing. First, periods of flooding and drought have a significant impact on crop production. Second, tropical storms and hurricanes have caused a loss of crops and boat damage in rough seas. Overfishing, the degradation of near shore reefs from pollution, climate change causing changes in migratory patterns and the influx and inundation of Sargassum seaweed were all noted in fishery communities.

Recommendations for improving rural livelihoods

At the individual level, the greatest constraints related to a lack of physical and financial assets, which limits access to basic needs and access to asset-building mechanisms, such as employment. There are also constraints at the sector level which affect profitability such as a lack of bargaining power by producers, the cost of inputs, environmental issues and climate change.

Drawing on noted constraints, several recommendations were developed to address them. The recommendations relate to four main areas: i) expanding agriculture's role in the economy; ii) providing land and infrastructure; iii) enhancing productivity; and iv) addressing costs. These recommendations were either developed directly from interviews with community members and elites, or based on issues arising from the interviews that were expanded upon by the research team.

At the root of the recommendations is addressing the three components of food security (availability, access, and utilization). Issues of food availability could be addressed through physical planning and the allocation of suitable lands to agriculture, while physical access could be addressed by improving markets and transportation systems. Financial access could be facilitated directly by targeted concessional finance to keep costs feasible, direct cash transfers through welfare programmes, or indirectly through activities that generate economic growth in general, including the integration of agriculture within other sectors of the economy, and the provision of means to enhance earning capacity, such as education and training.

Addressing intervening factors: Expanding the role of agriculture in the economy

The COVID-19 pandemic revealed several vulnerabilities in the regional economy and elevated the issue of food insecurity. The region depends heavily on food imports, whose value significantly outweighs domestic production and which comprise a large percentage of domestic consumption. The task of promoting agriculture at the national level lies with the government, while NGOs and civil society have roles to play in supporting the development of a strong and productive agricultural sector.

- **Treat food security as a national security issue.** With a historical trend towards services, agriculture became secondary in importance in the region. The COVID-19 pandemic was a stark demonstration of

the need for agriculture to be considered as a public good, like education and healthcare, by governments across the region.

- **Promoting agriculture as a key sector in the economy.** Beyond producing goods for export to reflect its importance in ensuring domestic food security, the development of linkages with other sectors (tourism, food manufacturing) would assist in integrating the sector into the economy.

- **Promote membership in cooperatives** to assist the development of the agricultural sector, provide a platform for lobbying the government, leverage greater bargaining power with buyers, and build social capital.

- **Disseminate information on available support more widely.** There were instances of respondents not being aware of what support was available to them. Governments, NGOs, and a revitalized cooperative sector could act as an avenue for disseminating information on available support programmes.

- **Encourage direct interaction** between support organizations, donors and rural communities to enable more context-relevant programme development.

- **Enhance the image of agriculture and fisheries** and use the traditional educational system to promote work in these sectors as a career choice. Raising awareness about new practices and the use of technology can dispel the negative, stigmatized nature of agriculture that exists in some places.

- **Encourage the consumption of locally-grown foods** and promote "kitchen gardening" to support food security at the household level and income generation through the sale of surplus produce.

Building asset stocks and facilitating trade

Providing land and infrastructure

To complement the broad goal of expanding agriculture's role in the economy, there are key capital investment issues to address access to land and the development of markets. These include:

- **Zone lands for agriculture.** While targeted zoning may preclude some national development efforts, such as the construction of tourist facilities, it opens up land to agriculture, enabling increased food security, and provides secure tenure for farmers.

- **Develop community land trusts (CLTs).** CLT involved tracts of land being acquired and leased to community members on a long-term basis (e.g. ninety-nine years); the land can be passed down to heirs. For farmers, such security of tenure enables them to plan and develop the land and to gain other assets through access to credit. Current approaches to land provision do not provide the security afforded by a long-term lease from a CLT nor the other benefits such as ability to plan long term and to have access to credit.

- **Establish agroprocessing and storage facilities** in rural communities for local use, development of niche export markets, and the general development of non-farm rural enterprises (NFRE).

Enhancing productivity

Increasing productivity is a key recommendation to address the balance between keeping costs and prices at reasonable levels, providing sufficient profits to producers, and providing workers with suitable wages.

- **Targeted concessional finance, access to micro-financial services and financial literacy.** Governments across the region already provide forms of concessional finance as well microfinance. Greater targeting of agriculture through these channels would assist in boosting investment in agriculture and consequently enhance productivity.

- **Increase worker productivity** through training and certification. In such a situation the farmer and farmworkers both gain through the increased output, increase wages and the benefits that certification brings.

- **Provide transportation services** for conveying agricultural produce to market.

- **Use technology and innovations** at the various stages of crop development.

Addressing costs

Issues concerning costs were raised by community members who are particularly concerned with profitability or remuneration. The recommendations to address costs include:

- **Reduce cost of inputs and equipment** through tax concessions/rebates to suppliers/producers in addition to efforts at moral suasion by governments for profit margin moderation through public/private negotiation.

- **Measure to increase wages.** Interventions to increase productivity can have a positive effect on remuneration in the sector. Government may however need to implement measures in the short-term to retain workers through tax incentives to producers or direct cash transfers to workers to supplement income.

It would be expected that the implementation of government interventions to enhance output and productivity will allow such financial support to be reduced over time as the sector grows and becomes more self-sustaining.

CONCLUSION

Livelihoods are characterized by low paying, low skilled jobs. People hold multiple jobs and work into old age (due to having little or no savings or pensions). Many rely on family support and have few physical and financial assets. Diets are poor and supplies of food are limited.

A number of factors contribute to these outcomes: limited education or training as a consequence of early school-leaving or limited access to education; a disinterest in further education or training; and little use of state support due to lack of knowledge of available measures or an aversion due to perceived bureaucratic hoops. Addressing these factors will be critical to improving rural livelihoods.

1. Introduction

The "Analysis of poverty and inequalities in the Caribbean and linkages with food security, agriculture and the environment (APIC-FAE)" project sought to investigate and understand the relationship between poverty and inequality in the agricultural sector in the region, and issues related to food security and the environment. The ultimate objective of the project was to identify broad policy interventions to promote sustainable agriculture as a tool for addressing poverty and the needs of the poor in the Caribbean region.

The causes of poverty are multidimensional and operate at several levels, from the global to the individual- A person does not experience poverty or inequality simply due to personal or individual circumstances; causal factors exist at the local, national, regional and global levels. These causal factors relate to the natural environment, socio-economic conditions, institutions and the global and local political economy. Within this complex system of causes and effects, the focus of this study was the impact of the environment on food security and agriculture and its contribution to causing, reinforcing and perpetuating poverty and equality in the region. The direct and indirect linkages investigated in the research – shown in **Figure 1** – include:

- direct linkages between the environment (weather, climate change, land quality, pollution and the transportation infrastructure (built environment), poverty and inequality;
- indirect linkages between the environment, agriculture and food security and the manner in which these factors affect poverty and inequality;
- direct linkages between agriculture, poverty and inequality that are not related to the environment; and
- direct linkages between food security, poverty and inequality that are not related to the environment.

The study adopted a framework that reflected the multidimensional nature of the linkages described above and the multiple levels of analysis required. A diagrammatic representation of the framework, which is based on the concept of social exclusion/inclusion developed by Bailey, Lashley and Barrow (2019), is shown in **Figure 2**. The framework describes the process of social exclusion, demonstrating that the process is based on individual characteristics (age, gender, etc.), assets (physical, financial, human, social and environmental), and the manner in which a series of intervening factors (e.g. institutions, socio-economic conditions, environmental conditions etc.) facilitate access to asset-building mechanisms (e.g. education, health, labour markets, etc.). A person's level of social inclusion is also determined by their individual characteristics and asset stock and their ability to access asset-building mechanisms; depending on their level of access, assets can be accumulated (or degraded). The entire process operates within an external environment characterized by various political, economic and environmental conditions. A more detailed description of the framework is provided in **Section 3**.

This framework lends itself to the development of a specific analytical framework, which is presented in **Section 3**.

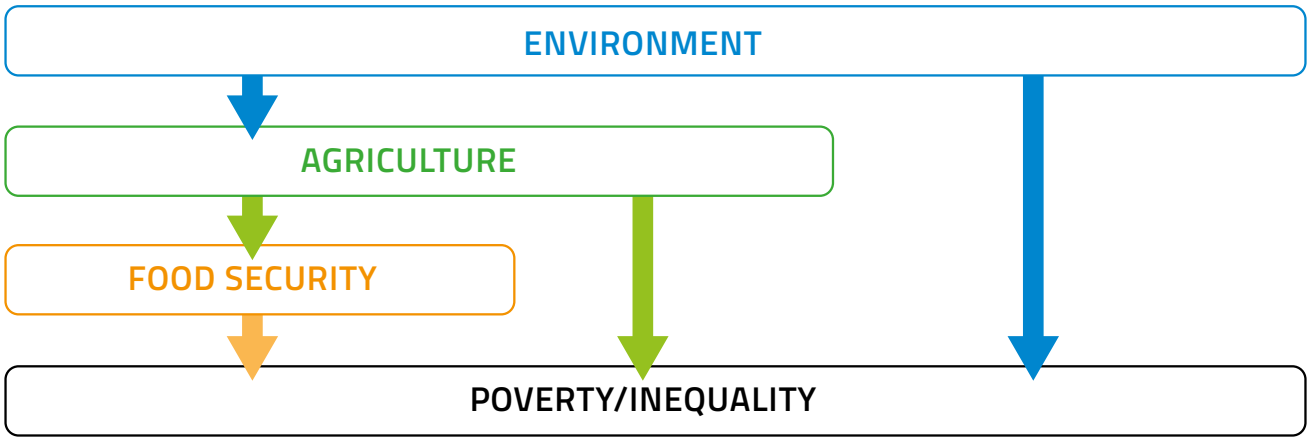

Figure 1. **Direct and indirect relationships between the environment and poverty and inequality**

Source: Authors' own elaboration.

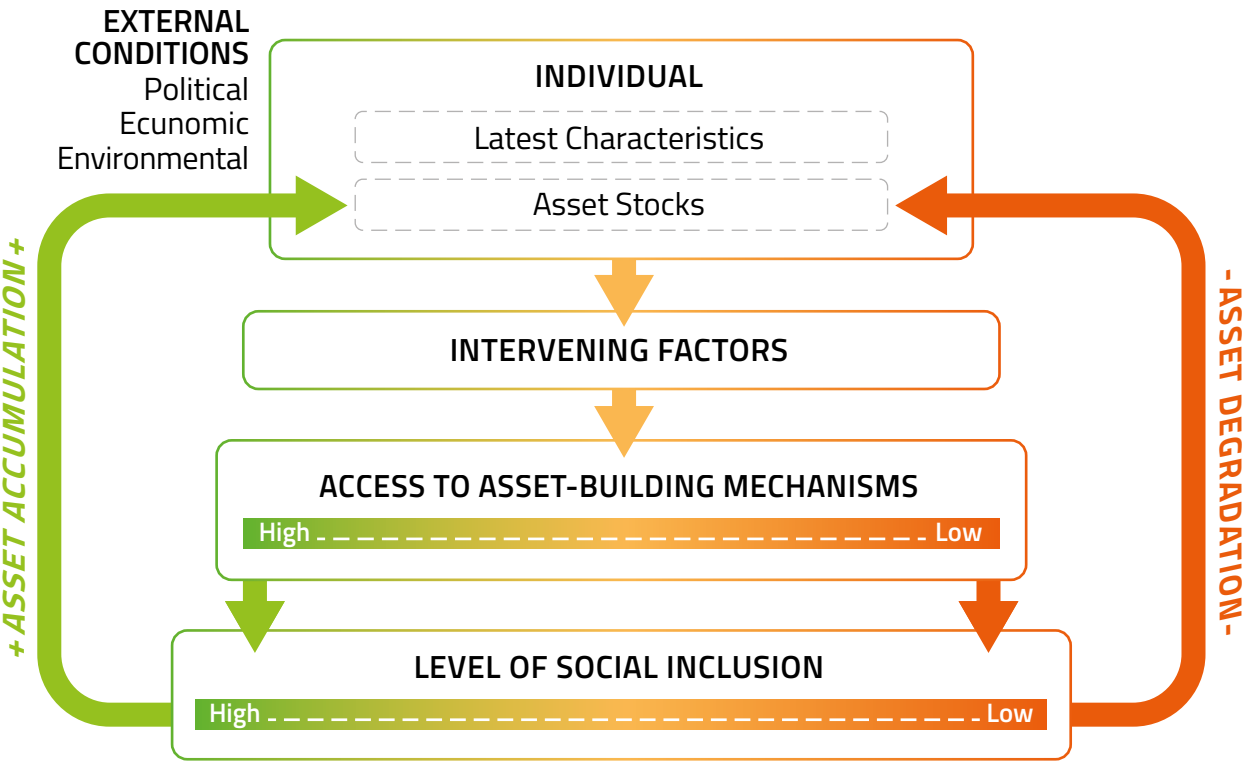

Figure 2. **A framework of social exclusion**

Source: Bailey, C., Lashley, J. & Barrow, C. 2019. Rethinking poverty: assets, social exclusion, resilience and human rights in Barbados. Kingston, UWI Press.

To address the main research question – What are the linkages between food security, agriculture and the environment, and poverty and inequality in the Caribbean? – we developed a series of sub-questions:

1. What are the characteristics of farming and non-farming livelihoods?
2. What are the publicly-available (government and NGOs) livelihood support options for the rural poor?
3. What is the level of access to assets and asset-building mechanisms?
4. How are asset-building mechanisms accessed?
5. How and why does access to asset-building mechanisms vary across different cohorts of the rural population (by age, land ownership, gender)?
6. How does the absence of access enhance vulnerability to poverty/inequality?
7. What coping mechanisms are used, if any, to mitigate lack of formal access to asset-building mechanisms?
8. What is the current state of availability, access, and use of food?
9. What measures, if any, are used to cope with issues of food insecurity?
10. How does the environment (both static and dynamic elements) affect food security (availability/access/use/stability), farming, and non-farm livelihoods?

Given the objectives of the analysis, the research questions and the need to understand interrelationships and linkages, a qualitative methodology was considered the most appropriate approach to the study.

The original approach to data collection involved focus groups with residents of agriculture- and fisheries- dependent communities, and in-depth interviews with elites (community leaders, government officials and NGOs operators). However, due to the outbreak of COVID-19, this approach was changed to in-depth interviews with both groups following all safety protocols in force in the study countries, Barbados and Grenada. The selection of these two countries was based on a purposive or extreme case sampling, Barbados and Grenada have quite different profiles with respect to the role of agriculture in the economy and the society. Agriculture plays a more prominent role in livelihoods in Grenada and the contribution of agriculture to GDP is nearly 3.5 times that of Barbados.

Data collection was focused on three distinct agriculture- or fisheries-dependent areas in each country. In Grenada, three communities were selected: La Digue and La Sagesse (agriculture) and Victoria (fisheries) and in Barbados, the three areas chosen were Spring Hall/Rock Hall and Mount Pleasant (agriculture) and Six Men's Bay (fisheries). The study sites were identified through discussions with agricultural stakeholders in government and NGOs in both countries. Experts with knowledge of the selected sites assisted in the identification of community members and elites for interviews. The data analysis was guided by the structure provided by the research questions.

The rest of the report is structured as follows: **Section 2** provides an overview of poverty in the Caribbean, with specific reference to food and agriculture. **Section 3** presents the general framework for the analysis and the core concepts used in the research: poverty and inequality, food security, agriculture and the environment. A description of poverty in Barbados and Grenada completes the section. **Section 4** provides a detailed outline of the research approach in each country and **Sections 5** and **6** present the results for Barbados and Grenada respectively. These country-specific sections detail the institutional and policy environments, community descriptions and analyses of the in-depth interviews. These analyses are structured around the asset stocks of individuals and their access to asset-building mechanisms. A general conclusion for each country is also presented. **Section 7** concludes with a general summary of research results and a series of recommendations to address the barriers and constraints to asset accumulation in agriculture- and fisheries-dependent communities in the two countries.

2. An overview of poverty in the Caribbean

Key messages

- Data on poverty in the Caribbean are scarce and often outdated.
- The poverty in the region is significant and inequality remains relatively constant.
- The main correlates of poverty in the region include unemployment, large and single-parent households, lack of human capital and low pay.
- Factors such as race, ethnicity, gender, location and age exacerbate the experience of poverty. Poverty is disproportionally experienced by people in rural areas.
- While quantitative data reveals correlations and probabilities, qualitative research is required to understand the complex and multidimensional experience of poverty in the region.

The poverty level in the region is generally high, with at least one in five persons living below the poverty threshold. Current socio-economic realities suggest that poverty levels may actually have worsened in many countries after the 2007 financial crisis (CDB, 2016).

Data on poverty in the region are collected infrequently. As shown in **Table 1**, the Caribbean Development Bank (CDB)'s 2016 review of poverty studies in the region references the "most recent studies", which range from surveys conducted in 2001 (Bahamas) to 2012 (Haiti, Jamaica, Suriname, Turks and Caicos Islands). The Bahamas also conducted a household expenditure survey in 2013 (Bahamas, 2016), and only Barbados, Suriname (2016/2017) and Saint Lucia (2016) (Kairi, 2018) have conducted surveys of living conditions (SLC) since.[1] Although the figures are outdated and are thought to have worsened since the 2007 financial crisis, poverty rates ranged from 2 percent in the Cayman Islands to over one-third in Grenada and Guyana, nearly 50 percent in Suriname, and nearly 60 percent in Haiti. Although there is even less data on levels of vulnerability and indigence (food poverty), these are believed to have reached approximately 20 percent in Guyana and Haiti and 16 percent in Belize, countries with the potential for substantial domestic production of agricultural produce due to land size. While availability may not be an issue in these countries, access is, since the food-poor do not have the economic means to access produce. It is however noted that there may be other non-economic means through which food is accessed such as through civil society organizations or community support.

In an overview of the results to emerge from poverty surveys in the region, it is noted that inequalities, as measured by the Gini coefficient[2] have remained stable (Caribbean Development Bank, 2016). However, poverty still remains at unacceptable levels. The CDB analysis indicates that female-headed households are more likely to live in poverty, particularly those not in a union. While the education

1 The SLC data for Barbados for 2016/17 is presented in the country profile for Barbados in **Section 3.5.**

2 The Gini coefficient or index "measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution… 0 represents perfect equality, while an index of 100 implies perfect inequality" (World Bank, 2021).

of the head of household (HH) is negatively correlated with living in poverty, women's gains in education have not "translated into better labour market outcomes" (Caribbean Development Bank, 2016, p. 15). The other main correlates of living in poverty are larger households and overcrowding; indigenous peoples; lack of access to water; and poor living conditions. Household location is also strongly correlated with living in poverty, where:

> *... many places where poor people live present multiple disadvantages, such as missing and inadequate infrastructure and services, unfavourable geography, vulnerability to environmental shocks and seasonal exposure (Caribbean Development Bank, 2016, p. 15).*

It should be noted that these locational characteristics are especially prevalent in rural, agriculture-dependent, areas.

Country	Year	Poor (%)	Vulnerable (%)	Indigent (%) (food poor)
Anguilla	2009	5.8	17.7	0
Antigua and Barbuda	2007	18.3	10	3.7
Bahamas	2001	9.3		
Bahamas	2013*	12.5		
Barbados	2010	19	10.4	9.1
Barbados	2016/17*	17	13.8	3.6
Belize	2009	41.3	138	15.8
British Virgin Islands	2002	22		
Cayman Islands	2006/07	2	1.8	0
Dominica	2009	28.8	11.5	3
Grenada	2008	37.7	14.6	2.4
Guyana	2006	36.1		18.6
Haiti	2012	58.5	11.5	23.8
Jamaica	2012	20.0		
Saint Kitts	2008/09	23.7		1.4
Nevis	2008/09	15.9		0
Saint Lucia	2005	28.8	40.3	2
Saint Lucia	2016*	25.0		
Suriname	2012	47.23		
Suriname	2016/17*	26.2	13.1	1.7
Saint Vincent and the Grenadines	2007/08	30.2	48.2	2.9
Trinidad and Tobago	2005	15.5	9	1.2
Turks and Caicos Islands	2012	21.6	11.4	0

*Note: * Data not included in CDB (2016).*

Table 1. Regional comparison of poverty rates (most recent year)

Source: Adapted from Caribbean Development Bank (CDB). 2016. The changing nature of poverty and inequality in the Caribbean: new issues, new solutions. Bridgetown.

Downes (2010), in a synopsis of poverty assessments from across the region, lists the characteristics of poverty in the Caribbean, which are similar to recent findings described above, namely Caribbean Development Bank (2016). According to Downes, poor people in the region:

- reside in larger households that are usually female-headed with a large number of dependents (children and the elderly), indicating a level of intergenerational transfer of poverty;
- reside in low-quality housing, lack access to public utilities and experience greater levels of overcrowding – with squatting a feature in larger Caribbean countries;
- reside to a greater proportion in rural areas;
- Eexperience higher levels of malnutrition among children;
- have less education and experience more unemployment, especially among youth;
- when employed, work in the informal labour market, small-scale rural enterprises or elementary (low or no skill) occupations such as vending and cleaning;
- suffer discrimination in the labour market due to being considered poor;
- are affected by seasonality, especially in agriculture, tourism and construction;
- are very vulnerable to external shocks such as price increases or declines in exports; and
- are disproportionately elderly, children or indigenous people.

Downes (2010) highlights four main factors associated with poverty in the region: unemployment, large households and single-parenting, lack of human capital, and low pay. Access to basic social services and economic opportunities also contribute to high levels of poverty.

Inequalities are exacerbated by race, ethnicity, gender, location, age, education and health services. These issues need to be examined in the context of agriculture and rural living, as it is likely that issues of access would be exacerbated in rural communities. Such communities are also more exposed to the impacts of climate change, as well as stresses and shocks from globalization's economic trade liberalization (Barker, 2012) which increased competition from cheaper imports in the domestic market and close off potential export markets due to an inability to compete on price. Barker noted that these two factors have had a significant negative effect on the agricultural sector as it relates to exports and meeting domestic demand.

When Barker speaks of the "double exposure" of agricultural communities and spaces to climate change and globalization, he is also alluding to the multiple risks that cause individuals to live in poverty. Many policy discussions in the region seek to identify the "face of poverty", where the correlates usually include: living in a female-headed household, overcrowding, lack of educational qualifications, unemployment and rural location, among others. However, many of the characteristics of the poor are consequential, rather than causal, and one-dimensional, while poverty in the Caribbean is multidimensional. In the most recent Caribbean Human Development Report (2016), the United Nations Development Programme (UNDP) speaks of "overlapping risk factors" that make people vulnerable to poverty, whether immediately or later in life. A key example relates to women and their greater vulnerability in the labour market, "which may result in a higher risk of poverty later on in old age; when disability is taken into account it is also more likely among women (p. 95)". The report provides a further example of young males growing up in adverse circumstances (violent communities or households, parents with disabilities, etc.) and the subsequent tendency of high-risk behaviour (violence, working on the street), which exposes them to greater probability of accidents and perhaps disabilities themselves. It goes on to suggest that "[t]hese might be the same boys who are likely to practise violence on women or become absent

parents in teenage childbearing - that is, they also represent a further threat to women (p. 95)". The example demonstrates that multiple risks exist, which, when they lead to negative outcomes, can cause an individual or a household to fall into poverty, either now or in the future. The framework of social exclusion developed by Bailey, Lashley and Barrow (2019) is based on multiple factors and asset stocks, since there are several pathways into and out of poverty. The framework is discussed in greater detail in **Section 3**.

2.1 FOOD, AGRICULTURE AND POVERTY IN THE CARIBBEAN

In CARICOM countries, stagnant growth over the past two decades, together with high levels of unemployment, have led to decreased food security and increased poverty for many households, especially in rural areas (FAO, 2015, p. xi).

While Caribbean Community (CARICOM) countries have made progress in addressing undernourishment in the region since the early 1990s, reducing the proportion from 27 percent to 20 percent between 2014 ns 2016, excessive calorie consumption is a concern, especially as it relates to processed foods and the incidence of obesity, a risk factor for non-communicable diseases (NCDs) FAO, 2015). National food production is secondary to imports in the region, with most countries importing over 60 percent of the food they consume as national production declines (particularly of fruits and vegetables) and is replaced by imports with lower nutritional value and higher fat, sugar and salt content (Ewing-Chow, 2019b). "A continuation of the current CARICOM food import bill trends can only lead to further nutritional and economic impoverishment for the people of the region for generations to come" (FAO, 2013).

Access is considered a key food security concern and is significantly linked to increasing poverty in the region, especially with "quality food being priced beyond the reach of the poor FAO, 2015 p. xi). A key factor constraining food security in the region is its inherent vulnerability to external shocks, particularly economic and climatic shocks, which include the 2008 financial crisis, the COVID-19 pandemic and the devastating hurricane seasons of recent years.

Most farming in the Caribbean is on a small scale. Small-scale farmers account for 55 percent of cultivated land and 90 percent of their holdings are less than five acres. There is a strong family element in small-scale farming in the Caribbean, with estimates suggesting that family farms (small, medium and large) account for over 60 percent of the region's food production. However, incomes from farming are generally low, less than 25 percent of household expenditure and, as a consequence, incomes must be derived from alternative sources (FAO, 2015). The situation is somewhat worse for landless farm workers (i.e. wage labourers) (Khan, 2001), a further indicator of the heterogeneous profile of the rural poor. While there is deviation in the sources of livelihoods for people who live in rural communities that depend on agriculture, some issues are covariate, such as lack of access to education, healthcare, public utilities, housing, transport and communication services (Khan 2001).

Castañeda *et al.* (2018) provide a profile of poverty in Latin America and the Caribbean (LAC) that indicates that people in rural areas only comprise 18 percent of the non-poor, while accounting for 53 percent of the extreme poor. However, it should be noted that, similar to other studies of Latin America and the Caribbean, representation is limited, with only Haiti and the Dominican Republic included in the data. Castañeda *et al.* also highlight the disproportionate share of children (zero to fourteen years) that live in poverty in rural areas where they comprise 42 percent of the extreme poor, 43 percent of the moderate poor and only 25 percent of the non-

poor. 68 percent of the extreme poor and 52 percent of the moderate poor in rural areas work in agriculture; only 13 percent of the non-poor work in agriculture.

While the LAC data suggests that poverty in rural areas is disproportionately experienced by children and agricultural workers, people who directly depend on agriculture are not a homogenous group, and various livelihood strategies are used by the rural poor. Khan (2001) divides the rural poor into three groups: cultivators, non-cultivators and rural women (women represent 22 percent to 30 percent of registered farmers in the Caribbean (CDB, 2019; FAO, 2019). Cultivators are considered the largest group among the rural poor, cultivating small parcels of land while also working on other farm and non-farm activities. Non-cultivators are the poorest of the rural poor; they depend on seasonal activities in farm and non-farm activities to make a living, usually informally. Non-cultivators are also the most vulnerable to shocks and stresses as they are often excluded from public services and social safety nets. Cutting across both of these groups are rural women, who suffer chronic poverty due to the social relations of gender. In the Caribbean, their location in the agricultural supply chain is mostly as vendors in local food markets and operators of cottage industries (Beckford and Campbell, 2013). Their additional role as co-workers on family farms and as active participants in fisheries is noted by Tandon (2012, p. 2) as a contrast to the "common portrayal of men as catching fish and women as sellers."

Another cross-cutting issue relates to youth. Young people in the Caribbean suffer high levels of unemployment, disproportionately higher than adults: data indicates that while the youth unemployment rate was approximately 25 percent, the adult rate was 8 percent (Lashley *et al.*, 2015). For youth not in employment, education or training (NEET), available estimates suggest rates between 14 percent (Saint Lucia) and 30 percent (Jamaica) (Hazenberg, Lashley and Denny, 2016). A number of causes for youth unemployment (and related lack of participation in the labour market) have been proposed, ranging from the state of the economy to negative experiences in previous employment (Lashley *et al.*, 2015). While many of these apply at the national level, lack of access to asset-building mechanisms, such as education, healthcare and the labour market, are particularly acute for youth in isolated rural areas. The lack of opportunities for young people make it difficult for them to gain experience and enhance their attractiveness to potential employers. Webster and Ganpat (2015, p. 36) sum up the situation: "For youth in the rural context, especially those in the agricultural sector of society, they are often left out of the equation for development and change. Young people find themselves sitting at the fringe of society looking on as others define their potential. Their lack of access to educational opportunities and limited voice in society are roadblocks to success".

It is not, however, simply non-access to asset-building mechanisms that holds young people back. A lack of attraction to agriculture is another reason they may not choose to participate in the rural labour market: the average age of farmers in the Caribbean is fifty years. As noted by Webster and Ganpat (2015, p. 34), youth are deterred because of "[t]he drudgery, hard work and little financial rewards associated with agriculture," which has consequences for the replacement rate of farmers. The negative image of agriculture will need to be addressed if more young people are to be attracted to the sector in the coming years. Lack of access to land to farm and a preference for urban centres are other reasons proposed for a lack of youth participation in agriculture.

Overall, the consequences of youth's lack of participation in the labour market, as described by Lashley *et al.* (2015), are manifested at the level of the individual, where negative income-gaining (crime, transactional sex, gambling), and social behaviours (unsafe sexual practices, drug use and violence) arise due to "social exclusion, low self-esteem, hopelessness and ambivalence (p xvi.)." Unemployment and lack of participation in the labour market also have consequences for the households in which the young people live, due to the higher burden for support

required by others in the household and degradation of household assets to support non-earners in the household, with aggregated consequences at the national level.

In summary: "[t]he causes of rural poverty are complex and multidimensional. They involve, among other things, culture, climate, gender, markets, and public policy" (Khan, 2001, p. 1). The "face of poverty", in the Caribbean and elsewhere, is not simply about female-headed households, low levels of educational qualifications and unemployment. These are merely correlates for people living in poverty. Not all female-headed households are poor, nor are people with only limited education. If the aim is to alleviate poverty in the region, it is important to understand the experiences of vulnerable and poor people and the multiple risk factors to which they are exposed. While a simple quantitative approach can identify correlation and probabilities of living in or being vulnerable to poverty, it is only through a qualitative approach that the complex dynamics of the various risk factors and the ways in which they interact, can be understood.

3. Framework of analysis

Key messages

- This study uses an assets-based framework to define and analyse poverty and inequality in agriculture- and fishery-dependent communities in Barbados and Grenada.
- The project was concerned with four broad concepts: poverty and inequality, food security, agriculture and the environment. The analysis focused on how these concepts interact to affect the agricultural sector and livelihoods in general.
- Agriculture is less prevalent in Barbados than in Grenada: only 18 percent of households engage in farming and 2 percent in fishing in Barbados, while in Grenada, 45 percent engage in farming and 10 percent in fishing.

The project considered four broad concepts: poverty and inequality, food security, agriculture,[3] and the environment. It sought to identify and understand the direct effects of environmental factors on poverty and inequality in agricultural communities and the indirect effects of such factors on food security and the agricultural value chain. The role of food insecurity in causing or exacerbating poverty and inequality was also analysed. The relationships for analysis are shown in **Figure 1**.

An analysis of these direct and indirect relationships allows us to identify the processes and relationships that cause and reinforce poverty and inequality, and suggests potential policy interventions to address gaps and bottlenecks in the access to asset-building mechanisms. The following sections provide an overview of the main concepts and definitions used for the project.

3.1 POVERTY AND INEQUALITY: ASSETS AND ASSET-BUILDING MECHANISMS

The traditional analysis of poverty uses quantitative measures to divide individuals or households into various groups, based on an estimated poverty line. The poverty line defines the minimum cost of food and non-food items required to live. In the Caribbean, Country Poverty Assessments (CPAs) allocate individuals/households to four main groups: indigent (people existing below the food-only poverty line); poor (people below the food and non-food poverty line); vulnerable (people between 100 percent and 125 percent of the poverty line); and non-poor (people above the poverty line). However, it is accepted that such an approach, based on cross-sectional data, does not provide a complete understanding of poverty. While still mostly quantitative, recent attempts to assess poverty have adopted a multidimensional approach. The Global Multidimensional Poverty Index (Global MPI) measures poverty across three

[3] The term agriculture as used here broadly refers to crop and animal production, hunting and related service activities, forestry and logging, and fishing and aquaculture.

dimensions: health, education and living standards (OPHI, 2019). The Global MPI determines that a person is multidimensionally poor if they are "deprived" in at least one-third of the indicators used to assess the three dimensions.

While such advances in measurement are useful, the quantitative measures of poverty merely identify the manifestation of poverty and inequality, rather than the underlying causes and wider context of living in poverty. With these shortcomings in mind, this project conceptualizes poverty and inequality using the social exclusion framework developed by Bailey, Lashley and Barrow (2019). As presented earlier in **Figure 2**, the framework relates the causes of social exclusion at the individual level to individual characteristics, asset stocks and access to asset-building mechanisms. Access to asset-building mechanisms is determined by factors such as institutions and socio-economic conditions. Unlike quantitative measures of poverty and inequality, the assets referred to here not only relate to physical, financial and human capital, but also to social and environmental assets.

Table 2 indicates the main components of the framework, such as age and gender, asset stocks, intervening (i.e. external) factors, the mechanisms that determine an individual's ability to build their asset stocks, including opportunities for trade and employment, access to healthcare and education, and network systems that promote social inclusion. The level of social exclusion, which is discussed here in relation to poverty and inequality, determines whether an individual can grow their stock of assets or whether they become degraded over time.

While all elements of the framework have a role to play in the current research, some are of greater priority regarding poverty and inequality in agricultural-dependent communities. These include environmental asset stocks, environmental conditions and asset-building mechanisms related to trade, labour markets, natural ecosystems and infrastructural systems, which can be constrained due to location in isolated rural areas.

Khan (2001) lists the assets that the rural poor may possess or have access to as including:[4]

- **physical assets:** natural capital (land, water), machines, buildings, animals, and food stocks;
- **financial assets:** personal valuables, insurance, savings, and credit;
- **human assets:** ability and skills and access to labour (household and community workers);
- **infrastructural assets:** access to transport, communications, education, healthcare, storage facilities, potable water and sanitation; and
- **institutional assets:** legal rights and freedoms, and participation in decision-making.

However, he notes that "most rural people, particularly women and those in landless households, are greatly handicapped by inadequate assets and the low and volatile returns on them' (para. 15). They are exposed to significant risks, including climate change, health, market fluctuations and the public policy environment, and detrimental changes therein.

Rural Multidimensional Poverty Index (R-MPI)

In addition to taking an asset-based approach to poverty and inequality, this research is also informed by the R-MPI. In addition to the three dimensions used by the Global MPI (health, education and living standards), the R-MPI also includes rural livelihoods and resources, and risk (FAO, 2020). The five dimensions and related 17 indicators used by the R-MPI (and with reference to the related component of the social exclusion framework above) are as follows:

1. Nutrition and health
   - 1.1. child undernourishment (human capital – health)
2. Education
   - 2.1. years of schooling (human capital – education)

[4] While the total list of assets are relevant to poor people in both rural and urban areas, the physical assets listed are particularly relevant to people in rural areas.

2.2. school attendance (educational systems)

3. Living standard
   - 3.1. cooking fuel (physical assets)
   - 3.2. improved sanitation (infrastructural systems)
   - 3.3. drinking water (infrastructural systems)
   - 3.4. electricity (infrastructural systems)
   - 3.5. housing (physical assets)
   - 3.6. assets (physical assets)
4. Rural livelihood and resources
   - 4.1. Rural livelihoods and resources (labour markets; physical assets)
   - 4.2. Low pay rate (labour markets)
   - 4.3. Social protection (welfare systems)
   - 4.4. Child employment (labour markets)
   - 4.5. Extension services (institutions,

INDIVIDUAL	
Latent characteristics	**Asset stocks**
Age Gender Marital status Sexual orientation Ethnicity/race/nationality	Physical Human Social Environmental
INTERVENING FACTORS	
Politics Institutions, legislation and regulations Macroeconomic conditions Social and cultural conditions and values Environmental conditions (natural and man-made)	
ASSET-BUILDING MECHANISMS	
Trade in goods and services Labour markets Health systems Educational systems Welfare systems Social networks Political networks Natural ecosystems Infrastructural systems	
SOCIAL INCLUSION	
Social participation Cultural/normative integration Access to state/non-state provisions Material endowments	

Table 2. Components of the framework of social exclusion

Source: Bailey, C., Lashley, J. & Barrow, C. 2019. Rethinking poverty: assets, social exclusion, resilience and human rights in Barbados. Kingston, UWI Press.

legislation and regulations)

5. Risk
   - 5.1. Credit denial (physical assets)
   - 5.2. Risk exposure (environmental conditions)
   - 5.3. Exposure to climate shocks (environmental conditions; natural ecosystems)

The R-MPI helped to determine which data gathering instruments were used for the project and how the analysis was structured.

3.2. FOOD SECURITY

FAO identifies the four dimensions of food security as:

1. physical availability of food;
2. economic and physical access to food;
3. food utilization; and
4. stability of availability, access and utilization. (FAO, 2008)

The approach recognizes that while food resources may be available, both access and use are also required. For there to be overall food security, these dimensions must exist simultaneously and must be stable. The four dimensions were probed with respect to availability,[5] ability to access, and actual use. Issues affecting the stability of each of these dimensions were also investigated.

3.3 THE AGRICULTURAL SECTOR

Lewis (1954) considered the agricultural or traditional sector as the source of labour that would drive development through the expansion of the industrial or modern sector. Characterized by low levels of productivity and low wages, labour in the traditional sector would transition to the modern sector with its higher wages; industrial development was facilitated by the unlimited supplies of labour provided by the agricultural sector. The characterization of the agricultural sector as a low-wage and low productivity sector is borne out by evidence that suggests a strong link between poverty and dependence on agriculture for livelihoods in the Caribbean (CDB, 2016).

While Odusola (2017) speaks of this concept of agriculture as a source of labour for the industrial sector, he adopts a wider view of the role of agriculture in development:

Agriculture plays a multidimensional role in the development process, which includes eliciting economic growth, generating employment opportunities, contributing to value chains, reducing poverty, lowering income disparities, ensuring food security, delivering environmental services and providing foreign exchange earnings, among others (Odusola 2017, p. 77).

Such a view contrasts with the way the sector has been somewhat isolated from the modern economy in the Caribbean in recent times. Historically, the region depended heavily on primary agricultural production – sugar and bananas most notably. However, the current contribution of agriculture to GDP for the region is approximately 6 percent, ranging from 1 percent in the Bahamas to 19 percent in Haiti (see **Table 3**).

[5] Of particular interest here is an assessment of trends towards specialization in domestic agricultural production and the constraint this places on the supply of a variety of foods for consumption. For example, to encourage foreign earnings, a focus on a specific crop may divert lands and resources from cultivating domestic produce, which leads to greater need for imports.

Country name	Agriculture contribution to GDP (%)
Antigua and Barbuda	1.73
Bahamas	0.89
Barbados	1.50
Belize	9.56
Dominica	11.10
Grenada	5.19
Guyana	12.73
Haiti	18.86
Dominican Republic	5.15
Jamaica	6.60
Saint Kitts and Nevis Islands	1.15
Saint Lucia	2.13
Saint Vincent and the Grenadines	7.24
Suriname	9.00
Trinidad and Tobago	1.03
Average	6.26

Table 3. Agriculture in the Caribbean – contribution to gross domestic product (GDP) in 2018

Source: World Bank. 2020. World Development Indicators. Washington, DC. Cited 14 December 2020 https://databank.worldbank.org/reports.aspx?source=world-development-indicators# *and Central Bank of Barbados. 2020. Research and Publications: Statistics. Cited 10 December 2020.* www.centralbank.org.bb/research-publications/statistics/statistics-news/article/9679/gross-domestic-product-gdp-2018 for Barbados

The International Standard Industrial Classification of All Economic Activities (ISIC)'s definition of agriculture, forestry and the fishing sector includes the following subsectors: crop and animal production, hunting, and related service activities; forestry and logging; and fishing and aquaculture (United Nations, 2008). For the purpose of this study, agriculture also includes the supply chains related to these subsectors. As such, agriculture is not just a livelihood source for farmers and farmworkers, but also for their suppliers, customers, families and communities. It is for this reason that the studies refers to agriculture-dependent communities rather than agricultural communities.

As with all livelihood sources, agriculture is exposed to risks. As noted by Bhagat and Dhar (2011), the agriculture supply chain is different from other supply chains because of the importance of food quality, food safety and the weather, as well as the perishability and the general inelasticity of demand (irresponsiveness of demand to price) for agricultural products. These characteristics expose the individuals in the chain (input suppliers, farmers, farm workers, traders, processors and consumers) and their dependents to a number of livelihoods threats. At a macro level, the threats can be analysed utilising a PESTLE framework; political, economic, social, technological, legal and environmental. These factors can be used to assess threats to agriculture and the way they contribute to poverty and inequality. Particular attention is paid to environmental factors, as discussed below.

3.4 ENVIRONMENT

The environment aspect of a PESTLE framework usually relates to weather and climate and their variability over time, i.e. climate change. Issues related to land quality, pollution and the transportation infrastructure were also considered important for this study. As indicated in Figure 1, we were particularly concerned with the direct and indirect effects the environment has on the agricultural sector, food security, and poverty and inequality. Also of interest were actions taken with respect to mitigation and adaptation in dealing with these effects.

Projections indicate that the Caribbean may experience an increase of temperature of between 0.9 ˚C and 1.3 ˚C by 2050. This increase, coupled with increased hurricane intensity, rising sea levels and incidence of storm surge, will have significant effects on livelihoods that depend on agriculture. Direct effects on agriculture are likely to include crop loss/failure and loss of land and water resources, while the direct effect on fisheries will include the degradation and loss of habitats, loss of biodiversity and changes in sea life migration patterns (USAID, 2018).

These environmental risks and their effects are both idiosyncratic and covariate. However, the main concern for our study are the covariate risks presented by climate change in the region, with increasing instances of severe weather, and susceptibility to drought, floods and hurricanes, which will increase in frequency and severity (Lashley, 2012). Lashley (2013) found that the main losses experienced from flooding, high winds and drought in the Caribbean are house damage, crop/livestock loss, loss of customers and loss of employment. Approximately 42 percent of a sample of 1 059 persons had experienced some loss from an extreme weather event.

3.5 POVERTY IN TARGET COUNTRIES

With respect to poverty and inequality, recent data is limited for Grenada. In 2008, the poverty rate was 37.7 percent, the indigence rate was 2.4 percent and an additional 15 percent of the population was considered vulnerable to poverty. The highest level of poverty was seen in the country's northernmost, mostly rural parish of Saint Patrick, with 57 percent of individuals living in poverty. With the advent of the global financial crisis (and over the decade since), an increase in these rates was expected; however, recent economic growth, improved economic conditions and declines in the unemployment rate in the country (World Bank, 2018) may have dampened this trend. Based on the 2008 poverty study (Caribbean Development Bank, 2009), unemployment among poor people was 35 percent, as compared 25 percent for the entire country. Unemployment was particularly acute for young men and young people (eighteen to twenty-four years) accounted for 42 percent of the unemployed. In general, the poor had larger households and their homes were more likely to be built of wood, subjecting them to greater risk of loss in the event of extreme weather.

At the time of the last poverty assessment in Granada (Caribbean Development Bank, 2009), a number of high priority areas were identified as requiring policy attention, including environmental threats, particularly the rising sea level; gang violence and drugs; gender-based violence; teenage pregnancy; adult and continuing education; and urban renewal. The last point was identified as a high priority because the rural to urban migration flow had created "haphazard" settlements which were "unsightly and present a health hazard" (CDB, 2009, p. 136).

The most recent data on livelihoods in Grenada comes from a CARICOM Secretariat survey on the impact of COVID-19 on food security and livelihoods in the region (WFP and CARICOM, 2020). The survey, which was conducted in June 2020 (as a follow-up to an April 2020 survey), received 164 responses in Grenada. Given the fact that the data was collected online, it is safe to assume that the poorest and most vulnerable people were underrepresented, therefore, the data should be treated with caution. While the impact of COVID-19 was not the primary concern of our project, the survey results highlight some on the deficiencies in the social support system, which will require policy attention. The results indicate that 62 percent of respondents had lost their jobs or experienced a decline in salaries, and households were increasingly dependent on informal labour and external assistance (e.g. family, friends or the government). The three main concerns identified by respondents were unemployment, illness and ability to meet basic needs, including for food: 31 percent reported skipping meals or eating less due to lack of access to food and increased food prices. The survey also indicated that "detrimental impacts to income and food consumption were more widespread among low-income households." (WFP and CARICOM, 2020, p.2). Demonstrating the importance of agriculture to livelihoods in Grenada, 45 percent of the respondents indicated that they were engaged in farming and 10 percent in fishing; 31 percent were engaged in farming for their own consumptions, while 1 percent grew produce for sale and 13 percent for both sale and consumption.

By contrast, the equivalent survey in Barbados (WFP and CARICOM, 2020) with 1 198 responses, revealed that only 18 percent of households were engaged in farming and only 2 percent in fishing; 12 percent of households farmed for their own consumption while 1 percent grew produce for sale and 5 percent for both sale and consumption. Other results of the survey indicate that 62 percent of respondents had lost their job or experienced a decline in salaries.

In addition to data on the livelihood impacts of COVID-19, there is far more recent, extensive and detailed data on poverty and inequality available for Barbados than for Grenada. Barbados, with the assistance of the Inter-American Development Bank (IADB), conducted a survey of living conditions over the period 2016 to 2017. The main results indicate that 3.6 percent of households were indigent (food poor), with the non-food poor accounting for 13.8 percent of households (Beuermann, 2017); the overall poverty rate was 17 percent, marginally less than the 2010 estimate of 19 percent (CDB, 2016). Extreme poverty was most evident in the rural parishes of Saint Joseph and Saint John, while non-extreme poverty (the non-food poor) was most evident in the rural parishes of Saint John and Saint George and the urban parish of Saint Michael, the capital city of Bridgetown. Overall, poverty levels were highest in Saint Joseph and Saint John and lowest in Saint James and Saint Philip, as shown in **Figure 3**. Vulnerability was estimated at 11 percent, while the Gini coefficient fell to 0.32 from its 2010 level of 0.47, indicating a decrease in inequality. The highest levels of vulnerability were seen in Saint Andrew, Saint Joseph and Saint John, the latter exhibiting the highest level of vulnerability. A larger proportion of females were living in poverty, 21 percent versus 31 percent for males. 13 percent of women were vulnerable versus 10 percent of men.

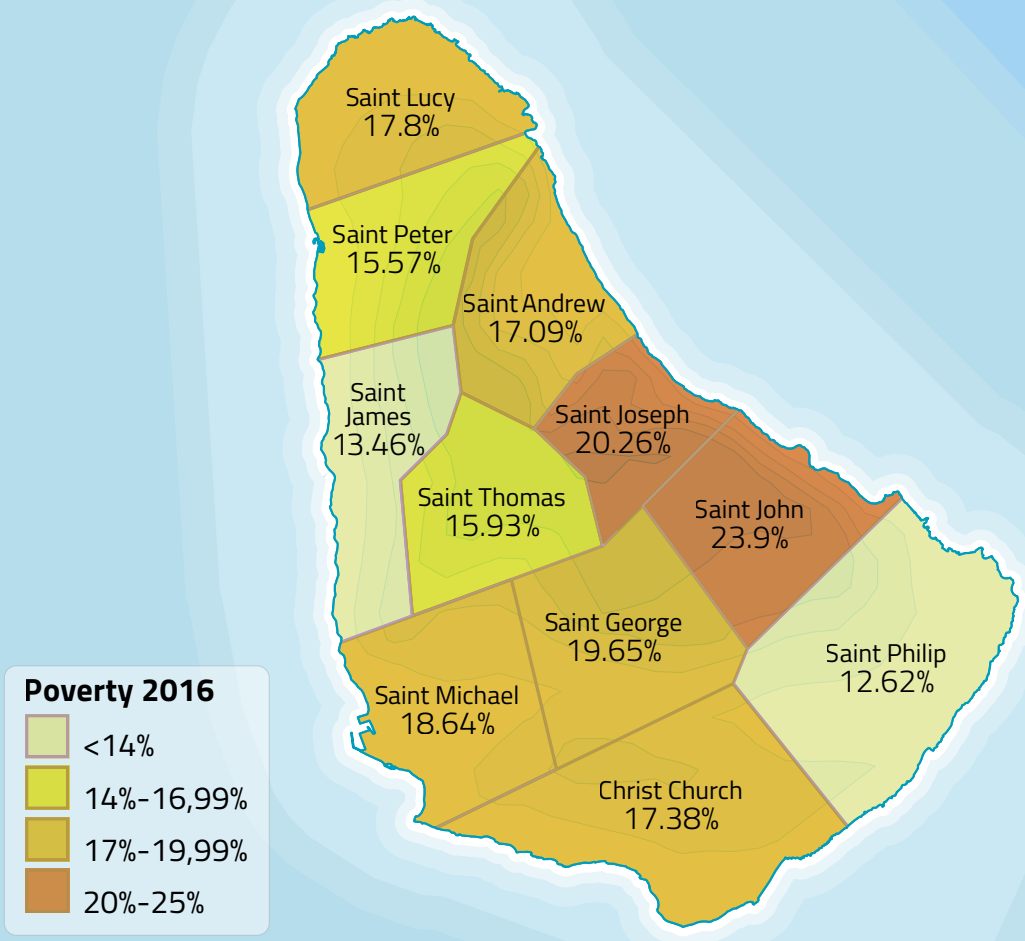

Figure 3. Barbados: overall poverty by parish, 2016

Note: Refer to the disclaimer on page ii for the names and boundaries used in this map.

Source: Beuermann, D. 2017. Main findings - Barbados survey of living conditions 2016-2017. Barbados, IDB (Inter-American Development Bank).

3.6. SUMMARY

A review of the conceptual, empirical and statistical literature on poverty in the Caribbean highlighted a number of issues concerning the linkages between food, agriculture and the environment. Poverty in the Caribbean is closely associated with unemployment and underemployment, low human capital assets and household size, while rural poverty is more severe that urban poverty. The main factors behind this differential relate to the lack of rural access to asset-building mechanisms, such as education and healthcare, labour market opportunities and social support systems, as well as the greater threat posed by climate change to natural and physical resources. Threats from trade liberalization to the structure of political support for the agricultural sector were also noted (Barker, 2012).

Rural poverty is multidimensional, due in part to the segmentation of the rural labour market between landowners, landless farmers, landless labourers and women, and an apparent aversion to agricultural labour among young people, all who experience poverty differently based on their exposure to various risk factors. These risk factors include environmental change, food insecurity and economic policy, and all exacerbate the threats to assets and access to support for rural populations, placing not just the current poor at risk of falling deeper into poverty, but also those at the margins.

The literature review revealed some knowledge gaps relevant to this project, especially as it relates to the actual experiences of poor people in agricultural-dependent communities as they cope with issues of food insecurity and climate change. The gaps were apparent with respect to the experiences of the youth.

Several areas of interest have emerged in exploring the extant literature, particularly as it relates to actual levels of risk exposure, both idiosyncratic and covariate, for the different constituent groups of the rural poor, as well as their access to resources, asset building mechanisms, and opportunities for diversification or utilization of higher value-added activities. Especially of interest is the manner in which many of these factors, as well as demographics, interact to provide differential outcomes, particularly for the youth and by gender.

The project's main research objective was to explore the linkages between poverty and inequality in agricultural-dependent communities and issues of food security, the environment and climate change. A number of sub-questions were developed, as indicated in the introduction, and these are addressed in the research results sections below.

4. Research methodology

Key messages

- Qualitative data was gathered through in-depth interviews with individuals in three communities in Grenada and three communities in Barbados, as well as through interviews with elites in each country.
- The interviewees were identified through key local informants.
- Interviews were recorded and transcribed for analysis.

The research involved two main data-gathering exercises: in-depth interviews with individuals in agriculture/fisheries dependent communities and interviews with so-called elites involved in agriculture, either at the governmental and non-governmental organizations level or in the communities themselves. Following consultations,[6] six communities were selected, three in each country. The three communities selected in Grenada were La Digue (a farming community in the parish of Saint Andrew on the eastern side of the country); La Sagesse (a farming community in the parish of Saint David in the southeast of the country); and Victoria (a fishing community in Saint Mark parish on the northwest coast of the country). In Barbados, the selected communities were Mouth Pleasant (a farming area in the parish of Saint Phillip in the east of the country); Spring Hall/Rock Hall (a farming area in the parish of Saint Lucy in the north of the country); and Six Men's (a fishing community in Saint Peter parish on the west coast of the country).

Contacts were established with key local informants in the selected areas, who identified potential interviewees.[7] We contacted the potential interviewees and received consent to participate following ethical protocols.[8] The interviews were conducted by trained examiners, accompanied by note-takers. They were electronically recorded – with the consent of the interviewee – and transcribed by the note-taker. In total, thirty community interviews and nine elite interviews were conducted in Grenada. Twenty-nine community interviews and ten elite interviews were conducted in Barbados.[9] The community data collection took place between September and November 2020 in Barbados and in October in Grenada. Interviews lasted between thirty minutes and one hour and thirty minutes, with an average of just under an hour per interview.

6 A number of elites were contacted for background information and/or interviews. These included: in Grenada – officers in the Ministry of Agriculture and senior persons in NGOs/CBOs/IDAs (GRENCODA, La Digue Cooperative, CARDI, IICA, Grenada Rural Women Producers [GRENROP], Grenada Federation of Agriculture and Fisheries Organizations [GAFO], National Democratic Congress); in Barbados – Officers in the Ministry of Agriculture and Ministry of the Blue Economy, and senior persons in NGOs/CBOs/IDAs (Barbados National Union of Fisherfolk Organizations [BARNUFO], Barbados Agricultural Society, Barbados Loan Trust Fund, District Emergency Organization, CERMES [UWI, Cave Hill]).

7 The approach to contacting interviewees in each community followed this general approach. However, there were slight differences per country. In Grenada, the lead interviewer used local contacts to identify potential interviewees that fit the general criteria, i.e. low income, agriculture/fisheries-dependent persons. In Barbados, contacts in the Ministry of Agriculture were utilised to contact potential interviewees that fit the general criteria, with the exception of the fishing community, where after initial introduction to the community, the interview team made direct contact with potential interviewees to establish their willingness to participate. Overall, selection was purposive rather than random and the poorest people were included.

8 These ethical protocols were as determined by the Internal Review Board, The University of the West Indies, Cave Hill Campus, Barbados which reviews all applied research projects to ensure that they are following ethics guidelines.

9 The team attempted for over a month to secure a final interview in the Six Men's community with no success.

5. Results: Barbados

Key messages

- Both farmers and fisherfolk are very poorly educated. Many of the interviewed farmers attended secondary school but very few had received certification. The most people interviewed in Six Men's Bay had only graduated from primary school with little evidence of certification beyond that.
- Access to social assets is limited for both farmers and fisherfolk, with little evidence of leisure activities. Farmers mostly accessed social assets through rest time at home while fisherfolk engaged in some socializing in common community areas.
- Access to financial assets differs between the two groups. Farmers were more likely to have a steady income, while the income for the fisherfolk was more sporadic.
- Both groups must implement a range of coping strategies to improve their lives or even to survive, given their limited access to formal asset-building mechanisms.
- The lives of people who rely on farming and fishing for their livelihoods are precarious. Specifically, scarcity, doing without and being unable to afford nutritious or desirable food one desires or finds nutritious are not unusual experiences for some respondents.

5.1 THE INSTITUTIONAL, POLICY AND SUPPORT ENVIRONMENTS

The main agriculture institution in Barbados is the Ministry of Agriculture and Food Security (MAFS). The budget allocation for the Ministry in 2019/20 was USD 33 million. This was approximately USD 115 per capita, while the equivalent amount for Grenada is 2020 was USD 60 per capita.

Two themes are prominent in agricultural projects and programmes affecting rural Barbadians: climate change and agricultural skills training. Agricultural organizations, such as the Caribbean Agricultural Research and Development Institute (CARDI), the Inter-American Institute for Cooperation on Agriculture (IICA), the FAO and the MAFS, work to improve food security and mitigate climate change through training, crop diversification and the promotion of climate-resilient crops, like sweet potato, cassava and its by-products. CARDI also has projects aimed at food security, such as the fish sileage project, where fish carcasses are promoted as an alternative livestock feed. During the COVID-19 pandemic, CARDI was an information hub to assist with planning around food security and helped drive the agenda of early warning systems on climate variability for farmers in the region.

Through MAFS, the Barbados Government reaches rural communities with programmes such as the Farmers' Empowerment and Enfranchisement Drive (FEED), which assists people to establish farming systems. The Ministry has used their climate change division to deliver adaptation techniques (e.g. greenhouses, sensors, humidifiers) and mitigation techniques (e.g. methods to reduce the levels of carbon dioxide and temperature) to farmers. They have provided irrigation services throughout the island and introduced a land leasing programme to budding farmers.

The Caribbean Policy and Development Center (CPDC) and the Inter-American Institute of Cooperation on Agriculture (IICA) engage women and young persons

by sharing knowledge sharing and climate-smart farming practices. Statutory bodies like the Rural Development Commission (RDC) have provided funding to rural farmers via three different avenues: the Rural Enterprise Fund (finance to small rural farmers), the Livestock Development Fund (finance to livestock farmers) and the Fruit Orchard Development Fund (finance to fruit orchard farmers). The Agricultural Development Fund gives subsidized funding to qualified farmers. NGOs like the Barbados Agricultural Society (BAS) advocates for the interest of local farmers, supports agricultural policies to diversity crop (climate-resilient) production and forges partnerships to improve the agrotourism industry.

FAO has worked with other implementing agencies in Barbados to introduce aquaponics training, youth entrepreneurship involvement in agriculture, market access enhancement for small producers, improving the competitiveness of cassava and other climate-resilient crops, and adaptation of early warning systems, among others.

To increase food security and agricultural production, the government has offered incentives to registered cooperatives, however, there are few active agricultural cooperatives in the country.

The environmental and climate change programmes in Barbados are somewhat general in nature, focusing on increasing renewable energy across sectors rather than on increasing access to basic services like water and irrigation in rural communities.

Barbados does not have many cash transfer programmes for vulnerable people. Recently, due to the COVID-19 pandemic, the government launched an "Adopt-a-household" initiative, which mainly supports people in the tourism sector and single parent households. The most robust food security initiatives in Barbados include the land leasing programme and the FEED initiative.

5.2 COMMUNITY DESCRIPTIONS

Background

The Mount Pleasant and Spring Hall/Rock Hall communities are close by farms that are leased and managed by the Barbados Agricultural Management Co. Ltd. (BAMC), a wholly owned subsidiary of the Barbados Agricultural Credit Trust Ltd. (BACT), of which the Government of Barbados is the sole shareholder. Since its establishment in June 1993, the BAMC has assisted plantations to service their debts and maintain sugar cultivation and crop production. In total the BAMC leases and manages forty-five plantations with a cumulative acreage of 8 950 acres. The three farms comprise both plantation lands[10] and small individual farming units, some of which are no longer in debt to the government but maintain the management arrangement with the company

Mount Pleasant

Mount Pleasant is a community in the south of Barbados, and the surrounding area consists of five plantations with a geography spanning the parishes of Saint Phillip and Saint John. With a total acreage of 889.50, the plantations – Vineyard (262.50 acres), Guinea (166.50 acres), Moncrieffe (134.00 acres), Mount Pleasant (231.25 acres) and Oughterson (95.25 acres) – produce both sugar cane and non-sugar cane crops, specifically cassava, pigeon peas, sweet potatoes, crop yams, sweet yams and eddoes. Harvested crops are mainly sold to hawkers who visit the plantations to buy produce and through contracts with local supermarkets. Over the past ten years, business with supermarkets and popular grocers has suffered or ceased as a result of budgetary constraints affecting the ability of farmers to procure necessary inputs like fertilizer, chemical sprays and equipment, effectively hampering production.

The farm at Mount Pleasant utilised for the current study currently employs sixteen workers – ten males and six females – who reside in the surrounding rural community. The female workers' tasks include

[10] Plantation lands are large areas usually dedicated to single cash-crop production.

planting, weeding and dropping sugar-cane cuttings. The male workers perform these tasks as well, but their work also includes spraying crops and harvesting sugar cane using heavy machinery. The Mount Pleasant Farm management team maintains good relations with its neighbours and recognizes the importance of close community connections with the farm. The geographic spread of the farm makes constant surveillance difficult and management relies on people in the surrounding districts to keep them of crop fires and larceny. In turn, the management readily shares excess produce with the community to prevent wastage.

Rock Hall/Spring Hall Farms

The Rock Hall/Spring Hall communities are in the parish of Saint Lucy in northern Barbados. The farming areas surrounding Rock Hall have a total acreage of 757. 85, consisting of five plantations: Bakers (13.50 acres), Four Hill (266 acres), Mangrove (115.10 acres), Rock Hall (189 acres) and White Hall (64.25 acres). The Spring Hall area is likewise made up of a group of smaller plantations: Crab Hill (104 acres), Hannays (158.50 acres), Spring Garden (110.25 acres), Chance Hall (45.50 acres), Pickerings (84.75 acres) and Spring Hall (210.50 acres), collectively occupying 713.50 acres of farm land. The crops grown include sugar cane, sweet potatoes, cassava, pumpkin, pigeon peas, cotton, peanuts and yam. Together, the two main sites employ thirty-nine agricultural workers – twenty persons at Rock Hall and nineteen at Spring Hall – who mainly commute from the surrounding community. Produce is sold mostly to hawkers and small vendors.

Six Men's Bay

Nestled in the northwest coastline of the island, the area known as Six Men's Bay is comprised of Six Men's Village/Tenantry, Six Men's Main Road and Six Men's Development. Land displacement due to coastal erosion transformed the layout of the community, pushing the geographic boundaries of the fishing village inland. This problem became more acute during periods of high tide and extreme weather events when low-lying houses close to the coast were inundated with seawater – an issue that persists.

Several factors have changed the social features and economic structure of the area over the last thirty years. Coastal development projects for the construction of luxury apartments and marinas (Port Saint Charles and Port Ferdinand) and large hotels (Almond Beach Village) amplified challenges with erosion, compromising the health of the reefs close to the shoreline and limiting fishing hauls. The physical infrastructure needed to facilitate the offloading or storage of larger catches of fish from deep sea fishing trips is underdeveloped compared to the more modern fishing complexes located in Bridgetown or further south in Oistins. The seasonal influx of Sargassum seaweed and reduced catches of flying fish severely diminished the levels of fish harvest and has had a direct socio-economic impact on boat owners, boat captains, fishers, fish vendors, boners and scalers. Consequently, the number of individuals directly employed in fisheries in Six Men's Bay has dramatically reduced over the years. Many persons who engage in fishing in the area come from the nearby communities of Mile & A Quarter and the nearby town of Speightstown and the village of Half Moon Fort, the community adjacent to the north.

Fishing and related activities are not the primary source of earnings and employment for most people, but they have become a way to supplement other income sources. As the livelihoods of fisherfolk waned, they moved into various trades, becoming artisans, carpenters and shopkeepers. As a result, fishing practices have switched from day boat fishing to coral reef harvesting using different methods and equipment (fish pots/cages, brimming, spearfishing and seine haul fishing with nets) to catch jacks, brims, lobster, reef/pot fish, sea cat and barracuda in the shallower waters closer to shore. The fish are kept for personal household use or are sold directly to customers by hawkers and fishermen from stalls along the side of the road, a traditional practice preferred by both locals and tourists. Despite its reduced importance as an income source, fishing remains an important activity for many people in Six Men's Bay, where it continues to provide opportunities for community socialization and recreation and keeps the practice and traditions of this fishing community alive.

5.3. LIVELIHOOD CHARACTERISTICS

Working life

Farmer/farm worker interviews

The farm workers that participated in the interviews were all full-time employees of the Barbados Agricultural Development and Marketing Cooperation (BADMC). As such, there were considerable similarities across the sample in the characteristics of their farming livelihoods. Farmers at both the Spring Hall and Mount Pleasant farms were typically picked up in the morning by farm transport, so their arrival at work was not dependent on the public transportation system. Farmers do not necessarily live in the area in which the farms are located and so many are forced to begin their day as early as 4:00 a.m. to ensure that they are at work on time. One female farmer at Spring Hall explained:

> *Well, we work ...[at]... 7 [a.m.] ...so, I does get up sometimes 4 [a.m.]. Sometimes I jump up at 5 [a.m.] and have to hurry. We leave home and we go at the bus stop and wait for the person that comes to pick us up.*

Farmers work from 7 a.m. until 2.00 or 2.30 a.m. with one short mid-morning break and a half-hour lunch break. At the end of the workday farmers are taken back home. A twenty-nine year old male farmer at Spring Hall farm described his day:

> *As I land, I does weed, clear beds, mow de beds. Break at 9 a.m., take a little 5 minutes. There ain't nowhere to sit down for we men. So, you drink little water and back to work till 12 [noon]. Half-hour for lunch then back to work till about 2.30 [p.m.] the latest. Then home.*

A fifty-six-year old Mount Pleasant male described similar circumstances:

> *I get to work about 6 [a.m.] and start work around 7 [a.m.]. I have lunch around 11[a.m.]. Break is mostly around 9 o'clock but when we cutting cane we don't -- we get break anytime. We does finish work at 2 [p.m.] and somebody picks us up and takes us back home.*

There appears to be very little specialization of responsibilities among the farm workers. Most tasks were carried out by all workers except for tractor driving which requires a specific skill and a license. There is very little evidence of the gendered division of roles among the workers, with both men and women performing most roles, including weeding, fertilizing, planting, harvesting and tractor driving. The lone exception to this rule is the act of "spraying" crops which respondents indicated was reserved for male farm workers.[11] One farm manager from Spring Hall explained the allocation of roles at his farm:

> *Basically, all jobs, even the hard jobs like digging out grass and cane are done by both men and women, but only men do spraying. The women weed, plant, harvest ...women do nearly everything the men do except for spraying and we even have two women here that could drive tractor.*

An interview with a member of the management staff at the BAMC confirmed the gendered nature of spraying at the farms. The interview revealed a practice whereby women take on "traditional" roles such as weeding and planting, while men engage in those but also other activities such as spraying. The belief in the BAMC is that health and safety concerns dictate that women should not be involved in spraying crops. However, it is important to note that farming within the BADMC has become dominated by female farmers. The BAMC interview revealed that the organization has had difficulties in attracting as much male labour as it once did. Similarly, it has been harder to attract younger applicants. The BAMC now has an average worker age of fifty years old.

[11] Interviews also revealed that farmers can be exempted from spraying based on age as well as disqualifying characteristics such as breathing or skin conditions.

The farm workers expressed some dissatisfaction about the way they were treated by farm management particularly given their low wages. One female farmer at Spring Hall felt that the farmers were treated as less than human, with little room for them to communicate their concerns without fear of sanction:

> *You gotta be going going …they could sit down but you can't sit down …I don't like it. They… don't treat you good. People always complaining… but if you complain too much the workers get send home.*

Similarly, one male farmer at Mount Pleasant lamented:

> *The boss does be real miserable …and he don't treat we right. He does be on we real tight. It seems like the crew before us didn't do what they were supposed to do. Get slack and do foolishness. So, he is very hard on us now.*

Fishing community interviews

The life of individuals involved in fishing in the community of Six Men's Bay is vastly dissimilar to that described by farm workers. Unlike farming (with one exception), fishing contributes to their overall livelihoods but it is generally a part-time activity used primarily to supplement the income received from other sources. These are part-time artisanal fishermen, who operate any significant technology or capital expenditure. They fish relatively close to shore using methods and simple instruments such as harpoons, pots, cast nets, rod and tackle and small fishing boats. Their catch is generally purchased by people in Six Men's Bay or neighbouring communities.[12] One male respondent explained that his main source of income was taxi driving, but to make extra income, he uses a friend's boat twice a week to do some fishing around the nearby reef:

> *Yeah and I mostly fish like pots with traps, so I get a guy to build some traps. We set them out to sea and give it a couple days, like four or five days and then you go back and then you haul, and then determine what you catch … you bring [to] shore to sell.*

Another male respondent described himself as a self-employed carpenter who does fishing as a "side job". He explained he begins his day 5 a.m. every morning and works on various jobs all over the island. He fishes mostly in the evenings after work and, on rare occasions, early in the morning if his carpentry job allows it:

> *…if I know [I] plan to go fishing in the evening, I leave work accordingly to get home for about 4 [p.m.] or 4.30 [p.m.] the latest. I usually go fishing for 5 [p.m.] so I will get home for 4 [p.m.], cool off little bit, take a shower, get my lines or what not together, go catch some bait and then go fishing with [my] friend's boat.*

Fishing was the only source of income for some respondents, but rather than being a steady income-generating activity, it provided only sporadic reprieve from otherwise chronic deprivation. One seventy-three-year-old respondent explained that he fished for several years while working as a carpenter. Now that he is retired, fishing has become his main source of income, despite only doing it a few times per week:

> *I start off as a carpenter …then I worked in construction for 15 years and I was fishing in between for 19 years, and I am 73 now and still fishing. A lady owns the boat I use but she trusts me to take it out. Most of the time the same guys go out with me or I go out by myself. Saturday I does go and buy my vegetables. I get up round 3 a.m. and I leave de house 4.30–5.00 a.m. Then I go fishing. Then I lime,[13] go back home about 9 a.m. and then come back about 2 [p.m.] and then leave bout 7-8 [p.m.] and go long home.*

[12] The fishermen in Six-Men's Bay primarily catch flying fish.

[13] "Lime" is a colloquial Barbadian term used to refer to informal socializing.

For this group of respondents, the "liming" described above plays a significant role in their daily lives. The COVID-19 pandemic seriously limited employment opportunities for many people, who were reduced to spending their time in activities such as drinking, cards, or dominoes. One male respondent lost his job in the tourism sector and now goes fishing a few times a week to generate some income. When he is not fishing, he can be found at the community bar liming with friends:

> *I work in tourism but since tourism shut I does do a little fishing in between. I don't do it every day. Basically, it depends on if I make up my mind to go fishing. Sometimes I would go evenings like now but right now the sea is rough... Normally I would do it at evening time just for like two hours, two or three hours and then come back in. When I'm not fishing I'm here playing cards or roasting a breadfruit [or] something.*

One male respondent in his thirties was an exception to the small-scale fishing described above. He pronounced himself a commercial fisherman subsisting primarily on the capture of flying fish and some dolphin. His fishing activities involved going out on a large boat to considerable depths for a week or two at a time. For him, fishing was a full-time occupation:

> *Right now we use my cousin's boat. It's usually around three of us. We get [up] at 4 o'clock in the morning and start work and then at midnight we finish. Sometimes you go for like a week, or 16 days but [it] depends on how fast the fish come down, we take them up and go home and if sometimes they come slow we have to wait a long time for it.*

Fishing in Six Men's Bay appears to be a highly gendered activity since attempts to find women who are directly involved proved unsuccessful. Women respondents work as vendors, cooks and bar staff in the various stalls and bars that line the Six Men's Bay main road. These businesses are patronized by the fishermen living in Six Men's Bay as well as by people who come to the community to buy fish and so women's livelihoods are indirectly impacted by the fishing in the community. One female respondent situated her vending stall close to the community liming shed in which many of the fishermen drank and played cards when they were not out fishing. She has made her living selling food and household products six days a week for the past three years:

> *I sell produce ...sweets, dry goods, ketchup, milk, corned beef, hot dogs, flour, rice, tinned things. Things like that. You can get cleaning stuff here too. A lot of people from the neighbourhood buy from me. A lot of the guys that fish. And people passing buy. They stop and buy too.*

A female respondent works as a server in a restaurant near the community liming shed. She lives in Saint Lucy but travels to Six Men's Bay three days a week to work at the restaurant. She reported that she stays in bed until 3.00 p.m. when she gets ready to take the short drive from Saint Lucy to Six Men's Bay to begin work. At 12.00 a.m. she leaves to go back home. Although she only works three days a week, this job was her only source of income.

Another female respondent used to work along the fishing value chain, but due to the sharp reduction in the presence of flying fish in the waters, she was no longer able to make a living in the industry. She now works as a domestic helper:

> *Back in the day I used to scale and bone fish. Sometimes we had 300 – 400 – 500 fish and you go through the night. This yard full with bucket ...all the children would help scale and ...[bone]... fish to sell. There ain't no fish to work with now. You can get a little bit here and there, but no money in that now.*

The reduction in flying fish was a recurring theme in the interviews with both male and female respondents. Most respondents decline in availability to have begun about five or six years ago. This reduction has considerably affected the livelihoods of men and women in the community, both for fisherfolk and people across the value chain who depend on fishing for their survival.

5.4. ACCESS TO ASSETS AND ASSET-BUILDING MECHANISMS

Physical and environmental assets

Farmer/farm worker interviews

All of the farm workers interviewed reside in low-income communities; most have lived in poor conditions for most or all of their lives. Nevertheless, the respondents expressed general satisfaction with their living conditions and were reluctant to describe themselves as poor. They appreciate the familiarity and comfort of their communities and their relationships with community members.

There was little evidence of overcrowding among the respondents. Most reported living in wooden structures with a number of rooms. One female respondent, who works at the Mount Pleasant Farm, lives with her husband in a two-bedroom house. A male farmer from Spring Hall Farm lives with his mother and brother in a three-bedroom house. A female Spring Hall farm worker shares a two-bedroom house with her relatives; she lives in one room with her twenty-eight-year-old son, while her sister and her three children live in the second bedroom. She explained her overcrowded living situation:

> *It is not a big house. Me and my son live in one room but we separate it. He got he own part and I got my own part. It is basically one family per room, so me and my son is one family and my sister and her children in the other room. We just live like that because we are family. From the time we come up we was like that.*

There is some variety in respondent's homes. One female who works at Mount Pleasant farm noted that she lives in a concrete house. Another female farmer from Mount Pleasant lives in a house that was built of both wood and concrete, as did a male farmer from Spring Hall farm. Most respondents, however, live in wooden structures, which is common among low-income residents in Barbados. All respondents had access to amenities such as running water and electricity. All reported having large appliances such as refrigerator and stove. While most respondents possess smaller items, such as a TV and microwave, some respondents reported the absence of a landline telephone. All respondents possess cellular telephones, which is not unusual in the Caribbean context, even in countries with greater poverty than Barbados. There was also the occasional report of a computer or laptop, however, most respondents access multimedia through their phones. Most have internet at home, although some access the internet through prepaid data on their phones.

Ownership of motor vehicles is rare. Most respondents use the public transport system, which is generally reliable given the reputation of Barbados for infrastructural development. Some respondents have access to private motor vehicles through relatives. One woman who works at the Mount Pleasant farm for example explained, "Yeah my son have a van and my daughter have a car ...or my sister son would drop me or anything. I could contact my nephews." Another female respondent from the Spring Hall farm said, "...Yeah my sister boy. He owns a car. He got his own vehicle and can take me places." Access to private vehicles was more commonly reported by the women interviewed, while men generally reported using public transportation when necessary. One male respondent from the Spring Hall farm reported having his own motor vehicle.

Unsurprisingly, the poverty experienced by farmers was evident in the absence of any real assets. Most men and women respondents, regardless of age, reported not owning land or property. One female farmer from the Spring Hall farm said that she and her husband own their house and land. Another male farmer at Spring Hall explained the house he lives in is on family land: "Well basically I own my own house. Basically, because we got like family land." Generally, however, respondents pay rent to the owners of the houses they occupy.

With respect to environmental assets, most respondents are satisfied with the state of their

communities. Garbage collection was generally satisfactory regardless of where the famers live. One female respondent from the Spring Hall farm reported she lives in Mile & A Quarter, where the garbage is collected regularly: "...the garbage collection comes on a Monday and Friday." Another female respondent who lives and works in the area of the Spring Hall farm said that although there used to be a problem with garbage collection in her community, it has now improved. Similarly, a male respondent from Spring Hall farm, living in Saint Peter said, "The garbage collection comes like every Tuesday, so there don't be any problem with garbage."

The level of crime in communities is also relevant to environmental conditions. One female respondent at Mount Pleasant farm indicated that although crime in her community was rare, a recent incident did cause concern. She explained:

> *Yeah there...[was]... a shooting here. I can't-I can't remember if it was the last two months or what, but they had a shooting here at the night-time when the fella got shoot twice in the head. But that is not regular.*

In most cases however, respondents expressed happiness at the absence of crime in their neighborhoods:

> *The people in the community live loving. We don't have any fighting nor no shooting or nothing so. Only if it's a stranger from another community that come and make trouble. There's no crime in the community ...everybody does live as one. Loving (female farm worker, Spring Hall).*

> *It simple and cool ...everything slow ...no real activity or nothing is...[going]...on ...just quiet. Nuff people home. When I home I inside. I ain't that body that does go outside ...no crime (male farm worker, Spring Hall).*

Neither the male nor the female farmers who were interviewed knew much about how environmental changes may affect their livelihoods. Some farmers had noticed an increase in temperature over the last few years. According to one female farmer from the Spring Hall farm, growing number of droughts has had a negative effect on the crops: She explained:

> *When outside really hot and we ain't getting the rain the things does die too. Yeah, the food and thing does die when you don't got the water; if you don't got irrigation the food does die when you don't got irrigation to give the water.*

This sentiment was echoed by a few other farmers, but generally respondents expressed little concern about how the environment may be affecting them. Flooding did not appear to be an issue and their experience with natural disasters was very limited.

Fishing community interviews

As mentioned previously, Six Men's Bay is a low-income community. Residents live in conditions of deprivation and many have done so for their entire lives. Nevertheless, the individuals interviewed in Six Men's Bay expressed general satisfaction with their living conditions.

There was no evidence of overcrowded living conditions. Most interviewees live with only one other family member with only one respondent living in a house with fewer than three rooms.[14] One male respondent reported that he lived with his wife, two grandchildren and his daughter in a house with four bedrooms. While most respondents live in wooden structures, four out of ten interviewees live in houses made of concrete.

All the respondents reported having access to amenities such as electricity and running water. As with the farm workers, all indicated the presence of large household appliances, such as a refrigerator and stove, as well as smaller items such as a TV. Most people owned a microwave as well. One female

[14] This was a male respondent living in a two-bedroom house.

respondent, when asked if she had a stove, refrigerator, microwave and computer replied: "Yeah, everything. For the children yeah. Didn't have a choice." Similarly, a male respondent answered, "Yeah, everything you would need for a home." All interviewees have a cellular telephone, and some have a computer or laptop in their home as well. One female respondent was able to purchase a tablet for her children. Like the farmers interviewed, most respondents had internet at home.

Ownership of motor vehicles was rare among those interviewed in Six Men's Bay. One male respondent is a taxi driver when not fishing, and has access to his own vehicle. Another said that he has access to a vehicle if he needs one. None of the female respondents own a vehicle, although one stated that if she needs to get around, she can ask her son who owns his own car. Generally, respondents make use of public transportation which they consider suitably reliable.

Like the farmer respondents, the men and women in Six Men's Bay generally lack real assets such as land or home ownership. One man said that he lives in a house owned by his grandparents, but they rent the land. This was echoed by another respondent who explained his own situation:

> *Well, we own the house but apparently, well 95 percent of Six Men's Bay people do not own the land. I'm not quite sure (who owns it). I raise coming up here and the land belong to a guy…*

Generally, the respondents live in rented homes.

With respect to environmental assets, there were some complaints regarding conditions in the community. Six Men's Bay is adjacent to the west coast shoreline, and over the years the erosion of the beach has meant that the roads can become easily flooded during periods of high tide or heavy rains. In addition, there were complaints of indiscriminate garbage disposal by visitors as well as residents of the community, which occasionally attracted rats. One male respondent explained:

> *Well sometimes you have people just come and pass by [to] drop stuff. Dumping. They bring stuff down here to dump. It sometimes attracts rats, but we got guys that work in the ministry that bring stuff sometimes you put down like rat poison and stuff.*

Crime did not appear to be a significant issue among interviewees. Indeed, the lack of crime in Six Men's Bay was a common source of satisfaction: "Bout here good …I live here all my life. No crime or anything (female respondent, Six Men's Bay)." According to a male respondent from Six Men's Bay conveyed, "Nobody don't worry about nothing here …no crime, no noise or nothing". Another male respondent from Six Men's Bay noted, "…a cool community man. Friendly, no crime or anything like that. No robberies or anything like that."

Like the farmers, the respondents in Six Men's Bay had little knowledge of the effect of environmental changes on their livelihoods. The influx of Sargassum seaweed over the past four or five years was identified by one fisherman as a source of difficulty. Sargassum affects the ability of fishermen to go to sea as the seaweed makes boat access difficult and can damage engines by way of blocked openings. It also can overwhelm fishing nets and other equipment. This respondent acknowledged that it "affected the fishing," although he maintained that he was not personally affected. Another fisherman suggested that the seaweed has reduced a lot of the small sea creatures that used to live close to shore.

Overwhelmingly, the men and women interviewed in Six Men's Bay lamented the dramatic reduction in flying fish over that past five or six years. Although likely due to overfishing, some respondents felt that it could be due to climate change. The reduction has had severe impacts on the community as men and women have seen an associated reduction in their income.

Summary of physical and environmental assets

The farmer interviewees have lived in poverty for most of their lives. They are, however, generally satisfied with their communities and happy with their neighbourhood relations. There was little evidence of overcrowded living conditions. Most people live in wooden structures and have access to water, electricity and a variety of household items and appliances. Vehicle ownership is rare although some people have access to private transport when needed. Very few of the farmers own any land or property. Respondents are satisfied with the state of their communities, reporting few problems with garbage collection or crime. Most respondents were not very aware of the effect of climate change on their livelihoods.

The fisherfolk interviewed in Six Men's Bay had likewise lived in conditions of poverty for most of their lives. They too expressed general satisfaction with their living conditions. There is no evidence of overcrowding. Most respondents live in wooden structures and have access to basic utilities and a range of household appliances and items. Vehicle ownership is rare. Generally, respondents use public transportation. As with the farmers, there are no real assets such as land or property, including boats. There were some complaints about the cleanliness of the community, which occasionally attracted rodents. Crime, however, was not highlighted as an issue. There was limited knowledge here as well about the effect of environmental changes on livelihood, however the influx of Sargassum and the decline in the availability of flying fish were of some concern.

Human assets

Education and health are integral to the quality of human life of individuals as well as having a significant effect on societal participation. Education has a particularly important influence on social inequality. It is widely accepted that education is the best means of upward mobility, yet poor people often lack access to the type of education most closely associated with success. Education in Barbados is provided by the government free of charge at the primary, secondary, vocational, and tertiary levels. It is thus useful to examine the factors that have caused the poor to not take advantage of educational opportunities that could help them to gain quality employment and improve their life chances?

Farmer/farm worker interviews

None of the farmer interviewees was currently enrolled in an educational or vocational institution. Although several attended secondary school, there was very little evidence that they had received certification. Only two male farmers had graduated from secondary school while none of the women had done so. The large majority of respondents had only graduated from primary school. Similarly, there were no reports of respondents having received vocational training.

Some respondents cited financial pressures and the need to assist the family as their reason for not completing secondary school. One male respondent from the Spring Hall farm stayed home to help his mother with several young siblings:

> *I would have liked to graduate high school. Yea, if I did get the opportunity. It was six of we …my mother had seven and one died. You had to get up and help de rest of the children do this and do that. Go by the standpipe and bring water to help your mother. Yea, you had to stop to help. In the morning you had to get up, catch water for she to wash. Gotta go and carry out the animals and bring them back in …had to help, help, help, help.*

Monetary pressures also prevented a female respondent from Spring Hall farm from completing secondary school: "Yeah my mother got ten children. When I entered secondary school my mother just couldn't afford to send me. So I stopped."

A lack of capacity and confidence was also mentioned by some respondents. When asked why he didn't finish school, a male respondent from the Mount Pleasant farm replied that he "just couldn't

get the work done." Another male respondent from the Spring Hall farm said, "I never did well in school so at one point just decided I would stop." A male farmer from the Spring Hall farm acted up in school: "I went to fourth form. I got into a fight at school and got expelled". After he left school, he worked as a carpenter and handyman in various jobs around the community, but never resumed his studies, which he regrets:

> *I wish I had stayed in school because I would have learnt more. A lot of things I did not learn …so I could have been in a better position. My parents were not that type of people to encourage me to stay in school.*

Some of the women interviewed mentioned childcare or pregnancy as having hindered their academic progress. A female farmer from Mount Pleasant explained that, as the eldest child, she dropped out of school to take care of her younger siblings while their mother worked:

> *After my mother had other children besides me and it was difficult. I didn't even finish school. I didn't go to secondary school. My mother didn't really encourage me to go back. As I told you the other ones that after me mean I didn't get to go because then, with she out at work I had to stay. The children were small, I was the biggest, so I had to stay at home with the small ones.*

Pregnancy as well as caring for her grandmother prevented a female respondent at Spring Hall farm from completing her studies:

> *Well, you know how it is …things was really tough with she because she had arthritis and thing. So when I get 16 I didn't really go back to school. Then I got pregnant with my son so after that I was done. I do a little cleaning of furniture…then I get onto here and then I was here until now. This is about 20 years now. I wish I had finished (school) but I couldn't do no better.*

Another female farmer from Spring Hall expressed similar sentiments:

> *But honestly, I would really like to have [furthered] my education a little bit more, but I didn't get a chance. I get the children and thing and I didn't get the chance, so I decide to work and… help myself.*

Neither the male nor the female farmers expressed any interest in further education or training at this point. The words of one male farmer from Mount Pleasant farm sum up the sentiments of most respondents: "I ain't got no time for school right now." Despite living in conditions of chronic poverty, respondents were reluctant to seek avenues to improve their education or skills, and thus increase their chances of upward mobility.

Some male farmers expressed the desire to gain further skills in the farming industry. According to one man from the Mount Pleasant farm, "I would not go back to school, but I want to learn to do the tractor. Right now the plantation is providing for that." Another man from the Spring Hall farm communicated a desire to learn to drive an excavator: "I want to learn to do certain things. I only want to learn to drive excavators and thing. That's about it." The ability to drive a tractor or excavator attracts a higher salary than working solely in the fields. None of the women expressed a desire to learn to operate heavy machinery.

Respondents described their health as good. When asked if there were any conditions that compromised their quality of life or ability to work, most answered no. It became clear as the interviews continued, however, that while younger respondents are in relatively good health, some of the older farmers suffer from physical complications that affect their daily lives. One fifty-nine-year-old woman from Spring Hall revealed that she suffers from high blood pressure although it is controlled by her medication. Nevertheless, she lamented, "It can be difficult in this heat. But when you take the medication you won't have any headache, but once you don't take it, it would throw you down." Another fifty-seven year old woman

from Mount Pleasant farm complained of arthritis in her knee as well as diabetes. She is currently on medication for the diabetes and maintains that the arthritis does not negatively affect her work. Joint pain was an issue for a female respondent from Mount Pleasant farm. She explained:

> *Sometimes my knee because I did fall on this one. Both knees give trouble but especially this one does give me the trouble, especially when the rain falling. Because I have to go to the hospital next year to get it looked at ...but I does still try to come to work.*

A fifty-nine-year-old woman from Spring Hall reported that she suffered from nose bleeds as well as a growth in her nose that makes it difficult for her to work when it is very hot. She is going through menopause, which together with the nose condition, can make work challenging. Some younger respondents also reported health issues. A twenty-two-year-old male farmer from Mount Pleasant complained of heart pains:

> *The doctor was like I eating too much greasy foods but sometimes it does still hurt me but I does cope with it. The last time I did went to the doctor and the doctor say I got some heart problem, so I had to get a 24-hour blood pressure check-up.*

The self-reported psychological well-being of the respondents was generally good. However, some are worried about their future. Many lamented the low pay they receive, against the background of a struggle to make ends meet amid persistent conditions of poverty. A sixty-three-year-old male farmer at Mount Pleasant had been farming since he was sixteen years old and knew no other form of work. He was due to retire in a year and had accumulated very little savings. He worries about what he will do after retirement with no savings and no income.

A female farmer, although troubled by sinus and thyroid problems, was significantly affected by the psychological trauma of past sexual abuse. She had been abused by the two sons and the boyfriend of her aunt and had been in and out of counseling ever since. The trauma was exacerbated by the fact that her aunt did not believe her story of abuse. She explained:

> *My childhood wasn't easy because my mother passed and I [was] raised with my aunt and honestly my aunt had some sons. You could go there and see. You can read in there without me saying it. I had to get counselling and thing for certain things. I told her certain things happened and she didn't believe me so ...It was her two sons and her boyfriend. I got a lot of counselling. I had to.*

The effects of this childhood abuse are still evident today. She explained, "I get counselling when I was an adult you know. Not when I was small, because she didn't believe me." Overall, it was noted that women were more likely to report the negative effects of poor physical or psychological health.

Barbados provides free public health care at polyclinics across the island. As a result, none of the farmers reported that healthcare was inaccessible. Indeed, for most respondents, a doctor's visit is often only a short drive or even a short walk away. The comments from two farmers at the Mount Pleasant farm reflect the experiences of most interviewees. According to the female farmer, "A doctor lives in the district ...my nephew would drive," while the male farmer offered, "The David Thompson Polyclinic is nearby ...opens 24 hours ...[you] don't have to pay."

The use of private healthcare is rare. A female respondent from the Spring Hall farm noted that she prefers to spend the money for a private doctor rather than to wait a long time to be seen at the clinic. She said that the polyclinic in her area was currently closed now but she will continue to go to a private doctor when it reopens. She continued:

> *Well, my health care is a private doctor. I don't go to the clinic. Because if I go to the clinic it's a waste of time. You would sit down there from morning to night before you see a doctor. So,*

the best body to spend your money on is you. When anything happen and you got money you go private.

A man from the Mount Pleasant farm chose to make use of private health care for the same reason. Generally, however, respondents were satisfied the public healthcare system. They appreciate the convenience and the lack of a fee attached to the polyclinics. The main criticism was the long average wait time. A man from Mount Pleasant lamented his experience:

I went down there recently to be seen and I had to leave I was waiting so long. When I went back they tell me I have to come back a next day. When I went back there were so many people I left again. I haven't gone back since.

Fishing community interviews

None of the people interviewed in Six Men's Bay was currently enrolled in an academic or vocational programme. Although several respondents in the community had attended secondary school, few had received certification. Only two male respondents had graduated from secondary school. None of the women had done so. Unlike the farmers however, there was evidence that some of the Six Men's Bay respondents had received vocational training. After leaving school, one man went to the Barbados Youth Service where he did masonry. Another man studied carpentry through the Vocational Training Board. When he finished, he went to work with a "firm" but was dissatisfied with the pay and so left.

A lack of desire and motivation were common explanations as to why the respondents did not continue their studies. When asked why he did not finish school, one man said: "I just stopped." Another man said: "I just didn't want that." Another male respondent ,who left school during fifth form, explained, "I got into a fight and decide enough is enough. It was time."

A woman cited a lack of parental support as the reason that she dropped out of school. She observed that she had envisioned herself finishing high school and doing a management degree but got no encouragement from her mother, who had several children to take care of. She said, "It didn't work out because my mother had five of us and she didn't push me forward. She didn't really encourage us in school."

Financial pressures also factored into some people's decisions to drop out of school. One male respondent said: "Yeah, it was time to come and look for money. I was tired of not having it." A female respondent explained her situation: "Financially I had to stop. I was working here (restaurant server) at the time to help out at home while I was in school. It just didn't make any sense so I stopped." Only one of the women interviewed in Six Men's Bay cited teen pregnancy as a reason for her incomplete schooling. She said that she enjoyed school and had wanted to go to secondary school but the pressures of child rearing made this difficult:

Well, I went only to primary school. Then I do classes that you could have go to in the evening. Well, I try to go to secondary school but I was not successful. Eventually I had a baby. I then had to work to support the child. That was on and off. By the time I turn around I was in my twenties.

Most interviewees expressed very little interest in gaining further skills or education to improve their situation. This was true of both male and female respondents. One man was the exception. He was a carpenter by trade, engaging in fishing part time to supplement his income. He felt that academic instruction in business management would allow him to expand his carpentry business and would provide long term financial security:

I want to go back to school, not to get better at what I do, but to gather more knowledge. What I do as in right now I'm a tradesman. So, I use my tools right, but I would go back to school now to further my knowledge so that instead of just using my tools, I would be able to manage men or people to work for me or to work under me.

This express desire for additional education represents a sharp deviation from the views of the men and women interviewed in Six Men's Bay as well as the farmers interviewed at Spring Hall and Mount Pleasant farms.

Most people interviewed in Six Men's Bay described themselves as being in good health. None of the respondents reported any psychological issues. There was evidence, however, of chronic disease among some older respondents. One fifty-six-year-old woman complained of high blood pressure and explained that she takes medication to keep it down. A sixty-six-year-old man had multiple health issues, the most serious of which was a heart problem that caused a recent heart attack:

> *I am diabetic and I does suffer with high blood pressure. I has a heart problem. They force me to get my heart look at. But I didn't getting no problems but it went into cardiac arrest. Operated on me and went into cardiac arrest.*

A younger man (thirty-five-years old) also suffered from high blood pressure, which he attributed to his prior level of alcohol consumption: "Nothing ain't wrong with me. I went to the clinic. The doctor say one thing wrong with you. My pressure little high. Because I did drinking the alcohol. I ease off. I ain't stop. But I ease off."

Like the farmers interviewed at the Mount Pleasant and Spring Hall farms, the fisherfolk in Six Men's Bay indicated their satisfaction with the free public healthcare at polyclinics. None of the men or women interviewed reported that healthcare was inaccessible to them. There was no clinic in Six Men's Bay but there was one in Speightstown, which is a relatively short drive away. A male respondent noted that even if he has no access to a vehicle, if he were to get really ill it would be okay because "the ambulance service works pretty well also."

The use of private healthcare by this group of respondents was also rare. While the men and women interviewees were generally satisfied with the public healthcare system, they complained about long waiting times. For this reason, some of the respondents preferred to pay to see a private doctor. One male respondent said that even though the cost was high, it was worth it for the comparative service provided:

> *When I get sick…I don't go to the polyclinic I would personally go to a private doctor. To avoid that waiting times I would prefer to pay and to see one more instant. It is expensive, but for the care you get I would say it's worth it.*

A female respondent shared similar sentiments:

I prefer to get a proper check-up, than to go sit at the clinic and get water down medication …Instead of the polyclinic, because sometimes you up there a whole day and then still nothing,

Summary of human assets

While many of the farmers interviewed attended secondary school, very few had received certification. Most had only graduated from primary school and none had pursued any vocational training. The reasons for not completing their formal included financial pressures as well as a lack of self-confidence. The female farmers cited childcare and pregnancy figures as reasons for not completing school. The value of continued education and training was apparently not appreciated by the farmers as none expressed a desire to pursue additional training.

Most people interviewed in Six Men's Bay had graduated from primary school with little evidence of certification beyond that. There was however evidence that some male respondents had undertaken vocational training. Reasons for not completing their education included a lack of desire and motivation, and financial pressures. One female respondent cited pregnancy. The value of further education barely appreciated, with only one male respondent expressing a desire to seek additional training.

The younger farmers appeared in good health, while older people reported some physical and psychological issues. These were more likely to be

reported by the women interviewees. Respondents have good access to health services, either through the public system or through private care, which some of the respondents prefer due to the long wait times at polyclinics.

The overall health of the fisherfolk was good. There were no reports of psychological problems. There was some evidence of chronic disease among older respondents. Access to healthcare among this group was good with all respondents indicating that they were able to access nearby services, either at polyclinics or through private care. The group also complained about the long waiting times at polyclinics, which leads some respondents to use private care instead.

Social assets

Farmer/farm worker interviews

To obtain information on access to social assets, respondents were asked what they do in their leisure time, whom they spent time with and whom they depend on for support. It was evident that the demanding nature of their work left little time for leisure activities and that most of their free time was spent recuperating. One woman from the Spring Hall farm said she does "... anything to relax. Lay down and sleep." A man from the Mount Pleasant farm explained that his free time was generally spent relaxing at home either with his girlfriend or with friends:

> *Well, when I'm not working, I'm mostly spending time with my girlfriend or if I don't spend time with her, I just be outside with the boys just relaxing or I just be home watching movies. That's basically it.*

A female farmer from Mount Pleasant also described how she spends her free time at home:

> *I love to read so I does read the newspaper or sit down and watch a little TV. People say they don't like CBC (local TV station) but I love to watch CBC because you learn a lot.*

In addition to relaxing or reading, it is common for respondents – particularly the women – to carry out various chores around the house. One woman from Mount Pleasant tends to: "...stay home and clean, I would wash, rake and whatever little thing I could do." Another woman from Spring Hall farm shared similar sentiments: "Well when I ain't working I spend my time home with a lot of housework. A lot of housework." This was typical of the women interviewed, regardless of age.

Some respondents spend their free time taking care of children or adult dependents. A woman from Mount Pleasant farm takes care of her grandchild when she is not working. Another woman from Mount Pleasant explained that she takes care of her grandchildren as well as her daughter who is pregnant: "If de children come, I will cook for them, or sometimes I will keep my grandson. My daughter she pregnant now so she needs help. I does got to be with she sometimes." A male respondent who lives with his mother and children, described similar circumstances: "I do all the cleaning, cooking. I tend to the children. My mummy don't have to do anything."

The male interviewees were more likely to spend their leisure time in activities such as sports, gambling or drinking. A man from the Mount Pleasant farm said: "When I am not working, I am playing cricket." Another man from the Spring Hall farm tries to spend his free time doing activities that are "fun". He expanded: "I does be home ...on my phone. It does do everything for me. For fun, I does go outside. I might play little cricket or cards. I might have a drink."

For most respondents, family plays an important role in their overall well-being, providing social, psychological and, in some cases, financial support. A female farmer from Spring Hall described her close relationship with her mother and sister:

> *Yeah, we live loving. Me and my sister live loving. We don't got no fights. All we live close. I'm probably closest with my mother but she doesn't live with me anymore. She gone living in her [other] daughter house.*

A man from Spring Hall farm explained his relationship with his brothers:

> *I got my little brother. He lives with my daddy in St James. And my oldest brother. If they want something [done] and I could do it, I don't even hesitate. If I need money, they will help me too.*

Respondents explained that the current economic climate, particularly against the background of COVID-19, makes it difficult to offer financial support to family members. A woman from Spring Hall farm explained that none of her family members are currently employed so they are unable to provide anything but emotional support.

Most respondents have good relationships with their neighbours but it was clear that they are reluctant to ask them for assistance, preferring to fend for themselves. A woman from Spring Hall explained:

> *Yeah, we get along but never, never, never get too close. I will never let them know more about your business than you. I don't friends up with them. I pass and I speak to them but I don't ask for nothing.*

A man from Spring Hall had a similar view: "My neighbours cool. I could shout them. I don't like begging so I wouldn't go and ask for anything." This was a common sentiment among all respondents. Close friendships outside of immediate family were rare and most respondents were cautious about forming them.

Respondents in general do not participate in social, community or political organizations nor do they have any interest in doing so. The exception is church attendance, with several of the female respondents indicating that they are significantly involved in church activities. A woman from Mount Pleasant explained that although church attendance has fallen since the onset of COVID-19, she still makes an effort to go regularly. A woman from Spring Hall explained how she managed her church attendance during the COVID-19 pandemic:

> *I does attend de Adventist. I take part in the church activities. I help out in de church. With Corona I can't go every week. You got to space out now. Two people in a bench or sometimes one. Everybody can't go [to] church every week. If I go this week, somebody could go next week. You have to limit.*

While many of the older female respondents regularly attend church, there was no evidence of church or other community involvement by any of the males interviewed.

Fishing community interviews

The interviewees in Six Men's Bay appear to have considerably more leisure time than the farmers. As previously noted, the part time nature of fishing in the community means that many men spend a large part of the day in "liming" activities such as cards, dominoes or drinking. When asked what he does when he is not fishing, one man replied: "I does drink rum." Another man said, "I just come down here and play cards." A third respondent has limited free time because of his daytime carpentry job, however when he isn't working, he spends his time "relaxing" with his friends at the community shed or "just here playing some cards." As with the farmers, it was evident that financial pressures makes "going out" too expensive and there is a preference for leisure activities close to home. One male respondent explained, "I used to go clubbing but you see now? Especially in these times. I prefer [to] just save my money."

The women who were interviewed had less free time than the men and were more inclined to spend their downtime at home. A female respondent said, "I work hard so I does rest when I home. I am the only one working steady now so I got to be careful." Another woman described what she typically does when not working in her shop:

> *Because of COVID we can't have the socials that we usually got. I watch some TV. Do some crochet, some beadwork. Not for sale. I do them for myself. But otherwise, you would find me in front my TV.*

Childcare does not figure prominently in the answers by respondents in Six Men's Bay. None of the men mentioned taking care of children in their spare time. One woman explained that she takes care of her grandson on occasion: "I take care of my grandboy. He at preschool now, but if I have him, I take care of him too." As with the farmers, family plays an important role in the lives of inhabitants of Six Men's Bay. When asked about the importance of her family to her life, one woman replied: "I all about family." Another woman described the assistance she got from her grandparents after falling into financial difficulty:

> *Right now, in this time right now my grandparents help me a lot. Because I was renting and…my daughter she went [to] school so I couldn't afford the rent…So my grandparents took me in.*

It is difficult to call on financial support is difficult given the current economic climate, but respondents appreciate the emotional support provided by family members. One male respondent described the role played by his mother in helping him stay focused:

> *My parents are very important to me. Very important though because if I, say for instance if I start to lag and thing, my mother would get on my back. She will say yeah you lagging you know, you need to go work and do this thing. So even though she can't help me financially, it's more emotional.*

Respondents in Six Men's Bay have good relationships with their neighbours. Overall, the level of community cohesion appeared to be greater than portrayed by the farmers. Both men and women described Six Men's Bay as a "tight community". A male respondent described his relationship with his neighbours:

> *Yeah, my neighbours real nice. Well, one of my neighbours does literally come down here and play cards with me, dominoes with me and we does talk you know, and he supports the biggest rival in football, so he supports Manchester United. Yeah, he teach me a lot as well. Sit and talk to me as a brother, uncle, yeah.*

Like the farmers, the respondents in Six Men's Bay are reluctant to ask for help from their neighbours. Nevertheless, there is a general feeling that they would receive help if they were to ask. One man said that his neighbours are the kind of people that he could call upon for help, but that he would not ask. When asked why, he replied "pride". The issue of pride was also cited by a female respondent:

> *…[T]hey talk too much sometimes, I would like that if I give someone something they don't speak about it. Like, I'm not going to take something from you and then you go and say I'm begging for salt. So, I rather do without and I learn my children that there, do without.*

Like the farmers, the respondents in Six Men's Bay do not participate in social, community and political organizations. The words of one male respondent reflected the general sentiment: "No. I raise up in de church but when you get to a certain age you move away from the church. And politics? I have nothing to do with that."

Summary of social assets

For the farmers, access to social assets primarily means rest time at home. Women are more involved in various chores around the home as well as childcare. Men are more likely to pursue activities such as sports, gambling or drinking. Family plays an integral role in the social life of both men and women farmers, offering social, psychological and, on rare occasions, financial assistance. The farmers are generally reluctant to ask family or friends for financial assistance. Relations with neighbours are good but there is a disinclination to ask them for help. There is virtually no participation in community or political organizations, with the exception of church for some women.

In Six Men's Bay, the men spend their leisure time in "liming" activities. The women generally prefer to engage in downtime activities at home. Family plays

an integral role in the lives of both men and women in Six Men's Bay, offering social and emotional support, with financial support a rarity given the current climate. Community relations are very good. There appears to be a tight, friendly atmosphere among community members, however like the farmers, respondents expressed a reluctance to ask neighbours for assistance, thus reducing avenues for support. Neither male nor female respondents participate in community or political organizations.

Financial assets

Farmer/farm worker interviews

All of the farmers interviewed have access to steady, income generating employment from BADMC. Male and female farmers on both the Mount Pleasant and Spring Hall farms are paid approximately BDS$ 70 a day, the standard rate offered by BADMC. There is the opportunity to earn more for tasks such as spraying,[15] but this opportunity is only made available to younger male farmers. Respondents were overwhelmingly dissatisfied with the remuneration offered for their services, although it should be noted that it exceeds the minimum wage of BDS$ 6.25 an hour. The farmers are paid every Friday and the money they earn depends on the number of days they work during the week. If they miss work or are unable to work on a particular day,[16] they are not paid for that missed time. The sentiments of one female farmer at Spring Hall farm reflects the common view:

> *And then you gotta pay all you bills out of that little bit of money. You gotta pay yuh water bill, and your light bill and your phone bill …them is de main tings because you don't want them get cut out …and then you gotta look for your bill for you to put food to eat and things expensive.*

Respondents were nearly unanimous in asserting that the money they earn is not sufficient to maintain an acceptable standard of living. One male farmer at the Spring Hall farm explained his situation:

> *This is my main source of income. Enough to take care of the family but not enough for me. Right now I ain't see a paycheque in about four weeks …the money ain't enough and I got my children to deal with and the house to deal with. So there isn't anything for me. I get paid by cheque. By time I spend it on the children and the bills it done. Nothing left over.*

This is the reality for most of the farmers interviewed. Regular payment of utility bills is a challenge. The difficulty of making ends meet was confirmed in an interview with a member of management at the BADMC, who agreed that the current salary does not offer farm workers the opportunity to make an acceptable living.

For large numbers of Caribbean men, a lack of economic opportunity and limited earning potential have severely restricted their ability to contribute meaningfully to the emotional and economic well-being of the family. This has led to a steady rise in the number of single parent female-led families in Barbados and the wider Caribbean. Against this background, it is interesting to note that while several of the women interviewees live with children and grandchildren, only two male farm workers reported living with any dependents. Indeed, none of the women interviewed lived alone, in contrast to four men who reported living by themselves. As a result, childcare obligations exacerbate the poverty of several of the women interviewed, and this is not experienced by the men.

All respondents have access to bank accounts. Most have their salaries paid directly into their bank or credit union accounts while a few prefer to be paid by cheque. Respondents understand the importance of having savings in case of emergencies and to get them through difficult times, but in reality, generating significant savings is something few

[15] According to the farmers, spraying is classified as "job work which attracts a separate fee".

[16] For example, the farmers generally cannot work if it is raining

have been able to do. When asked if he has any savings, one male farmer at the Spring Hall farm replied, "There is nothing to save. I have an account but nothing is in it." Some respondents are more successful in their effort to save money. A woman from the Mount Pleasant farm explained that every month BDS$ 50 is automatically removed from her bank account and deposited in her credit union account. Another female farm worker from the Mount Pleasant farm described her strategy: "My money does take out and go straight to the credit union. So I will take a little something out of that and put one side for anything that pop up."

The farmers who are able to save money have different views of how long those savings would last in the absence of regular income. A female respondent at the Spring Hall farm said, "It's good. When I put down my money, I don't take it up unless I have to." Another woman from the Mount Pleasant farm estimated that if she lost her job her savings would last "...about a year." Most respondents that are able to save estimated that their savings could cover them for less than a year. Although some of the farmers have borrowed money from formal institutions, many are unwilling to choose this route for fear of accumulating debt or being denied. This further reduces the access of many of the farmers to opportunities to build their financial assets.

Fishing community interviews

For many of the people interviewed in Six Men's Bay, access to a stable income is considerably more variable than for the farmers. While women's income is generally consistent, the part-time nature of fishing means that men's income is less predictable, suggesting that they may be more vulnerable to periods of economic shock or crisis.

For one man, fishing is a way to supplement his income from taxi driving. He estimated that he earns between BDS$ 4 000.00 [USD 1 981] and BDS$ 5 000.00 [USD 2 476] per month[17] from fishing. Another man, for whom commercial fishing was his full-time occupation, indicated that one sixteen-day trip out to sea earns him an average of BDS$ 15 000 [USD 7 929]. During the fishing season, which lasts from November until June, he makes about two trips per month. Most of the men that were interviewed earn far less from fishing, which represents an unreliable source of income. As a result, it was difficult for them to estimate their monthly earnings. One fishermen estimated that he earned BDS$ 800 (USD 396) per month. Another explained the unreliable nature of his income: "I go hooking. You could get a BDS$ 300 [USD 148], sometimes a BSD$ 400 [USD 198] or a BDS$ 500 [USD 247]. Or I could spend 2 days out and don't get a cent ...it is fishing."

Yet another male respondent explained that income varies from week to week depending on how many fish are caught, as well as the time of year:

> *It depends on how you catch. Yesterday I had a good catch. Well, I had a bad catch last week and I still was able to come away with about BDS$ 200 [USD 99], you know. That's not too bad....It depends really on the season. It got a lot to do with the season right, because I think the pot, the traps, the trap set in hurricane seasons and it's coming to a close about in November. So, in November now you going to get the flying fish. The flying fish should be back.*

As mentioned previously, the women interviewed in Six Men's Bay work in bars that line the main road as well as shops and stalls that cater to fishermen and local residents. While their income is more stable, their earnings are very low. One woman reported than she earns approximately BDS$ 600.00 (USD 397) per month while another woman explained that she doesn't earn much, but what she does earn from her stall goes directly to her daughter-in-law. She explained:

> *Well, this is so slow it isn't really giving me like a wage. It is because it is my daughter in law's own (the food stall) and she don't want to close it down. So, when things pick up and she give*

[17] Note that the minimum wage in Barbados at the time of the research was BDS$ 6.25 per hour (USD 3.10).

me a little something I take it because she and her husband they look after my little bills …if she can pay me she does.

Unlike the male farm workers, none of the men interviewed in Six Men's Bay live alone. They live with children, grandchildren or mothers and, in some cases, are the only source of income for the household. Similarly, none of the women live alone, however they generally report fewer dependents than the men. Only one woman reported living with young children, and she lamented that the money she earns is not sufficient to meet her expenses because most goes towards sending her children to school. Only one woman reported living with a partner. Despite the low earnings reported by some of the fisherfolk, they were reluctant to admit that meeting monthly expenses may be a challenge. None of the men indicated that they were unable to survive on their earnings, with two respondents (the commercial fisherman and the taxi driver) indicating that their monthly earnings were more than sufficient.

The men and women interviewed in Six Men's Bay have access to a bank or credit union account where they keep their savings. While respondents recognize the importance of accumulating savings, this proves challenging. When asked about her savings, one female respondent replied: "All gone. I get pay today and broke tomorrow." Some people try to put aside a small amount every month. When asked how long their savings last, however, it was evident that most respondents live under conditions of considerable financial vulnerability, indicating that if they were not able to work, their savings would probably last for less than a year, with some estimating less than six months.

While some respondents were reluctant to incur any debt, others had borrowed money from formal institutions in the past. One man reported that he had borrowed money from the bank to build his house and to buy a boat. A female respondent indicated that she had used Courts Ready-Finance[18] in the past to get a loan. Another woman explained that she had attempted to borrow money in the past but was denied a loan:

I was trying to get USD 5 000 from the Credit Union and I was to pay back USD 165 and I could pay that back, I pay cave sheppard USD 150 and courts USD 50 (in the past) and that's USD 200. I could pay back USD 165 but they didn't give me because of background checks.

Summary of financial assets

All of the farmers that were interviewed earn a regular income. This income however is insufficient to meet their monthly needs. Older farmers and women were particularly disadvantaged since there are avenues to additional income that are not available to them. Conditions of poverty and financial instability are often aggravated for women by childcare responsibilities. All of the farmers have access to bank accounts, but saving for the future is challenging, and in some cases impossible. Respondents were reluctant to attempt to borrow money from formal institutions.

The interviewees in Six Men's Bay were less likely to have access to a stable income. While two of the men interviewed earned a good living, most of the fishermen worked for small returns. Nevertheless, the men were reluctant to admit to having difficulties in meeting expenses. The women interviewees received more consistent earnings, due to stable work activities, however their remuneration was very low. All interviewees have access bank accounts but, as with the farmers, saving for the future is challenging. This group is less fearful of borrowing from formal institutions and some of the respondents had either successfully borrowed money, or had attempted and failed.

[18] Courts Ready Finance is a "fast cash" loan scheme offered by Courts Ltd, a furniture and appliance store, where applicants can obtain unsecured loans for as much as BDS$ 15 000.

5.5. ENHANCED VULNERABILITY TO POVERTY/INEQUALITY

Farmer/farm worker interviews

Financial hardship

As discussed earlier, most of the respondents from the Spring Hall and Mount Pleasant farms did not receive a formal education beyond the secondary school level, with many, especially older respondents and all of the women, indicating that they did not go beyond primary school. This early withdrawal from education limited their choices in terms of working and earning a living. They thus ended up working as farm workers like many of their parents. Interestingly, none of the respondents had aspired to farm work; it was a job they fell into because of existing poverty and the need to take care of themselves or their families. As one female respondent explained, "This ain't what I wanted but I doing it. Sometimes the job you want you can't get so you have to crawl back to what you can get."

Some farm workers believed that they would have had more opportunities had they received further schooling, clearly making the connection between having limited access to formal education or training and having few job opportunities or possibilities to overcome poverty.

Gaining employment on the farm may have alleviated some of the harsh effects of poverty experienced by many respondents. However, it did not result in a complete escape from poverty. Farming is precarious work, defined as "uncertain, unstable, insecure work, whereby employees bear all the risks associated with work – rather than a business or government – and receive limited social benefits and statutory entitlements" (Kalleberg and Hewison, 2013, cited in Marschke, Campbell and Armitage 2019, p. 153). It also yields low wages and relatively minimal social benefits and security. Indeed, many of the farm workers reported that their low wages make it difficult to pay bills, save money, buy food and take care of their children. In other words, although these men and women are employed full-time, they still live in poverty.

Although most reported that they try to save money, they are unable to accumulate any substantial savings and some do not currently have any savings in their accounts: "There is nothing to save. I have an account but nothing is in it…Right now the house want repairs but the money ain't there for that. I barely surviving." (Male farm worker, Spring Hall).

The low wages and the difficulty in saving money places many of respondents in risky situations where any change in circumstances could leave them dependent on the support of others. Some workers at the Mount Pleasant farm noted that their precarious circumstances intensified when their pay decreased under new management from BDS$ 80 to BDS $ 67.80 per week. One female respondent from Mount Pleasant explained, "It made it harder if you didn't have your house built, nor your child to give you a little something you wouldn't survive, you can't survive." Some respondents noted that their economic hardships increased with children to raise, especially if they were the main provider without a secondary source of income. According to a female worker from Spring Hall, "I don't got no small children and right now, I don't got any grands but you need help, some people that got them children little so, some people in agriculture does want little help for truth."

A female respondent from Mount Pleasant recalled the financial struggle when her children were young and her husband was without work:

> *Well, that was like when, there was a point in time when my husband was working and then he got laid off so there wasn't no money and they was small, you understand, so you know some weeks that even the pay to buy the food … it wasn't there.*

A male respondent from Spring Hall explained in some detail that he also regularly struggles to provide for himself and children; indeed, he sometimes has to forego his own needs in order to provide for the children and the house.

Social exclusion and inequality

Some farm workers emphasised that their low wages not only result in financial hardships, they also lead to other forms of social exclusion and stigmatization:

> *Everybody ain't going to buy from you because they got other people selling... People going look down on you and say that you poor so they not going want to buy from you. People is act like you place ain't clean, how you house is and how you grow up, and going scorn you. That is how I look at it, I know how it is (female farm worker, Spring Hall).*

The stigmatization was not only directed at farm workers, at agriculture work more broadly. Notably, some respondents explained that agriculture was seen as an undesirable career to some¬– especially young people – in their communities:

> *Yeah, because it hard and [you] ain't getting no money nor anything, young people ain't coming in here if they ain't getting no money ...I think it is because of the money that de young people won't come. We sticking out with it but I don't feel that the young people would come. Yeah, a lot of people look down on it. You know de dirty clothes, the dirt and the money and the way how they does treat you and thing. Yes because we does work very hard, don't feel the people does stand up [for] we (female farm worker, Mount Pleasant)*

In discussion with a representative from the BADMC, it was noted that agriculture no longer attracts the level of labour it once did. Moreover, this respondent noted that the labour force mostly consists of people in their mid-fifties and upwards.

Given their experiences of hardship, many respondents shared the view that the government needs to do more to increase the pay given to agricultural workers. A female farm worker from Spring Hall explained:

> *Well, if the government did come around I would tell the prime minister so too, because we deserve more money because on morning you come in for 7 o'clock and when you done you go home but the sun does be real hot, sometimes the sun got you giddy and the old people does go home more early than we but I don't mind the going home early and the going home late because I know you have to plant food to sell in Barbados or export...[T]hat's the way I feel, but we should deserve a little more money.*

Similarly, a male farm worker from Mount Pleasant noted:

> *I would believe that the government can do more, give people more money in agriculture that they can get agriculture grow and people would get something for spending and all sorts of thing instead of got to be carrying home next to nothing when the time comes and you working so hard.*

Besides the low wages, some respondents described other factors that contribute to social and economic inequality. A female farm worker from the Mount Pleasant farm, for example, explained that they do not receive a gratuity like other government workers. Moreover, although they retire at the age of sixty-five, they do not receive a pension until the age of sixty-seven:

> *Gratuity, we don't get nothing. They send we home at 65. You ain't got no money, you gotta wait till you is 67, so when you is 65 till you is 67 you still gotta look about out there till you is 67 or look for some kind of income cause you is 65 and you gotta wait till you is 67... and all kind of thing to get little pension money. And that is not fair.*
>
> *Treat we just as they does treat de government workers. Treat everybody equal...cause that little pension, the little money they give we for retirement ain't no money but the government people goin' get gratuity and different stuff (female farm worker, Mount Pleasant).*

Making a good living?

Due to the difficulties facing agricultural workers, some respondents do not believe that it is possible to

make a good living doing this sort of work. This sentiment was shared by the representative from the BAMC, who stated that she did not believe that the workers, specifically those doing unskilled jobs, can earn a living wage. However, many workers also claimed to like their jobs and some even felt that they could make a good living in agriculture. These workers emphasised the need for discipline and to make the most from their circumstances. Others saw the value in agricultural work, but noted the need to improve workers' financial conditions. As one male farm worker from Spring Hall stated:

> *It is a good way to make a living, I don't know that I would encourage my children to do it but the money small, that is the only problem. I enjoy the team I work with, there is work that he could give the team to get more money but he just don't give we, like cane plant cutting, that does be job work, more work, also spraying, he don't give us to do.*

This last respondent touches on a frequently expressed judgement: while many respondents appreciate the value of their work, they are dissatisfied with their wages and lifestyle. Interestingly, this appreciation is not limited to monetary gains; it includes their enjoyment of the job and the agricultural skills they can use in other areas of their lives, as expressed by a young male worker from the Spring Hall farm:

> *For me it's just, I mean it's an experience that I never thought I would have, but it isn't a bad experience to be honest, because it teach me more a lot about my garden home like different things to do to improve the plants and what not.*

The BADMC representative also acknowledged that many workers enjoy what they do and apply the skills learned to other avenues of their lives: "...[M]ost of the people in the industry love what they do so it is a add-on for them to engage, to use their skill for their own benefit outside of their earnings." This application of skills, as discussed below, is an essential coping mechanism for many workers.

Fishing community interviews

Financial hardship

As previously noted, most respondents from Six Men's Bay did not complete secondary school. This excluded them from the formal labour market and led to low wages and, in some cases, self-employment. One female respondent in her thirties provided detailed information on her experience of poverty. She stated her monthly income (on average around BDS six hundred dollars) was mostly spent on sending her children to school and paying for transportation. Although she has a bank account, her savings are depleted and she would have to depend on her retired grandparents for help should her circumstances worsen. Other female respondents spoke of their financial difficulties due to their reliance on low paying work in the informal labour market, with minimal to no social security and benefits. Their narratives also show that their financial difficulties have been intensified by their roles as primary caretakers and financial providers for children or other family members.

The stories of these women highlight a common theme: the different impact that changes in fisheries have on men and women in this community. One woman, who works as a shopkeeper, explained she once made additional income by processing, scaling, boning and selling flying fish, but that has changed, due to the scarcity of the fish:

> *...[W]hen the fish was in, I used to process and scale and bone to sell, but since that gone, you would buy or other people would buy and bring for me to scale and bone and sell by the pack. It affect a lot of people, selling ready done fish.*

This experience was shared by other respondents within the community, who noted that the fishing women in Six Men's Bay have been severely financially affected by the reduction of flying fish in the market over the years.

In sum, the women's absence of formal education combined with their lack of marketable skills and access to formal support mechanisms, has placed

them in precarious work and living situations, where they regularly experience financial difficulties and uncertainties. Importantly, although the female respondents spoke openly about their experiences of financial difficulties and other resulting struggles, the fishermen were less forthcoming about their struggles and sought to provide more nuanced pictures of their experiences, as discussed below.

Making a good living?

Unlike their female counterparts, some of the male respondents in Six Men's Bay completed vocational training in carpentry, mechanics, masonry and ship navigation, but nevertheless, ended up fishing, either as a primary or secondary source of income:

> *I was fishing for like 22 years. I did the carpentry for like three months and then after that when I realize that the contractor didn't paying that kind of pay I said that I was done with that and then I went and learn navigation and hit the high seas (fisherman, Six Men's Bay)*

For these men, fishing was a desirable way to make a living, with some fishermen emphasising that certain types of fishing, such as ice fishing or deep-sea fishing for days at a time, are more financially lucrative. Most of the fishermen who were interviewed do not have their own boats and have to split their catch with the owner of the boat. As one boat owner explained, "I give them the boat to go out and when they come in the money divide in half, if it [make] BDS$ 10, after taking out expense, diesel food, paying for ice, then divide the money in half."

Unlike the women, the fishermen did not share experiences of severe financial struggles. Indeed, they may not consider themselves to be poor, at least not in the sense of living in abject poverty, as explained by one fisherman.

> *Interviewer: Two bedrooms right? So you're in one by yourself?*
>
> *Respondent: Yeah.*
>
> *Interviewer: So, the other two are in one together right? So, you told me what you do for the day already, how would you describe your living conditions? Do you consider yourself poor... no?*
>
> *Respondent: Nah.*
>
> *Interviewer: Tell me why you said that, like what differentiates you from somebody who is poor?*
>
> *Respondent: Poor is not surviving ...I can pick a breadfruit.*

Some of the men mentioned certain factors that reduce the profit from fishing. These include the high cost of owning an ice boat (which would allow them to engage in more profitable fishing), the price of some equipment and, at times, the refusal by vendors and hawkers to pay fishermen the asking price for their catch:

> *The price on things needed in fishing like fishing gear the engine parts, the fuel, if those things could be cheaper for the fisherman then I guess more people will be willing to turn into fishing, but they would make a better living from it. Not that is too expensive but it could be cheaper (male respondent, Six Men's Bay).*
>
> *...then when you get to shore the hawkers and vendors want to give you next to nothing for your catch, you know, next to nothing and then like I just shake my head (male respondent, Six Men's Bay).*

Further insights into their financial struggles can be gleaned from other statements. For example, many noted they still performed other jobs, and like the farm workers, did not patronize restaurants or engage in social activities that require payment throughout the year. In addition, some emphasised the need to work extremely hard, as one older fisherman stated: "I survive by working, seven days a week." Being willing and able to work hard is crucial, as being self-employed means there are few external social benefits and protections available.

Social exclusion and inequality

Although all the men enjoy fishing and believe that it can provide a good living, they recognize the fact that it does not suit everyone. Some of fisherfolk expressed the opinion that young people were not interested in fishing, even if they were unemployed and in need of money: "The younger generation, the younger generation is not really studying…manual labour kind of thing …didn't want to put in that long hours… (fisherman, Six Men's Bay)."

However, a few respondents argued that there was no stigma attached to fishing, although this may have been the case in previous years: "Before it might have been, like 20, 30 years ago, it might have been-been, but now, it is a more respected profession because people see the ability of an income (male respondent, Six Men's Bay)."

Some fishermen expressed dissatisfaction with the lack of fishing infrastructure in the community. Many believed this placed them at a disadvantage compared to other fishing communities in the country and posed various challenges to their ability to earn a decent living. These experiences are noteworthy as they indicate areas of struggles and frustration, which some associate with a wider societal and, more specifically, government disregard for the community and the livelihoods of fishing people. The comment below captures such frustration:

> *Those old stalls they have on the other side there, they were the old stalls that sell food in Oistins that they bring down here for the hawkers to sell the fish from. I don't mind the newer stalls but if we got a comfortable fish market we would be better you know (male respondent, Six Men's Bay)*

Even more indicative of the lack of infrastructure and financial support is reflected in the following comments by a boat owner:

> *We don't get the representation from the politicians, we don't get it. We got boats down here, we don't have nowhere to haul up…Yes, we goes in at Port St Charles but where we does hoist up it could be a problem if we got a good hurricane down here with at least about 50-80 miles a hour, de wind it going be a problem. We at the end of the mouth where the water goes down, they got a place there, Port Ferdinand, no boats don't tie there, they could let we go inside there but your boat has to be insured to go in there, and it got to be over a million dollars. If you ask them, we ask them, and they say you got to be insured and you got to have over a certain amount. We goes in at Port St Charles, where we park is a difficult place it's just that if we had to get a bad storm with lots of water, it going be a problem with the boats.*

The million dollar insurance is out of reach for the community boat owners. Without a cheaper option, those who can afford to own a boat, must deal with the reality that their asset is at constant risk of damage during regular transport from sea to land (and vice versa), during stormy weathers and the lengthy hurricane season. Moreover, without suitable infrastructure only smaller-scale fishing can be easily done within the community, thus making the more lucrative options unavailable to many and further exacerbating the experience of poverty.

Summary of enhanced vulnerability to poverty/ inequality

The narratives shared by farm workers and the respondents from the Six Men's Bay provide insight into the difficulties experienced by those who are marginalized and at times completely excluded from accessing certain asset-building mechanisms.

There are certain notable differences worth highlighting. First, farm workers, both men and women, generally make comparable earnings and equally shared the financial hardships they experience because of their low earnings. These hardships are intensified for people that are raising children, especially if there is only one financial provider for the household. Far more women than men report raising children (and in some cases grandchildren) on their own or with a partner, who also earns a low wage. All agreed that they are not adequately paid for the difficult work they perform.

The respondents from Six Men's Bay observed that, while fishing could be lucrative, especially ice-fishing, this was mostly done by men in the community. Women tended to be vendors or to work as boners and cleaners of flying fish, which have gone into decline in recent years. In this community, women respondents mostly shared experiences of work instability and financial hardships due to the changes related to fishing.

Some farm workers spoke of being stigmatized due to their low wages and their involvement in agricultural work. This, however, was not commonly reported by respondents in Six Men's Bay, although there was a common theme of many young people not being attracted to either farming or fishing. Farm workers and fisherfolk equally mentioned the lack of government support. In particular, the farm workers, who work on government-operated farms, appealed for higher wages and treatment equal to other civil servants in terms of receiving social benefits. By contrast, the self-employed fisherfolk highlighted the need for infrastructure to support and grow their sector. Despite the different experiences, most farm workers and fishermen value their work in terms of its significance to their lives and to society in general.

5.6. COPING MECHANISMS FOR MITIGATING LACK OF ACCESS TO FORMAL ASSET-BUILDING MECHANISMS

Farm workers from Spring Hall and Mount Pleasant and fisherfolk in Six Men's Bay use various coping mechanisms to compensate for their lack of access to asset-building mechanisms. Chief among these coping mechanisms or strategies are:

- budgeting and "doing without";
- seeking alternative means of saving;
- relying on family and friends; and
- seeking additional work.

It is important to note that only two male farm workers confessed to engaging in illegal activities as a coping strategy. As one explained:

> *I would carry way livestock and sell it to somebody who would buy it. I would hit a farm. I would come and carry way nothing from you an' no poor body too, like 4-5 sheep, where we live have a big farm just go cross the pasture.*

Farmer/farm worker interviews

Budgeting and "doing without"

Farm workers – both men and women – commonly learn to budget and forego certain things to cope with low earnings. Women respondents were especially forthcoming in discussing their budgeting strategies. Budgeting and doing without involves buying in bulk, shopping only at certain stores, not shopping for food and other items on a weekly basis in order to avoid overspending or purchasing unnecessary items, and planning and saving for bill payment. The following are examples of how farm workers use budgeting as a coping strategy:

> *Well, I could cope with it but that's because I'm good because as I told you I don't buy goods like for people go to the supermarket every*

week and buy goods I buy month goods and I does shop at PriceSmart [foreign-owned warehouse store] when I buying my groceries. I don't have to go at the supermarket unless I buying vegetables or lamb or those kinds of things because I does raise my own chickens (female farm worker, Spring Hall).

Well I have to make it work, the first thing I does do I does make sure that my bills and make sure I got something to eat, clothes don't bother me cause clothes ain't really important, I does always say my bills and my food, and I does try to save a lil bit out of it (female farm worker, Mount Pleasant).

Uhh yeah, I cut down on for instance like I had said earlier my food bill instead of buying lunch daily that would save me at least a ten dollar per a day ...probably drinking as well you still drink a couple of beers but I cut back on that (male farm worker, Spring Hall),

Alternative means of saving

For some respondents, putting aside a portion of their earnings, although difficult, is an essential part of budgeting. The credit union, where wages are generally deposited, is commonly used by these workers. Some have been able to accumulate enough savings to allow them to borrow a relatively low-interest loan to make necessary improvements to their lives, including acquiring physical assets:

We don't have no vehicle but the house that we have we own a house because we loan money from BW Credit Union and we paid it off last year November. So that is we own, we can call that our own from last year November (female farm worker, Spring Hall)

Most respondents also rely on more informal means for saving and borrowing money, due to the lack of access to and, in some cases discomfort with, more formal institutions. The most common informal means of saving is to join a meeting, which is also known as a "sou sou" in Trinidad and Tobago, "pardner" in Jamaica and "box hand" in Guyana. This option, which is traditional in Afro-Caribbean communities, especially among women, involves a group of people contributing a set amount of money on either a weekly, bi-weekly or monthly basis. On an agreed schedule, one member gets the lump sum of money to invest in her/his needs; this continues until each member has received a lump sum of money. A respondent explained the significance of joining a meeting:

Yes, you can live on agriculture good once you come, you do you work, you get pay, you can save money out of that even if it's just a small amount you can save because I does, my money be small, but I tell you I make it do because I buy my goods and when I get my money I throw a meeting with my cousin. I throw a meeting and when I done, when the time comes and I get my meeting money I go buy like BDS$ 1 000 (USD 494) in groceries and I take the rest and I go and put it down because my husband is work and my son, so I don't got no problem (female farm worker, Spring Hall).

Although joining a meeting is a common strategy, not everyone considers it an ideal method of saving money due to past negative experiences, mistrust of others or because they lack the discipline to contribute to the meeting until the very end:

Yeah, I do a lot of that [meeting], a lot of that, but I don't do it now, not anymore. I do a lot of that to do my house. Sometimes you get a lot of trouble and stuff with the money when you got to pay people, you know some people get their money and when you time for your turn people ain't paying you back, so I did done with that, so I would save a lil BDS$ 10, a BDS$ 20, a extra money (female farm worker. Mount Pleasant).

Never thought about it, I did meeting once but when I get my turn I done (male farm worker, Spring Hall).

Reliance on family

Reliance on family members was one of the most popular coping mechanisms disclosed by the respondents, and as such, is discussed in various sections of this report. Most respondents frequently receive support from immediate and extended family members, partners and sometimes friends. Many also noted they provide support to family members who are in more precarious situations than themselves:

> *Yeah, cause my children especially them is important to me, when they want help and I have the help I will give them the help; my grandmother if she want anything I will give she. Well, my children will help me too …I would help other people outside or anything (female farm worker, Mount Pleasant).*

The support may include financial assistance in the form of loans or sharing bills, food, clothes and household items, as well as providing access to physical assets such as land and house. The idea of living on family land or in an inherited house was mentioned by several respondents. Most of the women respondents live with other adult relations, usually their children. This family structure allows responsibilities and resources to be shared.

The following comments reveal how family support can alleviate the problems caused by lack of access to asset-building mechanisms:

> *My mother tell me one time, because I had wanted to stop the mason but she said to me "listen and hear what I'm going to tell you, when you work when the week come pay the mason, I would feed the house" (female farm worker, Mount Pleasant).*

> *My daughter would help [with] things from the store and thing, my daughter bring in a fridge and a stove, she would help me because it's me and she (female farm worker, Spring Hall).*

> *As I said my father was always there to help me. Anything that I need mostly he would just help me. Afterwards, I would just repay him if he accepts it (male farm worker, Mount Pleasant).*

> *Yeah, I did real down [I was not doing well] and my next-door neighbour say let me call this man [from the Salvation Army] (male farm worker, Spring Hall).*

A male farm worker from Spring Hall explained that he does not own any assets himself but lives on land owned by his uncle, in a house built for him by his sister, which has no running water or electricity. Although many respondents receive assistance from family members, neighbours, friends and church groups, some people have no one on whom they can depend for help.

Additional work

In addition to keeping a strict budget, joining meetings and relying on support from family members and others, some respondents, particularly men, also do additional odd jobs to supplement their farm wages. These jobs include gardening, cleaning houses, helping neighbours with small tasks or working for relatives who may have small businesses. Some of these are regular jobs; others are periodic or based on availability:

> *[W]hen we get vacation like on December I does just go and do cleaning houses, just cleaning house, I does work for Pizza Man Doc [a locally owned fast food chain], I does work for his sister and he mother and another woman. I does work for not too far from me (female farm worker, Spring Hall).*

Anything with my hands I could do, piece of masonry, somebody want landscaping do, for extra money, I depend on myself (male farm worker, Spring Hall).

A single respondent explained that farm work is his second job. He depleted his savings during the COVID-19 lockdown and has been unable to travel overseas for his main job in professional sports.

Many farm workers have undertaken own agricultural activities to augment their low wages and become more self-sufficient: "I sell some [ground provisions] and sometimes I give the family some. Well, it ain't no

big lot just about it start from here to just there (male farm worker, Mount Pleasant)."

This was confirmed by the representative from the BAMC:

> *And we've got into a discussion about [how] working in the industry is not self-sufficiency… they usually engage in their own forms of agricultural activity whether its animal husbandry… or…kitchen garden as a means to support themselves and supplement their income (female respondent, BAMC).*

Such activities not only supplement the income of some farm workers, but as discussed below, they are important strategies for ensuring constant access to food.

Fishing community interviews

Budgeting and dependence on family

Like the farm workers on the Spring Hall and Mount Pleasant farms, some respondents in Six Men's Bay emphasised the importance of keeping within a planned budget: "I does make it do, I does throw a little meeting turn and save a little bit to keep me (female respondent, Six Men's Bay)." According to another woman:

> *Right, okay so saying that this money from here would send school my children, if BDS$ 50 (USD 25) left back, we do what we have to do, it's either breakfast or put down to do something that matter most, and then put towards bills that kind of stuff. Saying that sometimes instead of going to school the full week, they would go the two days, one day, but one is going four, one goes one and then online classes (female respondent, Six Men's Bay).*

Others also noted that they depend on family and others for support. This support can be financial or non-financial:

> *My son helps me out, he pays my bills, he would give me a little something [money]. My brother is here now, sometimes he is overseas, I got two other brothers and sometimes they may help out (female respondent, Six Men's Bay).*

Unlike the women in Six Men's Bay, none of the fishermen claimed to receive regular financial support from family or friends. Only very few admitted to receiving financial help at all, and only under exceptional circumstances. For example, a fisherman in his thirties described receiving various forms of support, including emotional and physical care, when he was temporarily incapacitated and unable to work. He also received some financial assistance during this period, borrowing money for his surgery from a friend. His brother, who was working at the time, contributed some money to his family, which included their parents, the respondent's small son and a sister-in-law. While he does not habitually receive financial support, his family regularly provides non-financial support. Other respondents, women and men, confirmed that they receive non-financial support from immediate family members and other people in their social network:

> *Yeah, so that's why I am by my mum right now because I'm building my house…so instead of going to renting my mom said okay…you can relax here instead of paying rent (male respondent, Six Men's Bay).*

> *They [family] good to me because they help me do a lot of things that I should be doing for myself like washing my clothes, cooking. I does only cook if them not at home and them out working…(male respondent, Six Men's Bay).*

A young women described the coping mechanisms she uses on a regular basis. Her story provides insights on multiple forms of exclusion and the coping mechanisms needed to survive. The story is an example of the ongoing feminization of poverty and the effects it has on the children of mothers who struggle to provide for their needs. The respondent stated she has had to do without some things:

> *… I learned to live, I put my hat here (gestures small distance above head with hand) so my*

head can reach it, I'm not going to go there when my head can't reach it (gestures higher above head). I learned to do without.

To maintain her very limited budget, she regularly must make difficult compromises or decisions about the most essential needs. Referring to her own desire to further her education, she reasoned:

Probably later next year. I just working on the children now, they just come and show me, tell me about a lady that does lessons that does do pretty okay, but I bought breakfast stuff, so if I didn't bought breakfast stuff I would of send she lessons because you got to pay BDS$ 150 up front and then you would just balance out the difference, yeah so I prioritise my things.

Compromises were made between education and food, the mother's needs and the children's well-being, and education and access to desirable health care:

...[I]f my kids are sick one would have to stay home from school to go pay, I prefer to get a proper check-up, than to go sit at the clinic and get water down medication. Sometimes you up there a whole day and then still nothing, so I would make one them stay home, pay private and get proper medication and see them up and running.[19]

Some of these coping mechanisms may further contribute to the cycle of poverty within this family. However, the respondent's narrative also highlights her limited agency in navigating a difficult situation.

Multiple jobs

As previously noted, some of the men in Six Men's Bay regard fishing as a secondary source of income; as such, it is itself a coping mechanism. Full-time fishermen may also take on other work to supplement their incomes. For example, the deep-sea fisherman who spends eight months at sea explained that he occasionally takes divers out to sea or engages in day fishing or pot fishing during his "downtime":

...I also try to balance myself between those four months at home I only go and get if I have to. I might probably take the divers out and make a USD 50. I would probably do that to avoid going to somebody. I would live off of that instead of going to bank and draw money and then buy a bottle of rum and a pack of bread.

This fisherman prefers taking on additional work to asking friends and family members for financial support. Others also explained their desire to be self-sufficient whenever possible, despite the willingness of their family and friends to help out if needed Another fisherman described his multiple jobs: he drives a taxi, fishes and has a full-time government job. Though he expressed his love for fishing, he confessed that he was not yet ready to resign from his government job, which provides him with social benefits and security such as national insurance and a pension: "I would never give up [government job] because that's my backbone, you know."

Summary of coping mechanisms for mitigating lack of access to asset-building mechanisms

The narratives of farm workers and fishing communities demonstrate the need to implement a range of coping strategies to improve livelihoods or to simply survive when there is limited or no access to asset-building mechanisms. These strategies include staying on budget, finding alternative means of saving and obtaining financing support and depending on family members and others. Although there were common elements in the coping mechanisms used by the farming and fishing communities, there were also nuanced differences in the ways in which they cope with poverty. For example, some of the narratives shed light on the ways that gender shapes the experience of poverty.

[19] Although the polyclinics are free, many respondents, as noted earlier, pointed out that they made sacrifices to see a private doctor, instead of going to the government funded institutions where there are long waiting times.

5.7. AVAILABILITY, ACCESS, AND USE OF FOOD

Farmer/farm worker interviews

Several themes emerged from the interviews with farm workers that highlight their complex attitudes towards food and the factors that determine the availability, access and use of food. These factors include:

- financial constraints;
- health reasons;
- personal preferences;
- time;
- access or lack of access to adequate land for planting crops or raising livestock; and
- lockdown and other measures to curtail the spread of COVID-19 and the consequent high unemployment in many communities.

The following comments were indicative of these factors:

> *If I had more money, I would eat something better, money that coming ain't no money, BDS$ 311 (USD 154) per week (male farm worker, Spring Hall).*
>
> *I used to eat meat, on occasion pork ...regular but I stopped, stopped with that because that causes kidney problems and thing, so I stopped (female farm worker, Mount Pleasant).*
>
> *I don't eat much food, I ain't no hearty eater, I does like drink but I'm not a hearty eater (female farm worker, Spring Hall).*
>
> *Well basically we don't really do dinner because everybody like working so there's no time to do dinner (male farm worker, Spring Hall).*
>
> *I does buy all I eat because I ain't got no ground to plant (male farm worker, Mount Pleasant)*
>
> *Well, yeah more in COVID you would have to cut down on certain things (male farm worker, Spring Hall)*

Access and use of food

Farm workers described the availability of food, with many people, especially women, explaining that they always have food in their house, even if they do not always have the time or inclination to prepare it: "My house always got food. So once you got food in the house, you don't worry about nothing else (female farm worker, Spring Hall)." Another woman from Mount Pleasant said: "...for all times I got a little food in my cupboard that's the truth because I come up being hungry."

The fact that food is always available however, does not necessarily mean that people have access to the foods they want. Some respondents acknowledged that they cannot always eat the they enjoy or consider to be nutritious because of seasonal availability and financial constraints:

> *I does use a lot of vegetables, and thing like fish in a blue moon, I does like if I can't don't use chicken and thing I would use lamb on a Sunday but in the week like you get tuna and different things you know because right now the fish and thing expensive (female farm worker, Spring Hall)*

Another female respondent from Mount Pleasant, who claimed that she always has "a little food in her cupboard," revealed how the availability of money influences the types of food she eats. For example, she often buys chicken wings, instead of a whole chicken. She often uses processed food items and, like many others, relies on tinned goods.

More men than women revealed that their financial struggles sometimes made it difficult to buy food. One male farm worker from Spring Hall, for example, noted he sometimes goes an entire day without eating: "I does come work here nuff days and be hungry, I don't tell nobody." He further explained that women and people who grow their own food seemed to have more reliable access: "People that can grow have it better because they can do for themselves. Women have more than men. I don't know how they does get it do, but they does get it do, I don't check for people.' This

statement echoes the stereotypical construct of the strong black woman, who is independent and gets things done herself. Although this construct pays homage to the historical resilience of black working-class women, it is also problematic. The idea is rooted in a colonial racialized concept of blackness and womanhood and it provides justification for abusing black women's labour (either in the labour market or in care work), while ignoring their resulting suffering. Indeed, some women farm workers recalled not having sufficient food in the years when they were raising children on minimal wages, with little or no financial support from government support systems or the fathers of their children.

Most farm workers characterized their diets as consisting of a combination of ground food, fruits and vegetables purchased from local markets or vendors and other items bought from supermarkets and wholesale suppliers:

> *Most of the people got breadfruit trees. They grow sweet potato, tannia, eddoe, cassava, yam. Yuh still got to go out and buy rice, you can't grow rice here in Barbados. You gotta buy macaroni and other things from the supermarket, you gotta go and buy or raise you own chickens (female farm worker, Spring Hall).*

Most respondents prefer ground food, which includes yams, sweet potatoes, cassava, pumpkin, okra, cabbage and eddoes, and tree produce such as plantains, bananas and breadfruit. Breadfruit, which can be cooked in a variety of ways and is abundantly available in season, was identified as a staple in most people's diets: "Yeah people by me, because they got a lot of breadfruit trees out by we and the children does roast a lot of breadfruit and eat (female farm worker, Spring Hall)." It is a common assumption that people with access to enough land to plant crops or rear livestock are better off than people without because they can feed their families and sell the surplus.

Although most farm workers believe that having land, especially with good soil, increases the availability and access to food, they generally do not have access to large amounts of land. Furthermore, they are not convinced that everyone in the community would take up farming if they did have land. As mentioned previously, some workers believe that many people, particularly young adults, look down on agricultural work. Moreover, young people prefer to eat heavily processed fast food or such things as pasta, macaroni pie and rice, and therefore would have little interest in farming. While young people were more frequently singled out, it was also noted that there were adults who would also not participate in farming even if they had land. Besides the stigma, there were other factors identified, such as laziness or lack of interest in agriculture.

COVID-19 and access, availability and use of food

The national lockdown that followed the outbreak of COVID-19 and high rates of unemployment due to prior economic recessions as well as the COVID-19 pandemic were identified as factors influencing food availability, access and use. The BADMC did not suspend farming operations during the lockdown to ensure that the nation's local food supply chain was not excessively affected, as explained by the representative:

> *I am proud to say that BAMC was way ahead of the issues in terms of COVID… because we had to look at the factory and you only have a limited period of time within which to harvest a crop and if for any reason the factory closed that would have been the end of the crop, okay? So, it meant that we had to have a comprehensive plan for the whole industry, not only BAMC, but also the independents as well, and we met and discussed and we had our protocols in place way before.*

Many farm workers continued to work and collect pay and thus were able to buy food. However, the social and financial support systems of some workers were noticeably affected. The husband of a female worker from Mount Pleasant was unable to do his construction work and her wages had to cover all of the family's expenses, which meant foregoing their planned house renovations:

[My husband] didn't working in the COVID times. He didn't really working so we get set back and other stuff, he do piece by piece. Well I did still working in that time, so I had to make ends meet. Yeah I had … to just buy food and pay my bills and that's it, leave the house there. It liveable.

Others noted that, while they had access to food, they had to change some of their eating habits. Many continued to consume the ground foods that were usually available in their personal gardens or shared by family and other community members. One man from Spring Hall noted that his community was able to access fruits for free or at reasonable prices from large farm producers, who were struggling to find a market for their products. Prior to the COVID-19 pandemic, these goods were not always readily accessible due to scarcity and high market price. In other words, a previous inequality around food was disrupted by the COVID-19 pandemic:

When the rain ain't falling and the people growing a certain amount they would sell, they wouldn't sell the poor people, they would sell to the supermarket, so you have to go buy it from the supermarket. Now that they had that COVID thing a lot of people start to get things because a lot of the place was shut down so they ain't had any choice now but to sell to the community…People started coming through the community a time back and giving away watermelons to everybody.

Most workers spoke about conditions in their immediate families and communities, with only a few commenting on the significance of agriculture and locally-produced products at a national level:

Because if yuh don't got agriculture, yuh can't get food, yuh gotta got things to eat. Agriculture mostly is got the things to eat if yuh ain't got agriculture sometimes, cause look at de COVID. And they [government] didn't know what to do and they push agriculture (female farm worker, Mount Pleasant).

As seen in the comment above, the COVID-19 experience highlighted a certain paradox around agriculture. On the one hand, agriculture is seen as significant but this significance is not reflected in the treatment of workers, some of whom struggle to access nutritious food.

Fishing community interviews

Much like the farm workers, respondents in Six Men's Bay provided a range of insights on food access and use. They identified factors, such as personal preference, health, financial constraints, time and COVID-19, that influence the availability, access and use of food. The following excerpts encapsulate these views:

Like what I have here, ground provisions, rice spaghetti, tin stuff. I think I guilty of not eating a healthy diet, my brother tells me I like too much fries, I do too much fry things and a lot of junk like these little snacks (female respondent, Six Men's Bay).

I does try to cook properly because, I got him to take care of, a lot of fish and fruit and vegetables and ground food (female respondent, Six Men's Bay).

I used to like [to] go to the supermarket like buy things in a bulk, not bulk like how bulk people do, but what I buy would last because if I don't cook it nobody don't cook it, but it would last a little longer and I would be able to stretch you know a little further, but here now you got to be more conscious (female respondent, Six Men's Bay).

I is a like part-time fisherman, you know since COVID come up I decide that I going to go back to the sea because I used to fish years ago with a guy from Saint Lucy but apparently, he don't have a boat anymore (male respondent, Six Men's Bay).

Differential access and utilization of food

Some respondents in Six Men's Bay identified age as a crucial factor in determining access and the use of food in their community:

> *… [Y]ou are what you eat, healthy food is expensive so we eat junk, so it all depends if you want to eat healthy you would sacrifice certain things to eat healthy, but buy junk food is cheaper and bad food is cheaper, we all go to bad food prior to good food so that's probably one of the main reasons why we find a lot of underlying sickness in people nowadays because they eating bad but they got breadfruit about the place lately. Young people, I can't give my child, what you does call it …mackerel, she ain't going to eat it I can't do some gravy and yam she ain't gone eat it (female respondent, Six Men's Bay).*

This respondent emphasises that access to good quality, healthy food is expensive and requires some degree of sacrifice from people who struggle financially. The fishermen however noted that they always have access to food, since fishing provides both an income and their nourishment:

> *[W]hen you have a [fishing] boat …[it] can give you what you want… [I]f you have a boat an income is coming in every week you know and you can buy what you want from there (male respondent, Six Men's Bay).*

> *I never had it difficult. I always got something to eat from the fishing, when the pension come in I pay de bills with that (male respondent, Six Men's Bay).*

Fish is an important protein in all of the fishermen's diets, and is often consumed at breakfast, lunch and dinner. Many cite health reasons, personal preference and ease of access as reasons for the prominence of fish in their diets. However, factors such as seasonal and climate change have an impact on the abundance, availability and types of fish. Although some female respondents stated that money influences what they eat, many of the fishermen did not make that connection. This highlights an important difference between fishermen and farm workers regarding food access. Specifically, within this fishing community, the women respondents were the ones who shared narratives of precarious access to food, as fishermen stated that they always had food (fish to eat, sell or exchange for other desired goods). This contrasted to the farm workers, as more men than women in the farming communities spoke about the difficulty, at times, in accessing food.

Although fish was widely consumed by a lot of people in Six Men's Bay, their diets, naturally, also included other types of food, most of which were not produced within the community. Most people thus obtained their food from the sea, markets and supermarkets. For example, many respondents noted they ate a lot of ground provisions. Breadfruit, when in season, was also regularly shared and consumed. Others noted they also frequently consumed such things as oats, fruits, tinned items, vegetables, pasta and rice. Despite the range of food regularly consumed, only a few respondents believed the community was close to being self-sufficient. However, many others noted that because of the lack of land for farming, the community was not able to become self-sufficient, as captured in the statement below:

> *But there's different types of fishing, flying fishing, it is pot fishing, you know and agriculture wise we don't really have no big agriculture place around here though so dealing with agriculture, people would got to probably go out and buy them (male respondent, Six Men's Bay).*

COVID-19 and access, availability and utilization of food

While the fishermen claim to always have access to food, some respondents recognized the need to reduce their consumption during the COVID-19 lockdown:

> *Yeah, you would cut back you would say …you know that's so and so business and then you cut back a bit you know …that was during COVID*

because with the supermarket closed and stuff like that (male respondent, Six Men's Bay).

Respondents also mentioned that some people in the community, especially the unemployed, struggle to provide food for themselves. This struggle intensified during the COVID-19 pandemic, which led to many people losing their jobs in the tourism and tourism-related sectors: "Yeah it [COVID-19] affect me more that I got friends and family out there that really can't eat the way that they normally eat (male respondent, Six Men's Bay)."

The COVID-19 pandemic also affected people's spending and the types of food they consumed. One woman noted that many of the customers in the restaurant where she works have not returned, and more people seem to be preparing their own meals at home. Even more telling, a female shopkeeper stated that business was booming during the COVID-19 lockdown; as such, they could afford to stock the shop with a variety of goods, such as ground provisions:

When it was the shutdown, it was real busy here, now it a little slow, the shutdown had you on your toes, you could afford to buy more stuff "cause people was coming, especially ground provisions. I had to cut back [now] because tings slow and the things would spoil on your hands" (female respondent, Six Men's Bay).

The decline in spending at this local shop may be influenced by people's ability to leave the community with ease and to access goods in larger markets and supermarkets since the lifting of the lockdown.

Some fishermen pointed out that COVID-19 and high rates of unemployment had led many people to turn to fishing, both to earn a wage and to obtain food. A fisherman in his seventies explained that COVID-19 pandemic, fishing has become significant to more people since the outbreak of COVID-19:

Fishing is the main industry right now, see all the tourist boats out there, people want to buy fish, the sales reasonable right now, them does sell 3 ½ pounds for BDS$ 40. You then go and buy it at BDS$ 8 a pound.

A fisherman in his thirties described an initiative to get young people fishing during the COVID-19 lockdown as a means of providing food for themselves and their families:

Yeah, yeah, we try to get the younger guys in fishing, like during the course of the pandemic if you could of see the guys along that beach, like I mean guys that is like from 4 to 15, 16. Yeah, yeah, all cross the stretch, all cross the stretch, yeah, all up to last week before they were actually back in school, the people was just there fishing, fishing.

Summary of availability, access and use of food

The narratives of farm workers and fishing community members illustrate a range of experiences in terms of the availability, access and use of food. Some of the stories highlight the precariousness that characterizes the lives of people who rely on farming and fishing for their livelihoods. Some respondents experienced – or know people who experienced – scarcity, and were unable to afford nutritious or desirable food. Their accounts provide insights on how gender and age further complicate social inequality as well as access to necessary resources such as food. Respondents also spoke about the different eating habits of the older and younger generations. Some of the accounts revealed that having food available does not mean you have access to the food you want or that is good for you. While only a few respondents were aware of official discourses around food security and insecurity, it was clear that they understand the significance of their industries to maintaining sustainable livelihoods and access to reliable food sources.

5.8. COPING WITH FOOD INSECURITY

Farmer/farm worker interviews

Although most of the respondents were unfamiliar with the concepts of food security or insecurity, some nonetheless offered useful insights into how farm workers cope with these conditions. They distinguished between micro- and macro-level coping strategies. Micro-level strategies can be further separated into actions by individuals and actions at a community level. On an individual level, some respondents cultivated kitchen gardens with herbs and vegetable crops such as beans and okra. Farmers with access to more land also planted other crops such as yam, sweet potato, plantains and bananas. A few also kept livestock or had family members who kept chickens, pigs, and sheep. These products were cultivated for the market, as well as to provide stable food sources for the family. These intentional strategies aimed for reliable and cheap access to nutritious food:

> *Well, if my sister have/kill chicken she would give me some and once I have about I does give she some that's how me and she does live (female farm worker, Spring Hall).*

> *A lot of people grow their own food and thing. I does grow a little bit and thing. I got a couple of sweet potatoes there growing, beans, okras. A good few people buy, plant your own food and thing so when you go to the supermarket you don't have to buy certain things (male farm worker, Spring Hall).*

Due to the importance of family as a coping mechanism, it was not surprising that sharing food with family members and to some extent, the wider community was the most common strategy used by respondents:

> *Yeah sometimes I does use sweet potato cause right now my granddaughter she does work ground she does work up the ground so she would give me a cucumber or anything so a sweet potato if she got it…(female farm worker, Mount Pleasant).*

> *… if I have a chicken home I would make sure that she get it and [I] do without. I had one or two friends that would assist me bringing a little food stuff and thing for me or I used to like sell a little wrappers and thing to make a little change (male farm worker, Spring Hall).*

As mentioned before, most respondents live on large plots of land and cannot be fully self-sufficient in terms of the food they produce. Importantly, shared food includes food grown and reared, as well as food obtained by other means. This was explained by a female farm worker from Spring Hall, who noted she plants a few items and would share these with her sister and anyone else in her community that need them. When asked who she could depend on for food, she responded that, that besides her sister, she has a close neighbour who receives goods from overseas:

> *If I in the need of food the lady that name Mondelle, she was a teacher but she don't work anymore, I could go ask she and she would give because her son live in Canada. Yeah, so when he sending anything for his mother, cause he marry a white girl, he would send anything for me too.*

Not everyone considered relying on others to be an ideal or reliable strategy. Some respondents believed their communities could benefit from having more structured programmes in place that are supported by government and large-scale food producers, who have control over relevant resources such as land and products. Such initiatives are considered macro-level because they seek to address food insecurity for entire communities and, by extension, the nation. A man from Spring Hall noted the success of the Chickmont Foods initiative, which is a local large-scale chicken and egg producer:

> *…if you have places that you can put a chicken pen…Chickmont …[gives] you the chickens to feed; when you ready to reap now they would come for the chickens and then giving you back a percentage for feeding them for them and like that.*

A Spring Hall farm worker noted that the government's land lease programme should be expanded to include more people.[20] He explained the programme has helped his community by providing jobs as well as cheaper access to ground food.

A farm manager at the Spring Hall farm described the government's initiative to provide support for small-scale farmers, thus addressing issues of unemployment and food insecurity. However, he explained that this initiative was not very successful, due to lack of interest, as well as difficulties coping with the conditions associated with farming.

> *There is a certain mind set against it, and then the sun, working in the field all day. It ain't easy. They [the government] provide incentives, if you could get a loan to buy certain equipment, if you are a registered farmer you can get it VAT free. There are other incentives for like green houses and things like that and availability of land, greenhouse set up is fairly expensive. They [the government] took 130 acres of Crown land for small farmers, some of it was cultivated and prepared, issued to people, then the rains came and the grass took over; [it was] too much for the small farmer to handle.*

Besides these factors, the farm manager also conceded that some people may not have known about these initiatives and therefore, they were not adequately taken up.

Fishing community interviews

Respondents from Six Men's Bay provided far fewer accounts of food insecurity. As mentioned previously, the fishermen consider fishing as a means of coping with food insecurity, although there are some nuances around this. On the one hand, not everyone wants to share their catch with those who cannot afford to purchase it:

> *Well fishing would be slight different because when you go out there and you going and take that sun for the whole day, you going to come through and you don't want to give away your fish all the time. Some people still give away, you know right (male respondent, Six Men's Bay).*

On the other hand, some respondents in Six Men's Bay believe that sharing with family members and the community is an effective means of helping those who have less access to food:

> *Yes if I give them fish, they would give me pork or chicken whatever the case may be and like say her if she don't have and she's not working...a group of guys would get together and ... give her meat, fish, ground provisions and then some fellas would give her...a couple change she go to the supermarket... especially if you have kids (male respondent, Six Men's Bay).*

Unlike farm workers, the respondents in Six Men's Bay did not explicitly discuss macro-level strategies nor did they share their opinions on what could be done to improve food security. Implicitly, however, one can link the previously mentioned appeals for the government to provide more fishing infrastructure to food security.

Summary of coping with food insecurity

In summary, most respondents in both farming and fishing were neither familiar with the concepts of food security and insecurity nor with official government actions around these issues. They nevertheless were able to provide some insights on how food insecurity is experienced and approached in their communities. Unlike the fishermen, the farm workers contributed more nuanced information, revealing more familiarity or comfort with the topic. This could be due to a common tendency of the fishermen to argue that they have no real problem accessing food.

[20] The land lease programme, also known as the land for the landless farmers is "a government initiative where arable land, both private and public, is made available through lease or license arrangements to bona fide farmers who otherwise would not be able to have access" (https://businessviewcaribbean.com/barbados-agricultural-development-and-marketing-corporation/).

5.9. ENVIRONMENT, FOOD SECURITY AND FARMING LIVELIHOODS

Farmer/farm worker interviews

In the previous sections, farm workers highlighted their personal and community struggles and coping mechanisms for accessing food. The recent COVID-19 pandemic is known to have created or intensified difficulties around food access. Interestingly, few of the farmers expressed much knowledge or concern about the environmental effects on food production, availability and accessibility.

Land availability

According to respondents, some people in their communities use available land to build larger houses. The farm manager from Spring Hall pointed out that new communities are being built on or near land designated for agriculture; this not only reduces the amount of land available for farming, but also interferes with production on existing farms. As he explained:

> *Houses start spring up around the fields, and now normally what you used to spray you can't spray anymore... I recently spray a cane ground down there and the spray drifted and hurt a man['s] crops, and that is another challenge.*

Rainfall and drought

Respondents highlighted the effects that extreme seasonal weather has had on agriculture in recent years. For example, the farm manager of the Spring Hall farm spoke of the effects of drought, compounded by higher than usual temperatures, on farming:

> *Hotter it is they don't perform as good ... hotter and drier ... weeds and trees spring up and each bunch of trees is its own ecological system ... pest come outta them ... They give me a lot of hard work.*

Others highlighted the dire effects that long periods of drought have on their crops, both on farm and in their personal gardens. Farm workers from Mount Pleasant pointed out that during times of persistent, heavy rainfall, certain parts of the field become flooded and this makes it difficult, if not at times impossible, to prepare for planting or reaping. The workers also commented on the effects that extreme weather conditions can have on their livelihoods: they are unable to work during periods of heavy rainfall and are thus deprived of their pay. Consider the following from a female farm worker at the Spring Hall farm:

> *Respondent: If it raining you can't work ... nope, you gotta stay home.*
>
> *Interviewer: If yuh stay home do you get paid for that day?*
>
> *Respondent: Nope.*

Access to water

Access to water was mentioned by a few farm workers. A man in his twenties, who works at Spring Hall and whose family has a chicken farm, described the impact of water shortages on his family's livelihood, which led them to buy large water storage tanks to ensure the survival of their chickens in dry periods:

> *Well, alright we does need rain water to get in the reservoir when the rain water don't go in the reservoir them can't provide water for us so sometimes it make it hard, we have our own tanks that attach onto the house, so when the water comes on it goes into the tanks the water in the tanks would have water that go to chicken farm and water that go to the house.*

His family and community have also been affected by unreliable water availability for the past three years, which affected running and potable water:

> *I think they need to figure out what's really going on and try to get the problem fix if it is possible because sometimes when you got to wash clothes when the pipe comes on you can't wash a white shirt.*

At the national level, the importance of reliable access to water cannot be downplayed. The representative from the BAMC emphasised this in distinguishing between self-sufficiency and the need for measures to ensure nationwide food security. She pointed out that food security at the national level requires the availability of land and people as workers, but also reliable access to water and investment in necessary enhanced infrastructure:

> *Yes, I drew the distinction between macro and micro …national level the issue of water being a scarce resource, so it needs to be addressed and also investment because the assumption is, is that you are not only growing the traditional starch crops, cassava, sweet potato, yams but you're also attempting to balance the diet by the greens, whether it is carrots, lettuce and so on and anytime you are engaging in that type of production then it becomes very intensive and therefore you need the shared house, the hydroponics etc.*

This representative further explained that self-sufficiency at the household level was easier to attain, as:

> *… those persons can engage on a comparable level on not only the root crops but also the greens because it is less intensive; once they can pay for the water it is not an issue, and therefore they can more balance because they have less issues in terms of pests and weeds.*

However, for small-scale farmers, as highlighted by some respondents, infrastructural and financial support may still be required, especially in communities where people lack legal access to agricultural land and a reliable water supply.

Fishing community interviews

Overfishing

Only a few respondents in Six Men's Bay identified the ways in which the environment affected other food-related activities such as farming:

> *[Tropical Storm] Tomas wipe out a lot of trees, but this COVID thing show that you got to get back to planting a little something around the house, a lot of people out of work and they do not have the finances to go to the supermarket. We going to have to dig up the flower beds and plant a little potato or cassava in the corner to help feed the family (female respondent, Six Men's Bay).*

Most respondents in Six Men's Bay focused their remarks on fishing. They identified a combination of natural and unnatural environmental changes that affect their livelihoods and food security. As mentioned elsewhere, a common theme in their discussions were the livelihood effects of overfishing, especially of flying fish. A fisherman in his forties explained:

> *There's enough fish but there isn't as many as before you used to have a surplus of fish at one time we had so much fish that they would give you a bag of 100 fish … but now that done.*

Another fisherman underscored the detrimental effects of increased fishing:

> *[There is a lot of] overfishing right now because a lot of people don't have jobs every ways, so people gone back into it because they don't have a lot of people who used to work in the tourism industry… the flying fish aren't really coming close to the islands so a lot of people are going back to pots and stuff, so I still feel that it is kind of hard in a way.*

Weather and coastal changes

A few fishermen perceived that the change in temperature and roughness of the sea, which they ascribe to climate change, have an effect on fishing, both in terms of the availability of fish and the actual experience of going fishing:

> *The fish is not like one time. I know that for sure, they not catching like how they used to catch, the climate change and ting, the water used to be warm, you go in the sea on a morning now and it cold (male respondent, Six Men's Bay).*

> *Yeah, because for the last month the sea was like really acting up and this is the first time we have seen that in years...I mean when there is high tide usually it would come across the street but now, I mean it's constant (male respondent, Six Men's Bay).*

A fisherman offered his view on the range of environmental factors – many of which are due to human activities – that could impact marine life in this coastal community:

> *I don't know if it is climate or the leeches off the land or what, but what would have been a lot of small fish that used to be close to the shore, a lot of seaweed moss, what's a lot of sea life, a lot of sea life that would have been around on the inside, so I don't know if it is because of, people say that it's the climate, and some people say it's the waste from the hotels, people say it's the waste from the farming that runs into the sea, I personally can't say what (male respondent, Six Men's Bay).*

Another fisherman remarked on the effects on fishing brought by changes in the coastline due to rock erosion and human actions:

> *Well, you can't do nothing much you got to change the direction of fishing, you know, when all of them rocks up there, all here was white but not you can't do no fishing in the area so you got to go further north.*

The need to go further north on the island poses difficulties as the waters are more perilous:

> *Yeah, because everyone don't have a big boat you know we have smaller crafts as well so the smaller crafts got to be more conscious because the sea can capsize the boat and stuff like that you know, otherwise than that people was saying that it kill the reef (male respondent, Six Men's Bay).*

Summary of the environment, food security and fishing livelihoods

Neither the respondents in the fishing nor the farming communities expressed much concern about the effects of environmental change on food security and their livelihoods. However, they did identify a number of ways in which humans influence the natural environment.

5.10. BARBADOS THEMATIC SUMMARY

The majority of interviewees have lived in poverty for most of their lives. Nevertheless, they are generally satisfied in their communities and have access to all basic amenities.

Farmers earn a regular income, although it is not enough to meet their monthly needs. Financial instability is especially prevalent among females due to their childcare responsibilities. People working in fisheries had more difficulties securing a stable income. Neither farmers nor fishers owned significant assets such as house, land or car.

Most interviewees had only completed primary school and few had pursued vocational training. Financial pressures, lack of self-confidence, lack of desire, childcare and pregnancy were the reasons given for not completing their education. In general, there is a lack of value placed on further education or training. Jobs are segmented by gender, especially in fishing; men have the more lucrative jobs catching fish, while women carry out tasks in basic processing as boners and cleaners of fish. There is a noted stigma attached to working in agriculture, which is associated with poverty.

Younger respondents are generally in good health, with older respondents more likely to report physical and psychological problems. Most respondents have good access to healthcare; however, despite public healthcare being freely available, there is a preference for privately available services due to long waiting times at public polyclinics. Access to public transport is considered suitable.

Outside of work, the lives of women respondents revolve around the family, while men are more likely to enjoy leisure activities outside of the home. Family is important for providing social, psychological and occasionally financial support. While relations with neighbours are generally good, respondents are generally unwilling to seek support from them. Respondents are not much involved in formal social organizations, except for church in the case of some women.

While respondents in the fishing community recognize the profits to be made from fishing, the most lucrative fishing activities are not available to the poorest people since considerable expenditure on boats and equipment is required, especially for iceboat fishing. The influx of Sargassum seaweed and decline in the number of flying fish have hindered the fishing trade. Respondents have access to free healthcare and education up to the tertiary level. They also have access to formal financial services, but lack the funds to be able to save. They are generally reluctant to borrow money.

Both farmers and fishers complained about the lack of government support for their communities: the farmers considered themselves to be unequally treated compared to other government workers, while fisherfolk demanded better infrastructure at their landing sites.

6. Results: Grenada

Key messages

- One of the main constraints for agricultural households is lack of tenure, presenting challenges for crop planning and expansion.
- There is a lack of formal social participation. Social networks are rarely used as a means to build assets. A few farmers and fishermen participate in networks to serve their businesses, but in general the networks ae informal.
- A variety of strategies are employed to cope with a lack of money to buy food. Family and friends generally assist each other, but when this assistance is unavailable they may eat less or skip meals.
- The environment was observed to be both a facilitator and barrier to access for income generation and provision of food for the household. Increased stormy weather and climatic impacts on quality and quantity of fish stocks have affected the fishing community in Victoria.

6.1. THE INSTITUTIONAL, POLICY AND SUPPORT ENVIRONMENT

Grenada's main government institution for agriculture is the Ministry of Agriculture, Lands and Forestry (MALF). The total budget for MALF in 2020 was USD 6 900 000, approximately USD 60 per capita,[21] in contrast to Barbados' USD 115 per capita.

The government has embarked on a number of activities to combat food security and poverty at the national level and in rural communities. One prominent example is the Support for Education, Empowerment and Development (SEED) programme, which is a conditional cash transfer programme designed to uplift vulnerable persons.

Another initiative, the Backyard programme, was established to respond to the agricultural challenges that arose from the COVID-19 pandemic. This programme provides 500 families with seeds and planting material.

The Zero Hungry Initiative works with school feeding and nutrition programmes in vulnerable communities, while the Programme for Adolescent Mothers (PAM) provides training and other means of support to adolescent mothers.

The 4H programme encourages young people to enter farming and the Market Access and Rural Enterprise Project (MAREP), in collaboration with the International Fund for Agricultural Development (IFAD) provides training and financial support to unemployed persons in rural communities.

GRENROP, the Grenada Network of Rural Women Producers, works to advance agroprocessing for women in rural communities. The Agricultural Competitiveness Project (AGRICOM) aims to improve the competitiveness of agroprocessors and other agroproducers in Saint Vincent and Grenada. Other NGOs, like Grenada's Agricultural and Fisheries Association, work closely with the government's youth agenda to engage more young persons in the agricultural sector.

Several organizations are working on climate change adaptation and mitigation in the Caribbean. CARDI, along with IFAD and the Caribbean Development Bank

[21] Based on an estimated population of 111 454 in 2018.

(CDB), are implementing climate smart programmes, such as sharing best practices in growing drought-resilient crops, innovative irrigation techniques and coordination for early warning weather/natural hazard systems. The Grenada Community Development Agency (GRENCODA) recently provided water storage/facilities to rural farmers.

Thanks to the efforts of Grenada's Cocoa Association and funding from the Global Environmental Facility (GEF), the process of drying cocoa beans has become more efficient through the use of renewable energy sources.

Organizations like the Caribbean Development Bank (CDB) through its Basic Needs Trust Fund provide continual support to rural communities by upgrading water and agricultural facilities.

MALF, along with other development partners, is embarking on a G-WaSP (the Grenada Water Stakeholder Platform) initiative, which focuses on water resources management, water risk and water pollution. The initiative has identified the Grand Etang Lake as a focal point since it is Grenada's largest freshwater reservoir and is used by the National Water and Sewerage Authority (NAWASA) in the dry season to augment the water supply for the southern part of Grenada.

FAO partnered with the government to champion climate smart technologies and practices for agricultural producers, fishers and foresters to strengthen their resilience. FAO is also working to establish insurance for crops, livestock and fisheries to mitigate the burden governments face after a natural disaster. According to the Minister of Agriculture, the Honourable Yolande Bain Horsford, "The current construct where the government has to intervene to bail out farmers time and time again following major disasters is definitely untenable and unsustainable (Campbell, 2019)."

6.2. BACKGROUND ON COMMUNITIES

In 2011,[22] the three agriculture- and fisheries-dependent communities of La Digue, La Sagesse and Victoria registered a total population of 2 230 persons, about 2 percent of Grenada's overall population. The three communities fall within the low-income quintile, where small-scale agriculture is a significant form of economic activity for many residents. Victoria, a fishing-dependent community, has the largest population, a total of 1 132 inhabitants, while La Digue, the smallest, has a total of 322 inhabitants. **Table 4** shows land area, gender composition and population density in the three communities.

The proportion of the population engaged in agriculture varies across communities, ranging from less than 1 percent in Victoria to 25 percent in La Digue and 29 percent in La Sagesse. La Sagesse is completely autonomous, while both Victoria and La Digue are closely linked to neighbouring communities from which resource needs are usually met. Some fishers and farmers from these communities were members of local cooperatives and participated in benefit programmes.

The ratio of women to men as fishers and as farmers in the community closely reflects national ratios of 1:4, although only two women fishers were identified for interviews in Victoria and only two women farmers in La Sagesse. Men and women dominate in different livelihood areas of the two sectors. Community figures for the fishing and farming sectors are presented in **Table 5**.

[22] Community-level data supplied by the Granada Central Statistical Office (no date).

Community	Total population	Females	Males	Land area	Density
Victoria	1 132	585	547	0.99 km^2	114/km^2
La Digue	322	171	151	3.26 km^2	89/km^2
La Sagesse	776	397	379	5.24 km^2	148/km^2

Table 4. Overview of community populations and land area

Source: Central Statistical Office. no date. Granada Census Data from 2011 (unpublished).

Community	Fishing/ agriculture cooperative	Cooperative (affiliates)	Independent fishers/farmers	Farm size/ fishing method	Approximate number of fishers/farmers
Victoria	1	9 (2)	15	Boat/Line	15
La Digue	1 (6 members)	6 (9)	50–60	≤ 1–12 acres	65–75
La Sagesse	0	5	25 (active)	.25–5 acres	30

Table 5. Overview of community farming and fishing structure

Source: Authors' own elaboration based on various community sources.

Landform patterns vary, but crop farming behaviours were common and consistent across all three communities. Victoria, the fishing-dependent, narrow and elongated seafront village town, is surrounded by extensive higher ground. Small subsistence farms are occupied by some local residents on Crown lands or on rented plots of private estates.

La Sagesse, a low, flat alluvial basin extending some distance inwards from the coast, lies a few feet below sea level. Much of the coastal area is considered marginal land. This area is often inundated by heavy rainfall and sea surges. Recently, flood mitigation measures have been put in place to channel the excess runoff. Small farmers squat, or rent Crown lands or in some cases privately own their own farmlands.

La Digue inland and around 600 feet above sea level. Farms of different sizes are set out on the slopes and farmers depend on irrigation. Both large and small farmers are renters or lease holders of Crown or private lands, although some squat or own property themselves.

Gender patterns

Nationally, the ratio of men to women in the agricultural sector is approximately 1:4 (Central Statistical Office, 2017). There is gender segmentation in work practices and differences between how men and women organize themselves in the sector. Unless in management, women earn lower incomes from their farming enterprises because they tend to operate on a smaller scale. These patterns hold true in all three communities studied.

Only one woman owns and manages boats and fishing expeditions in Victoria. Most women are self-employed as fish vendors or as street vendors catering to fishermen. Women operate independently of each other and acquire physical and other assets on their own initiative and at their own expense. There are indications that the women in Victoria have a greater inclination to work in managing fish market facilities.

Few women own farms, and these are relatively small, ranging in size from small home plots to one-quarter acre field plots to two-acre farms. Most women produce fewer varieties of crops, preferring vegetables and herbs. Whether on their own or with help from their spouses, women tend to establish their own niche markets with small shops, supermarkets and restaurants. As farm hands, women are mainly involved in planting, weeding and harvesting. Like men, women fishers and farmers usually take on other jobs to supplement their income. Odd jobs are often conventional and gendered: construction and security for men, and domestic office work for women.

Besides renting and operating larger farms, men grow a wide variety of vegetables and seasonal and non-seasonal fruits, as well as long-term, high-income generating crops. The decision to invest in fruit-bearing trees, like passion fruit, soursop and ginger, largely depends on elevation and soil type. Hence, La Digue is the country's largest producing area. By contrast, the choice of crops and planting time in La Sagesse depends on the dry and wet seasons due to its low elevation. More men are suppliers to large entities, such as hotels and supermarket chains. They prefer to work with organizations, such as cooperatives and informal support groups, mainly to facilitate the sharing of equipment and to gain market access.

Values

The need for financial independence and to be resourceful in work are important values in the fishing industry since little assistance is forthcoming from government and others outside the fraternity. Government assistance, in particular, is found difficult to be to negotiate and slow to materialize.

The ability to manage money is highly valued by small farmers. It allows the farmer to cope in low-income periods or when there is crop loss due to weather or other environmental shocks. While a few people have managed to achieve some financial security, for others it remains an aspirational value.

Both fisherfolk and farmers believe in eating the foods they catch or grow throughout the year. Most farmers indicate their food choices and eating habits aim to reduce the likelihood of ill health. Fresh fish, salted fish or corned fish, and traditional provision foods as well as natural fruits, vegetables and foods prepared with garden herbs are considered the basis for a healthy diet.

Both fisherfolk and farmers believe that agriculture can provide them with a good life. Successful fishers and farmers have proven this to be the case. The general trend towards healthy diets means that more persons are consuming greater quantities of fish and vegetables, strengthening the markets for these foods. However, to ensure that agriculture production and fishing can provide good livelihoods, members of the communities indicate that they must have adequate support from the state, including regulations to ensure price stability, subsidies on agricultural essentials, such as manure and fertilizers, access to good farm lands, potable water and markets.

Coping

For fishers in Victoria, saving money is considered a necessity and is practiced by most people, since income is not always reliable nor consistent basis. Most interviewees work at other jobs during their "down time" to supplement their incomes. Supplemental jobs include corning and selling corned fish, providing transportation services and farm work. The need to be financially independent and resourceful are important values in this community. These values drive the work ethic as well as the fisherman's cooperative in Victoria. Community members aim to minimize borrowing and spending and maximize savings. However, the COVID-19 pandemic and the other challenges are forcing new attitudes to emerge, as younger fishers teach themselves new skills, some through online platforms.

Farmers, overall, are multi-skilled. In La Digue, they use their agricultural or other skill sets to earn alternative income during their down time. Some farmers work at as many as three "odd jobs" at a time.

Skilled or semi-skilled jobs in the building and construction fields, in security, landscaping, babysitting and craft (such as sewing and tailoring) supply additional income. Female farmers and farm hands tend to engage in plant and food processing activities when they need additional income. When savings are exhausted, poor farmers scrape by as best as they can. Others resort to withdrawing from their long-term savings at the credit union or commercial bank.

Farmers also rotate their planting to always have a crop that is ready for market at any time. Some experiment with new and marketable plants, such as high yield hybrids and exotic vegetables. However, crop rotation carries a higher risk of loss from the extreme weather conditions. There is excellent drainage in La Digue, but excess runoff can dislodge plants, trees and fruits. On the other hand, yield was lower when the temperatures were too high. Farmers who depend on rainfall rather than irrigation were the most affected. For other farmers, the dry season creates a higher demand for the use of communal gravity flow irrigation systems, which leads to mild competition among partner farmers with farms on the higher and lower slopes. Overall, individual farmers find ways to get their rightful use of the system.

In La Sagesse, which is more prone to the vagaries of extreme weather, efficient runoff was a major concern during the prolonged wet season. Maintaining unclogged drains to aid runoff is every farmer's business. Both older and newer farms are located close to the river course to facilitate plant irrigation, especially during the dry period. A shared gravity flow irrigation system is located in a nearby model farm[23] area where the farms are older and larger. Farmers in the residential area purchase their own pumps to take water to their home gardens. The close proximity of La Sagesse to the government's agriculture extension office and officers enables local farmers to receive different kinds of assistance. Additionally, assistance is available from the nearby Chinese Agricultural Mission, which provides a tractor for ploughing at a minimal fee, and seedings from the nursery free of cost to registered farmers.

Like La Digue, male and female farmers in La Sagesse use their different skill sets to work at additional jobs to supplement their earnings. Skilled or semi-skilled jobs in the building and construction fields, landscaping, crafts (e.g. sewing), domestic care and office work supplement income. Younger male farmers have invested in additional enterprises, including livestock, small shops and street vending, and mechanical repairs. Notwithstanding, almost 50 percent of farmers, mostly women, depend on cash grants from the SEED programme, including to assist children in school. Female farmers sometimes receive non-paid help from other females. Male mentors can often be relied on to provide emergency financial assistance. when their savings are exhausted, poorer farmers adjust by consuming less food and changing their diet to include available foods.

6.3. RURAL LIVELIHOODS: HOUSEHOLDS AND WORKING LIFE

La Digue

Interviewees were mostly between fifty-one and sixty-years-old. Their households range from single males to nuclear family households of between three and six persons to a male-headed household of two. Multiple-person households comprise a mother and father (or partner) and children; grandparent(s), parents and children; or households of siblings.

Farmers in La Digue grow traditional crops, including nutmeg, banana, cocoa, ginger, root crops, various vegetables and fruits, and other crops with special nutritional and medicinal purposes. The famers use both their home plots and nearby fields. Some farmers keep livestock such as pigs. One interviewee was a

[23] A model or demonstration farm is a farm designed to demonstrate new or best practice techniques or technology.

casual day worker who assists with cleaning the farm and livestock pens. Independent female farmers generally produce herbs and vegetables. Women also work on other people's farms or estates, in a fruit factory or assist their spouse or family with agricultural production. One couple occasionally works for the government undertaking roadside cleaning.

The workday starts as early as 5.00 a.m. for farmers and at around 5.00 to 6.00 a.m. for farm hands. Work on the farm may continue until 10.00 or 11.00 a.m., when it becomes too hot to remain in the field.

La Sagesse

Interviewees were generally forty-one to fifty years of age, with one person under twenty and two over sixty. Household composition is varied, ranging from single male households to female-headed households of three to six persons, and nuclear family households of three to eight persons.

The farmers in La Sagesse grow a variety of traditional crops, including banana, plantain, corn, traditional root crops, herbs and spices, special nutritional and medicinal crops, a variety of vegetables, and tropical fruits, including pawpaw, breadfruit and melon, and coconuts. Cucumbers are a major vegetable crop and are highly seasonal. Farm size ranges between one and two acres for most farmers. One male farmer oversees an eight-acre farm plot. Independent female farmers produce more herbs and vegetables. Women with large families tend to grow a greater variety of crops.

In general, the workdays for interviewees start at 5.00 a.m. and end at around 5.00 to 6.00 p.m. Field work ends at about 10.00 or 11.00 a.m. daily. The remainder of the day is used to do other jobs or to attend to other crops and/or livestock later in the afternoon.

Victoria

Most interviewees were in the thirty-one to forty-year-old age group. Family composition ranges from a single male household to households with single female-heads with two to five persons, and extended family households of five persons. Overcrowding is more prevalent in female-headed households since their homes were often smaller in size.

Activities vary along gendered lines, with male fishers mainly doing long-line fishing and women involved in pot and line fishing. Vendors are usually women and they also assist with pulling in nets. Farming is undertaken by some of the fishers to supplement their dietary needs or income.

Workdays start as early as 3.00 a.m. for fishers, and at around 5.00 to 6.00 a.m. for vendors. Vending continues until 10.00 or 11.00 a.m. daily. Some fishers go to sea later, around 9:00 a.m., and do not return until midnight. While there are days with no fishing, on other days they may go out to sea twice, once in the morning and once in the afternoon.

6.4. ACCESS TO ASSETS AND ASSET-BUILDING MECHANISMS

PHYSICAL AND ENVIRONMENTAL ASSETS

La Digue

Half of the interviewees owned their homes (although some were on rented land) and one household used government housing. Generally, houses are designed for improvement, which is done gradually. The typical structure is wooden or a combination of concrete and wood. Concrete is used for the ground floor and the bathroom and wood for the top floor. Usually, the poorest farmers who live in all-wood houses. Houses usually include cellars or outdoor sheds for storing farm equipment and market produce.

Public utilities and sanitation services are regular and used by most interviewees. Families squatting on family, Crown or private lands have equal access to these services. Public utilities are accessible to all residents. Most people are connected to the water and electricity grids.

Farmers own or rent land, and own and/or share farm equipment. The average size of farms is approximately two acres. Most homes have the basic amenities. Respondents generally described their communities as free of crime. Most respondents reported regular garbage collection and there were few reports of rodents although one male respondent complained of some issues with rats eating his crops: "We have some rats in the community. And they affect the farmers. They are eating farmers' crops like the sweet potato…".

Respondents do not appear to know much about how their livelihoods may be affected by the environment. While most have not noticed any environmental changes in recent years, one man noted, "…there has been more rainfall." A woman added that she was unable to do any planting when it rains.

La Sagesse

Most interviewees live and work on Crown lands. Houses are typically either fully wooden houses or upper-level houses[24] designed for later improvement. Such improvements usually include a concrete ground floor and an inside bathroom. The unfinished ground floor is used for storing farm equipment and market produce. Most respondents are fairly satisfied with the neighbourhoods in which they live. Some expressed concern with issues such as intermittent flooding, rodents and, in one case, a male respondent said that he has "…had some problems with larceny."

Public utilities and sanitation services are available in the community and are used by some interviewees. Families squatting on family, Crown or private lands have equal access to these services. The poorest farmers live in very small units, without running water or electricity, although a generator and a solar panel is being used in two such households. One male respondent described his situation: "There is water and electricity in the area but we have no connection. It is government land and we have to move soon. They gave us notice already."

Many women farmers and residents now have land tenure due to the government's compensation of householders who were displaced from Crown lands to make way for a new resort hotel. The newly apportioned lands are supposedly adequate for a home and garden and are situated in the La Sagesse community. However, not all land portions were considered of the same quality, nor are they all well suited to agriculture. Some women farmers have already relocated to the new lands provided by the state. Men were more disgruntled about being uprooted from their farms, despite the government's promise to compensate for their crops, and expressed uncertainty about their future in agriculture.

Most farms are located near the river source to facilitate irrigation. Gravity flow irrigation is shared on the older and larger farms. A gravity flow irrigation system is also shared in the model farm area. The government provides water pipes to individual farmers in the residential area. Farmers in this area purchase their own pump to take the river water to their gardens. Younger male farmers have more facilities and equipment, practice more scientific farming and are engaged in more supplementary jobs including shop keeping, livestock farming and small domestic animal rearing.

Respondents were able to provide some insight into the ways in which the environment affects their livelihoods. A man expressed concern over the flooding that takes place during the rainy season because it can lead some of the crops to rot. A woman recognised that there has been a lot more rainfall recently. She lamented the fact that wastewater "soaks into the soil and reduces production." The pollution of the nearby river was also highlighted man as an environmental problem. He said that people bathe and wash in the river and leave their garbage "…in the water and on the side of the river."

[24] These are houses with unfinished ground floors designed for future home improvement. Families live in the upper levels until they can afford to finish the ground floor.

Victoria

The majority of the men and women interviewed in Victoria have lived in poverty for most their lives. A man described his community as having "...no crime and really genuine people." With the exception of one female who is a tenant, the rest of the interviewees own their houses. Typically, structures are a combination of concrete and wood, with the concrete mostly used for the ground floor or bathroom, and wooden board for the upper floor. Only two of the ten structures occupied by the interviewees are fully wooden structures. Respondents indicated general satisfaction with their neighbourhoods. There are no issues regarding flooding, crime, garbage collection or rodents, although one male respondent complained that the dogs in the community interfered with the garbage before it is collected.

Utilities and sanitation services are regularly provided to the community; only two interviewees reported having no basic utilities and amenities. Other services are not as responsive to community needs, especially as they relate to the fishery infrastructure and the upkeep of docks and surrounding amenities. One male respondent complained, "The people in authority do not care about the community. When we complain to the authorities about certain things, we do not get any satisfaction."

As there are no lights provided at the quay, fishermen take great risks in entering the channel to a faulty landing dock. Boats have incurred damage and the lack of lighting has resulted in theft; over the past two years, several boat engines have been stolen, costing the fishermen in excess of EC$ 100 000, with one fisherman losing two engines during this time. Some people have taken extended time off from fishing, particularly those who have lost their fishing assets, and have had to work in other jobs to cover their losses. While most fishermen are boat owners, others who do not own boats work with those that do.

The Victoria interviewees have some knowledge of how the environment may affect their livelihoods. One man noted that weather has become more unpredictable than formerly. The rough seas, caused by increased stormy weather, make it difficult to go fishing. He also argued that the unpredictable weather has made it more difficult to predict the seasons, which affects the growing of crops. Another man indicated that there has been less rain recently. This attracts a certain type of fish that eats their bait, and thus affects their hauls.

HUMAN ASSETS

La Digue

Most interviewees were educated to the secondary school level; others received only primary schooling. One interviewee is a college graduate. However, there were some school dropouts, both males and females, and some of men were unable to read or write properly. Men cited the opportunity to work and to earn as their reason for not pursuing their education. One man explained that there had been no one to help to support him through school. Another said that he thought it was more important for him to help his sister with her children. He explained, "I had to stay home and take care of my sister's children as she had to work. I thought that was important to do since I lived with her." Others wished to acquire a skill, which was the "manly" thing to do. For women, pregnancy or financial pressure in the home of a typically single-parent, woman-headed household with a large number of child dependents prevented their further education. One woman, for example, dropped out of school due to the financial constraints associated with her grandmother having to take care of several children. A lack of desire and motivation were also given as reasons for given not finishing school. One female respondent highlighted the lack of encouragement she got from her parents: "My parents did not provide that guidance and encouragement for school. They did not make the education seem to be as important as it is."

Traditionally, males in La Digue gravitate towards farming. Apart from farming their own plots, day work is usually available on larger farms or estates. Farmers learn skills in agriculture by working in

different areas of farming, as well as on their own initiatives to gain skills, and government and NGOs participatory programmes.

Despite living in chronic poverty, respondents appear reluctant to improve their education or skills, and thus increase their chances of upward mobility. None of the farmers interviewed indicated they had ever taken any steps to improve their education or training.

Health problems were particularly acknowledged by women. A woman indicated that she recently had surgery (reason not stated) and was still feeling some pain. Other women cited problems associated with sexual and reproductive health or high blood pressure. The men generally reported themselves to be in good health. However, man indicated that he has a heart problem and so can no longer lift heavy weights.

As in most rural communities, paying a visit to a specialist doctor that requires financial sacrifice and forward planning. Finances, healthy diet considerations and availability determine that people eat poor diets, consisting of mainly starchy foods, were typical of people who earned the lowest income from farming.

La Sagesse

Older interviewees had received only primary level education in the previous school system – the equivalent of lower secondary school. Younger people had either completed secondary school or had dropped out due to financial pressure and sibling care responsibilities. One young male farmer is now in college, while another is studying online, with the hope of having a meaningful impact on agriculture in the future. When asked why they dropped out of school, one man said that he "couldn't afford it." Despite living in conditions of chronic poverty, respondents appear reluctant to improve their education or skills, and thus increase their chances of upward mobility. A male farmer highlighted his lack of confidence at school: "I feel I was slow. Was taking so long to finish primary school. I got old. I just thought it would be a waste of time to continue." Another man blamed his issues with law enforcement for his failure to finish school. He said that because he was wanted by the police at such a young age he had to "leave school and go live in the country."

Women tended to blame their decision to leave school on teenage pregnancy or financial pressure on the home of usually a single-parent, woman-headed household in which there were a large number of child dependents. One woman, for example, said that she dropped out of school because she "got pregnant and had no financial support." Another indicated that, as the first of twelve children she had no choice but to help her mother with work. She dropped out of school to " ...assist my mom with cutting her tasks and other jobs on the estate."

Both males and females gravitated towards farming with the encouragement of a parent, usually a mother, or because of previous experience in farming or farm-vending. Younger farmers learned from an early age how to earn money from farming when they had to assist a mother, who was a single parent.

Both men and women have used their different skill sets to work at additional jobs. Their skills have been developed through their own initiative and trial and error.

Health problems were acknowledged by both males and females. Diabetes and high blood pressure afflicted women more often than men. One woman explained, "High blood pressure bothers me a little. I don't take any prescribe medicine for it. I use natural herbs to control." Other complaints are associated with sexual and reproductive health, which, in one case were exacerbated from doing farm work. Heavy farm work had also affected a female farmer, who complained that, although she suffers from no known chronic illnesses, she suffers from severe back pain due to forking the land. Fewer male respondents complained of health issues. One male farmer interviewed said that he needed surgery soon because he had some "extra flesh" growing on his arm[25].

[25] This is a form of limb tumor often loosely termed as "extra flesh".

Most of respondents indicated that access to health care was not a problem. They live close to health care providers and the transportation system is generally considered to be efficient. Others had more difficulty accessing health care. One female respondent said that, "Where I live the roads poor. Transport can't even come in there. So, I end up having to walk." For some, the lack of proximity to a specialist subjected them to major cost considerations requiring financial sacrifice and forward planning.

Finances, healthy diet considerations and availability determines the kinds of food that people consume. Poor diets, consisting of mainly starchy foods, were typical among those who earned the lowest income from farming.

Victoria

Most interviewees had received a full or partial secondary school education. Two females were educated o the tertiary level, one of whom is currently enrolled in university. The other women dropped out of primary or secondary school. When asked what stopped her from continuing school, one female respondent replied "…typical teenage lifestyle." Another female respondent cited the "…[the] influence of friends" as the main reason she dropped out of school.

Most men completed secondary school. Financial pressure in the home and peer pressure at school prevented higher educational outcomes. One male respondent said that when he finished secondary school there was not enough money available to him to go further so he "…started working when I finished secondary school." Similarly, another male respondent explained, "After Hurricane Ivan I couldn't go school because of damages. I started working. When school open I was now making money. I didn't see why I should go back."

Some fishers have pursued additional training in Trinidad at their own expense, particularly in fire safety at sea and boat captaincy.

The younger men gravitated towards the sea as their first or second choice. The older men in the community tended to engage in crop farming. Women choose fisheries because it was available and convenient. Despite different inclinations, both men and women believe good money can be made from fishing, provided there is enough fish and a market available.

The health of both men and women in this group is generally good. More women acknowledge personal health problems than do men. The maladies that occur relate to high blood pressure, sexual and reproductive health issues, and poor diet. One man said, "Every time I go for a test my blood pressure is high." A women complained of complications due to surgery:

> *I did surgery about a year now to take out a cyst. 42 pounds. Since then, it stop me from doing some of the things I used to do. I used to go out on the sea and islands to fish but since the surgery I can't do that no more.*

Budget, healthy diet considerations (which are more prevalent among men), and food determine the composition of people's diets.

Access to health care across the sample is satisfactory. One female respondent complained that there is no access to an ambulance, a dentist or "…a proper health facility" in the community. Most respondents, however, maintained that access to health care was not a problem, considering the efficiency of their transportation system.

SOCIAL ASSETS

La Digue

Interviewees are generally satisfied with the social relations in the community. However, there is little involvement in community or political organizations. Few small farmers belong to social groups, and most were not members of the community's farmers'

cooperative. Nevertheless, to minimize the loss of crops during dry weather conditions, a group of male smallholders organized joint ownership of a gravity flow irrigation system. This ensures against praedial larceny (although this is rare in the community) and is a forum for airing farmers' concerns. One male respondent reported being involved in a political organization but he was the rare exception. Some respondents said they were involved in the church.

When they are not working, both women and men spend time on domestic chores, with friends or at the bar or they simply stay at home watching TV or listening to music, reading a book or engaging in a hobby. Leisure time mostly seems to be spent engaging in solitary activities at home. A female farmer, for example, said that when she was not working she was "home watching TV or reading a book." A male farmer said that when he was not working, he was: " ...relaxing in the house. Sometimes I will look for a show to watch on my son's phone."

Some interviewees took part in childcare activities when they were not at work. One man said that he could often be found at home taking care of his son. A woman cited her childcare and household responsibilities: "When I am not at work, I am always on the go ...House chores and (taking care of) the children."

Family, neighbours and friends are important to social well-being. People rely on their families for various kinds of support. One woman said that she was very close to her brother who has always given her support and motivation. A man said that his family "supports me and gives me food." Another woman described her experience of mutual support:

> *I get assistance from them whenever I need it and vice versa. When one of them visits she gives me a little of whatever she has and I do the same. It's simply an all-for-one and one-for-all kind of lifestyle.*

This social support system might provide financial assistance through short-term loans when there is an emergency or resources are exhausted, but otherwise they provide moral support.

La Sagesse

The respondents in La Sagesse are generally not involved in community or political organizations. No one belongs to a farmers' cooperative. Senior male farmers serve as mentors and confidants to women with farms in the model farm area. The church provides support to women members. Several of the women interviewed reported regular church attendance and involvement; one of these is currently serving as public relations officer at her church. Church attendance was reported by one male respondent.

When they are not at work, women and men spend time on domestic chores, with friends, at the bar or at home watching TV or listening to music. One woman said when she wasn't working she was at home doing "household stuff." Another female respondent said she tends to "...relax, watch a movie, listen to music. Do household chores." Some respondents found leisure time difficult to justify given the need to generate additional income. One female respondent, for example, said that when she isn't working she is looking for "...a little side hustle. Maybe doing some cleaning for someone."

Several respondents indicated they do not enjoy close relationships with their family members. One female farmer said that she is only close with her brother. One male respondent said, "I don't really communicate with them." Others consider the family to be a very important source of support. This support is often emotional, but in some cases could be financial as well. One male respondent explained that family is "... very important to me ...[they provide] support and financial assistance when I need it."

While some respondents have good relationships with neighbours, they are generally reluctant to ask them for help. Neighbours and friends are important in some cases to social well-being, but are rarely considered a potential source of assistance by either the men or women.

Victoria

More men than women belong to social groups. Outside of working hours, some men regularly engage in social activities, including sports, community service activities or informal business and political group meetings. Men were more likely than women to be found having a drink at a bar. One male respondent explained: "…I might go by the bar and drink or have small talks or look at sports on the television."

Outside of work hours, women tend to occupy themselves with domestic chores, with friends or simply by staying at home. One woman explained that she uses her free time to "…make guava cheese or jelly to sell." Another prefers to "…relax by the sea." Yet another said that when she wasn't working she may "…go to the bar to have some drinks."

Family, neighbours and friends were important to social well-being for most respondents. This social network provides financial assistance, short-term loans and moral support during crises. More women access these forms of help from family, friends and neighbours, while men tend to borrow money from other men with whom they do business. Some men are family-oriented and spend considerable a amount of time with their children. Others undertake various activities in their spare time, including farming, visiting the local bar for conversation, relaxing on the bay, watching television, and holding cookouts with friends.

FINANCIAL ASSETS

La Digue

Farming is the main source of income for interviewees but none of them depend exclusively on their earnings from agriculture to meet personal expenses. Farmers' incomes range from EC$ 700 (USD 259) to EC$ 1 000 (USD 370) per month, while farm hands earn at most EC$ 400 (USD 148) per month. Poor farmers (both male and female) compensate for their low incomes by working on large farms when they need extra work, and when work is available.

The credit union is commonly used for personal savings and to acquire home improvement loans. Some farmers explained that they are unable to amass any significant savings. One woman blamed her inability to save money on the restrictions imposed due to COVID-19. Another said while she does not have any savings in formal institutions, she saves in the traditional way with "…cash pans and tins." A male respondent said that he has no formal savings because of "…bad mind and wickedness."

People use their savings to meet expenses when returns from the sale of crops are low and work is scarce, although most respondents report that their savings would not be able to support them for long if they were to lose their income. Although one man indicated that he had enough savings to support him for two years, most believe that their savings would only cover about a month. A few poorer farmers are beneficiaries of the government's poverty alleviation programme (SEED), which provides them with small cash grants on a monthly basis.

Farmers are usually independent producers with their own established own client-base, which includes shops, supermarkets, restaurants, hotels and market vendors. Some sales are conducted in the field, while others take place at the buyers' establishment. The local market is too small for high demand and high-priced produce, such as ginger, for which there is no export market. Ginger is a long-term crop, therefore more farmers tend to plant it with a mind towards harvesting during the high season. Ginger is in high demand during the Christmas season but oversupply tends to depress price at this time.

The lack of suitable transport to move produce to market can also depress earnings. Farmers spend considerable amounts of money on hired transportation and public buses to take produce to market, and this also limits the amount of produce they can move.

Farm subsidies are not available to all farmers as only licensed farmers receive this assistance. Registering is a voluntary process, but some farmers find the process slow and selective and tend not to register.

Other barriers facing farmers include the high price of manure and fertilizers and the unstable price of produce, which only the government can address.

State-sponsored training programmes to develop skills, and enhance incomes, are becoming less frequent, and the assistance from agricultural cleaning gangs (groups of workers that clean/clear land) and extension officers was not extensive.

La Sagesse

While farming is the main source of income for all interviewees, none of the farmers depend exclusively on their earnings from agriculture to meet personal expenses. Monthly income may range from EC$ 300 (USD 111) to EC$ 1 000 (USD 370), with some farmers earning more. Praedial larceny and the loss of crops due to bad weather have the greatest impact on community earnings. While some farmers indicated that the income earned from farming was enough to take care of monthly obligations, this was not the case for most. One man explained, "For me the money is unsuitable. It is no way to take care of my family and my bills. Sometimes it is only EC$ 45 (USD 16.65) a day. That is just a stipend. It don't make any sense." Similarly, a women noted that she sells her products once or twice a week and is able to collect roughly EC$ 400 (USD 148) but that is not sufficient to cover her bills and debt.

Half of the farmers receive cash grants from the SEED programme, including cash grants to assist children in school. Women are the main beneficiaries in relation to school grants. Female farmers sometimes receive assistance with farming from other women, and mentors (usually males) can be relied on to provide emergency financial assistance and advice.

The local credit union was used for personal savings, to access home improvement loans if necessary, and to acquire funds to invest in other enterprises. Some farmers use informal means to save for emergencies when they can. While some respondents indicated they have enough savings to last for one or two years, others earn too little to save. One male respondent, for example, said that he has a small amount of savings in his home, but that it would not be enough to last him a month if he lost his job. When asked about savings, a woman replied: " …no I'm broke." In some cases, savings were used to meet expenses when returns from the sale of crops are low.

Farmers are independent producers with their own client-base, which include shops, supermarkets, restaurants, hotels and market vendors. Some sales take place in the field, others at the buyers' place of business.

Not all farmers are eligible for farm subsidies as only licensed farmers can receive this kind of assistance. However, their proximity to the government's agriculture extension office allows them to access other kinds of assistance. In addition to consulting with extension officers on farming matters, some farmers benefit from a new programme designed for registered farmers, even though they are not registered, due to being close to the extension office. Other state-affiliated programmes are available as well, including the nearby Chinese Agricultural Mission, which provides a tractor for ploughing at a small fee, and seedings from the nursery free of cost to "authentic" (registered) farmers.

Victoria

Fishing is the main source of income for all of the fisherfolk that were interviewed. Monthly income for boat owners ranges between EC$ 2 000–3 000 (USD 740–1 110) per month after paying the workers and EC$ 400 (USD 148) per month (minimum wage) for vendors. Social security benefits (National insurance Scheme [NIS]) were a source of income for people that qualify, and life insurance is available for those who can afford it. Most people consider savings, in financial institutions or at home, to be a necessity. Monthly income is not always reliable nor consistent, and families may have to draw on savings in times of need. Some respondents earn enough to take care of their monthly expenses. A man who earns approximately EC$ 3 000 (USD 1 110) per month said this was enough to take care of his bills and other

expenses and a woman who earns EC$ 2 000 (USD 740) shared similar sentiments. Most interviewees however are not in this position. One woman explained: "…it doesn't always give me enough to survive on. It doesn't provide enough to deal with me and my children, and then to pay bills."

Fisherfolk mostly trade with the Fish House in Saint George's, the major exporter and distributor of fresh fish on the island. Increasingly, however, more fish is being sold in the community, a development linked to difficulties in sourcing food during the COVID-19 pandemic. In general, community members have not wanted to pay the prices charged by the fisherfolk in the market, and have only out of necessity frequented the market during the COVID-19 pandemic.

Fish vendors usually sell jacks, a low-grade fish, to community residents. Jacks that are too large to use as bait are bought or picked out from the net. Fish vendors rarely have the means to buy and sell higher quality fish, they sometimes sell quality fish for the fishers on a commission basis.

Interviewees noted several barriers to making an adequate living from fishing, including rough seas and bad weather, unstable pricing, the high cost of petrol and the ice needed for fishing expeditions, and difficulty in getting concessions on the purchase of equipment, such as boat engines. They noted that fishers who were friends of people in authority were more likely to get help. The boat landing is also inadequate, and fishers have to plan strategically or jostle with other boaters to gain access to the best spaces. This forces some fisherfolk to sell their fish along the shore, while all fish hauls are expected to be weighed, certified and taxed at the fish market. Fish vendors face barriers related to inconsistency of fish supply, increasingly smaller quantities of jack fish and a shortage of carts for transporting fish (the cart can hold much more fish and make it easier for vendors to walk further to find new customers).

The credit union and commercial banks (to a lesser extent) provide the main saving mechanisms. Some respondents indicated they had amassed savings significant enough to last "…a very long time." One male respondent said his savings could last him up to five years if he lost his job. Most of the men and women interviewed however did not have access to significant savings. One man lamented, "I had some in the bank but I used it all because of the COVID-19 pandemic." Some respondents indicated that they have no savings at all in their accounts.

6.5. COPING MECHANISMS

La Digue

Support from family members is an important coping strategy for some respondents. One woman, for example, noted that she:

> *[has] an aunt who lives in another country that looks out for her, however, because of the COVID-19 pandemic she is not able to contribute as before, nonetheless she tries to send something every month.*

In addition, she pointed out that her aunt calls frequently to support and encourage her. Support from family is not limited to financial assistance. For example, one male respondent explained that his extended family was important for ensuring his well-being because they provide food for him. Likewise, a young female respondent noted her brothers were a crucial support in that they not only helped with school but also provided motivation.

During "down times", in addition to drawing on their savings, farmers make use of their other skill sets to earn income. Smallholder female farmers/farm hands engage in plant and food processing activities. In general, farmers rotate their crops and plant in sequence so there is always a crop ready for market. However, this approach to crop rotation and sequencing carries a higher risk of loss of income at critical times if there are extreme weather conditions which affect the timing of harvest. Yield is lower when the temperature is too high and excess runoff

can dislodge plants, trees and fruits. Farmers who depend on rainfall for water were most affected. Other farmers periodically experiment with new plants and try to sell the crops in the marketplace. Experimenting with high yield hybrids and exotic vegetables was not uncommon.

Outside of agriculture, some farmers work as many as three odd jobs. Many respondents noted that the money earned from agriculture was often not enough to provide for themselves and their families. Some respondents explained that they engaged in various skilled or semi-skilled jobs in the building and construction fields, in security, landscaping, babysitting and crafts (sewing, tailoring). Interestingly, only one respondent identified agriculture as a secondary source of income. She stated that although agriculture is not her main source of income, it is a way of life for her and her father. She depends on farming for additional income and food and to pay bills and for savings. It is worth noting that this respondent indicated she still depends on her father and other family members for help when she was without money for food or other expenses.

La Sagesse

Most farmers make use of non-agriculture skills to earn extra income during their down time. These include skilled or semi-skilled jobs in the building and construction fields, painting, landscaping, craft (sewing), domestic care and office attendant jobs were mentioned.

For example, one female respondent noted that although agriculture was her main source of income, it was not enough to cover all of her bills and debt. She had taken a temporary job with the government and relies on "cooking on Thursdays and selling her meals" to get by. Likewise, one male in his sixties noted that he supplements his income by doing several jobs, including "small works when provided like construction, road work and landscaping." Younger male farmers have invested in enterprises such as livestock, small shops and street vending, mechanical repairs, plumbing and landscaping.

Other farmers reported that they are able to manage their money well enough to tide them over. According to one woman, "Once you are able to manage your money properly then you can make a good living."

Managing her money properly, includes the informal saving practice of "sou sou". However, she also noted that she can rely on a friend for help if necessary. A male respondent expressed that he lives close to his extended family, who all provide a helping hand: "They are very important ...as [we] all have respect for each other and [they] provide support and financial assistance [to him and his son]."

A twenty-year-old man spoke of his family as an important part of his coping strategy:

> *Family means everything to [me]. To ensure [my] wellbeing [my] family/mother encourages and ensures that [I] puts time and effort into my studies for [my] personal improvement and betterment. They also ensure that [my] meals are prepared and ready.*

Although mostly describing his family's non-financial support, he also emphasised that if his savings were depleted and there was a crisis, he could always "live off his family." Interestingly, unlike in La Digue, half of the respondents in La Sagesse do not have a relationship with extended family members and do not receive support from family. In this case, many of the poorer farmers adjust to this circumstance by consuming less and changing their diet to include the food that is at hand. A few farmers would search the property for something to sell when there is a small financial emergency. For example, one female respondent stated, "Whenever there is not enough food or money to buy food in the house I will sell something from the garden to ensure they [her family] eat."

Women farmers in the flat model farm area usually use crop rotation to ensure that they always have produce ready for market, but they are vulnerable to a high risk of losses from low yields and flooding due to the extreme weather conditions that often affect the area. Entire field crops have been inundated with flood waters as helpless farmers watched the loss of their investment of time and money.

Victoria

Income from fisheries is regarded as potentially lucrative by some respondents:

> *Community people do not look down on fishing because of the type of fishing they are involved in, which is long line fishing, is lucrative so even the teenagers are drawn to it, so much so that they do not want to go to school again (male respondent, Victoria).*

This respondent noted that he has tried to explain to young people the importance of finishing school before embarking on a fishing career. Others explained that there are people in the community who look down on fishing, even as they seek to benefit from it:

> *Some people think that fishing is not a good occupation and looks down on it, they would not assist in anything as it relates to fishing but always want fish when others pull the nets (female respondent, Victoria).*

Fisherfolk regularly work at other jobs to supplement their income. One male respondent described himself as a "jack of all trades", noting that he does window installation and repair as well as construction. A woman noted that she "washes for people on the weekends, gets money overseas and from NIS." Another said that she "sells coconut oil and corned fish, guava cheese and guava jelly."

Respondents identified a range of secondary jobs, including corning and selling corned fish, providing transportation services, farming and working in construction. Additional short-term jobs undertaken o supplement income, include road work supervision and transportation services for men, and administration, craft and food processing for women.

Respondents believe that they must be financially independent and resourceful because little assistance is provided by government or others "outside the fraternity" – it is assumed that this refers to NGOs. Government assistance, in particular, was difficult to negotiate and slow to materialize:

> *In times when there is a shortage of fish, [I] use [my] truck for hires ...[my] savings will take care of [me] [I] budget well and conserve. Fishing ... good source of employment we just have to get the right set of people and mould and encourage them. Government could assist fishermen by providing markets because when fish is heavy on the market it is hard to get buyers. Government should not only invest in tourism.*

The values of independence and resourcefulness drive the work ethic in Victoria, hence borrowing is kept to a minimum. The aim is to minimize spending and maximize savings, with transactions conducted, whenever possible, with close partners and family.

Nevertheless, some respondents cited the importance of the support received from families and friends. For example, one male respondent said that if he needed money, he "would reach out to a family member in position to assist him," such as his father. Another man noted that, while he does not usually heavily rely on family for financial help, he would seek help from his father or girlfriend. Reliance on family may not always be for financial reasons, but also for advice: "[we] share experiences and situations and try to solve them together, reason over it."

6.6. AVAILABILITY, ACCESS AND USE OF FOOD

La Digue

Agriculture is the main source of income and food in the community. Farmers usually produce enough food to feed themselves and their families, and to sell to community members and vendors who visit the farm. As woman explained, "The main source of income for people in the community is agriculture. The farmers produce vegetables, fruits and legumes; it is sufficient for them and their family."

Most people's diets mainly consist of ground provisions, fresh vegetables and fruits, which are readily available from the farmers and home gardens. This is especially important for people who are unable to go shopping outside of the community. Community patrons appreciate the easy access, quality and freshness of their food choices, with woman noting the relative self-sufficiency of the community: "[There is] a lot of ground provisions, fish in the river, hunted meats like manicou." A man in his sixties pointed out that "[the] main source of food for the community comes from farming and it changes according to the time of the year, however food is never scarce because people are always planting."

While most people spoke about the self-sufficiency of the community, a few also mentioned that people also consume food not grown or produced in the community: "[There is] a mixture of eating from the garden and buying foods from the shop as people plant but cannot plant everything so at the same time they must go to the shops (female respondent, La Digue). One woman believes that the main source of food for the community is the supermarkets, for rice and snacks, although she mostly uses more food from her backyard. According to her, the community's diets comprise fruits, rice flour, etc.

Respondents noted a range of factors that may also shape the availability, access and use of food. Chief among these is the fact that some foods are available all year, while others are seasonal. Other factors included preference and health needs. Transportation can affect access to food in and out of the community.

Respondents also identified a number of issues related to the environment that inform access and availability of food. Legal access to land is a crucial factor, since farmers squatting on Crown lands do not enjoy land tenure rights and therefore do not have the freedom to expand or develop their farms. Producing a variety of crops to maximize earnings is thus necessary for this group.

La Sagesse

Some farmers claimed to produce sufficient food to feed themselves and their families, to sell to community members in the market or to vendors who visit the farm. However, some respondents that some people also rely on the supermarkets. One male respondent in his twenties noted that:

> *The main source of food for people in the community is agriculture, most of them grow their own food including [me]; however [I] think that the amount that is produced is not enough for the community so people still have to buy from the supermarkets.*

Most members of the community produce food in their backyard, usually bananas and other staples. For example, one female respondent noted she did not know the main source of food for people in the community, but she would see people selling food in the community so assumed this was grown in their backyard. She eats what she grows. Another woman shared that "provision (ground provisions) and vegetables are the foods that makes up the diet of community members, because most people have a backyard garden … vegetables are a healthy diet."

A number of factors influence availability, access and use of food. For example, poor farmers with many dependents and people without much land were more likely to purchase basic foods from the closest supermarket. The time of year and weather patterns usually determine the choice of crops that are grown. Quick crops like cucumber are grown if there is a high demand and a shortage of the vegetable. Access to land was the most commonly identified factor affecting food availability, as one female respondent reasoned: "… if there is better and more access to lands it would bring it a lot more food and work."

Others noted it was not just access to land, but access to land with good quality soil. Access to land was more important for those farming in small home plots since they were limited in the quantity and the types of crops that can be grown. Farmers squatting on Crown lands do not enjoy land tenure rights and therefore do not have the freedom to expand or develop their farms. As one man explained:

> *If someone is farming on a lot of land that he doesn't own or renting, [this] could be taken*

> *away at any time and he or she may not have access to their crops … agreements between owners and tenants don't always exist and if it does it's not on a wide span.*

This man currently farms on land that belongs to the government and there is no agreement between him and the government. Moreover, he was not aware that legal documents could be drawn up in the interest of both the owner of the land and the renter. Producing a variety of crops to maximize earnings is always necessary for this group.

Victoria

Fresh or corned fish, and produce from surrounding fields or home gardens, including vegetables, ground provisions and herbs, are the main food sources in the community. One man noted, that: "…locally grown vegetables and fish for [the] community and [my] household. These foods are sufficient as [they are] the healthiest way to live." Another man observed, "The main source of food for the people in the community is fish because the community is a fishing community." This respondent also conceded that some things were not always available in the community and that he would substitute where possible. Only one woman mentioned that people also rely on products from the supermarket, "The main source of food for people in the community is fish and food and vegetables from the shops and supermarkets." Generally, respondents, spoke about obtaining food from locally-grown sources. A man explained, "The main source of food for community residents are both fishing and agriculture and the two sources are sufficient because the older folks work the land and the younger ones does the fishing."

It is not surprising that fish constitutes a main source of food for people in this community, since fishing, like agriculture, is seen as both a means of earning an income and feeding the family. Residents have preferences about the types of fish they buy and eat, however, the availability and price of fish are strongly influenced by the time of year.

Officials noted that home gardens have grown in importance since the outbreak of the COVID-19 pandemic, due to the limited access to food. Most respondents spoke about the dire effects of the COVID-19 pandemic, especially during lockdown, on their ability to access fish, which had an impact not only on their income but also on their food security: "[I] was unable to export fish and had to hustle and in some cases, had to give away and eat unsold fish (male respondent, Victoria).

Interestingly, most interviewees stated they never ran out of food or even had to eat less. A few, however, said they had to control their portions and that their children complained about not having sufficient food or the food they wanted to eat. One woman, for example, noted that the COVID situation affected sales of jacks, resulting in less income for her. She explained that her children: "…do complain about being hungry but never went to bed hungry because even if it is hot tea [I] will give them" (female respondent, Victoria).

Interviewees thought that more emphasis on agriculture was needed to ensure access and the availability of food, since the COVID-19 pandemic showed that, without food imports, the country cannot feed itself. A man, for example, stated, "The community can try to forget about tourism and do more agriculture."

While many believe the community is self-sufficient in the supply of fish and food crops, there is a need for improvement and more training, which should be provided by the government:

> *…the government can put more programmes in place to assist fishermen as they may not have the best needed knowledge, assist in getting land and boats to people who are interested in agriculture and fishing. The community would try to make the food last longer by salting, corning and freezing (male respondent, Victoria).*

Interviewees also mentioned the need to expand the jetty and market facilities to ensure safe entry for the fishers and to increase market space so more fish vendors can make a living:

> *There should be a jetty to make things easier for the fishermen because when the sea is bad as now it is a chance taking for them, the fishermen ...have been crying out for a jetty for a long time now. The light in the Quayside isn't working over a year now and as a result people steals engines in the night, boats coming in the night are taking chances doing so ...there is enough space to build a jetty and if there is a one the guys will feel safe and go out more often and there will be more fish available (female respondent, Victoria).*

6.7. FOOD INSECURITY AND COPING

La Digue

Not all respondents revealed an in-depth knowledge of the concepts of food security and insecurity. However, among the respondents who spoke about these issues, food insecurity was understood to mean the inability to provide food for oneself, family and community, while food security was understood as the means to get the food that one wants. As one woman explained, food security refers to:

> *Eating the best we can by not consuming things like sausage and cheese because we do not know where they come from and the conditions they originate from. We would be more secure if we eat what we grow and grow what we eat.*

The interviewee did not understand the meaning of "food insecurity".

A male farmer, who was likewise ignorant of the meaning of food insecurity, understood that food security "relates to the growing of more as well as a variety of food." To ensure food security, crops are planted to suit normal weather conditions and changes, and harvest can be predicted. Some crops are more vulnerable to extreme weather conditions: staple crops such as bananas and plantain, vegetables and legumes were easily lost during bad weather, and farmers must constantly adapt their farming techniques to protect their crops.

Some respondents noted the negative effect that COVID-19 has had on farming and their livelihoods. The COVID-19 pandemic has interrupted routines, closed markets, and changed how crops are grown and selected in order to ensure food security or to meet new demands. One woman said, "COVID-19 had slowed business down as [I have] been unable to go out and source the things needed and even conduct sales." Others observed that the COVID-19 pandemic had affected agricultural production because of the three or more months of lockdown, when people were unable to farm as normal and consumers were unable to access the markets.

> *During the COVID times there were no sale for nutmeg and so we lost some of that; on the other hand however, we had very good sale of the ginger since it was in demand. Some crops spoiled. The country was on lockdown but that didn't stop people from [farming] and [breaking] protocol to get their ginger. It is believed that ginger is good for COVID (male and female respondents, La Digue).*

Respondents also described the effect that excessive rainfall and environmental shocks, such as hurricanes, have on farming and, by extension, their livelihoods. For example, a woman cited some environmental factors that impact farming: "[The] weather, lack of water and sometimes transportation are ways that the environment affects access to food in the community." She observed that changes in the temperature also have an impact: "The sun is hotter and the plants would dry up." Likewise, a male respondent noted that, "Over the years we noticed the change in the climate because when rain is expected we get sun and when sun is expected we get rain." He observed that the community needs an untreated water irrigation system, since chlorinated water was

not good for the plants; rainwater harvesting is another area of assistance needed by the community.

Another man highlighted the impact that human activity has on food insecurity: "The government contributes to food insecurity in the community. They should build factories and have other facilities for food storage." Interestingly, a male respondent who claims that environmental changes and the environment in general do not affect farming, nonetheless conceded the dire effects of Hurricane Ivan on his livelihood: "[My] entire home was destroyed and all the food items were gone but luckily there was breadfruit in the community to eat from."

Other respondents also showed little concern about the effects of the environment on their livelihoods and a few even claimed there were no effects: "... enough rainfall, good soil and no effect from the wind (female farmer, La Digue)."

La Sagesse

In this community, food security is largely understood to be based on planting and having food stored and available to eat, while, food insecurity means having no or limited food:

Food security is ensuring that you have food and food insecurity is not having food (female respondent, La Sagesse).

> *Food security is making sure you have a place to store food and food insecurity is not having a proper storage for food (female respondent, La Sagesse).*

> *...it is about eating a good diet meal and the safety with food such as planting (male respondent, La Sagesse).*

Interviewees proposed different measures to address food insecurity and food security. Eating the right food on a daily basis and having access to the land and water needed to grow the crops were considered necessary to food security. Managing income to reduce unnecessary spending and living within a tight budget can help ensure food security. According to respondents:

> *...always keep the garden going because as long as crops in the land there is money (male respondent, La Sagesse).*

> *Not planting enough food to be able to assist others contributes to situations of shortage of food. If we plant enough we will be able to sell and share with others (female respondent, La Sagesse).*

Respondents identified a range of environmental factors that they believe have an impact on food security and, by extension, their livelihoods. These include soil erosion, extreme weather conditions, pests and hurricanes. A female farmer explained that diseases, pests and bad weather, like too much rain, affect the community. She planted some crops some time ago and they were washed away by heavy rains during a hurricane. A male farmer said, "The climate has changed over the years, the sun has gotten hotter, and rainfall is less". However, these developments have not affected his farming practices because he has a pump and the river is close to his farming area. While being near the river has its benefits, another respondent noted the risks:

> *Natural disasters do affect the access to food. [I] lost a lot of banana trees, which fell during heavy rains and strong winds, land slippage/ erosion is also affected, not too long ago the river took a lot of big bunches [of] banana from [my] land ...before people took take care of the river, but these days they cutting branches and dumping them in the river causing blockage so when the river overflow big pieces of wood causes more damage. The community could clean the river to avoid problems (female respondent, La Sagesse).*

Although the river took a large proportion of bananas, her livelihood was not affected because she had other crops that she could depend on.

Some crops are more vulnerable to extreme weather conditions. Staple crops like bananas, plantain, vegetables and legumes are easily lost during bad weather and farmers must constantly adopt different farming techniques to protect them. Mitigating

environmental risks, such as flooding due to excessive rainfall, and keeping the river course free of pollutants are important to ensure food security for famers and the community.

Victoria

While the common view of food security is that it relates to the availability, access and use of food, most interviewees defines it as access, nutritional value and food safety. Availability was not explicitly mentioned, perhaps because it did not appear to be an issue in Victoria. Food security was understood by women to involve the consumption of appropriate foods. For example, a woman explained that food security requires consuming of different types of foods to have diets that include the necessary food groups (i.e. fruit, vegetables, grains, protein and dairy). Food insecurity is "...when people eat anything without watching or being mindful of their health." For men, food security involves safety and the protection of food from germs or contamination, as one male respondent explained: "...to be eating healthy and not getting sick, bad belly or poisoning, whereas food insecurity is eating reckless."

In summary, food security is understood to require an abundance of food (having access), healthy eating (nutrition) and not becoming ill (food safety). Food insecurity means inadequate amounts of food, unhealthy foods or unsafe foods that cause food poisoning. While availability issues were not considered at the community level, interviewees did note that reliance on imports is an issue for Grenada, as the COVID-19 pandemic exposed.

Although community members had difficulties defining food security and insecurity at an abstract level, it was apparent that they understand the effect of the environment on their livelihoods in fishing. Climate change was understood to contribute to food insecurity, due to the effect of sea changes on the stock of fish. According to respondents:

> *When the sea is rough, we are unable to go to fish. Also, there is no place to come ashore and thus having to go to another location can be very costly (male respondent, Victoria).*

> *The temperature affects fishing as when it is cold, we are unable to get good catches ...the warmer the temperature the better the catches (male respondent, Victoria).*

> *Rough seas and bad weather hinder [our] ability to go fishing and in the dry season the land is sometimes so dry it becomes hard to water plants especially if you are not close to a river (male respondent, Victoria).*

> *The availability of land and weather. We are prone to storms and hurricanes and once we have bad weather the fishermen are not able to go out at sea (female respondent, Victoria).*

As previously mentioned, respondents call on a number of mechanisms to cope with a lack of money and food insecurity. Family and friends generally assist with the acquisition of food. Respondents often pursue additional employment if it becomes unsafe to go fishing or if the fish supply is inadequate. Engaging in agriculture is another option, but it is challenging in the dry season if the household is not near a river. As a last resort, hunger is staved off by eating less or eating more fruits; socializing is also considered as a way to "numb the hunger".

6.8. GRENADA THEMATIC SUMMARY

Characteristics and assets

There were several similarities among the three communities in Grenada. All three include a mix of household types, from single-person households, to nuclear households and multigenerational households. There is a general trend of home ownership on rented land, which is often owned by the family. Land for cultivation was either rented or squatted on, with only a few individuals owning farmland away from home-based operations. While many people were only educated to the primary level, especially the older generation, the general level of formal certification was low, with some examples of technical training; for the most part skills were self-taught.

People in all of the communities generally have good social relations with their neighbours. There is little participation in formal social groupings. Social support and networks are generally confined to family, and social lives are limited, and mainly characterized by leisure time in the household.

Most participants are employed, and either work for other people or focus their agricultural labour on providing food for the household and the sale of surplus. Several respondents take on multiple jobs or itinerant activities to earn extra income. Health levels were generally reported as good. Food consumption, especially among the poorest people, is heavily based on ground provisions.

Intervening factors: facilitators and barriers

The analytical framework used for this study included several intervening factors that act facilitators or barriers to accessing asset-building mechanisms. Although originally included in the framework as an element of social capital rather than an intervening factor, family and friends were found to act as a both facilitator and a barrier in relation education and coping mechanisms. In some cases, parents play a role in encouraging education, while in others, family circumstances interfered with continuing education. Support from family and friends was an important coping mechanism in terms of material (financial and physical) and emotional support.

In terms of the other elements of the framework, politics were rarely mentioned, although having a friend in a position of authority in the government is seen as a means to facilitate access to support. The government's focus on tourism rather than agriculture was the only significant political issue that received much attention.

Several concerns around government operations (e.g. institutions, legislation and regulations), were mentioned, including the lack of state training programmes, ineffective support services due to difficulties and delays in processing applications and selectivity; even if approved, the services were not considered sufficient in the opinion of farmers and fisherfolk. There were very positive mentions of the services provided by extension officers and a government-affiliated agriculture mission from China. Taxes as well as a lack of subsidies for high-cost inputs were seen as other regulatory and fiscal constraints that hamper the ability to produce and operate profitably.

Respondents made little mention of general macroeconomic conditions, apart from the issue of lack of export markets and the effect of economic conditions on crime (e.g. theft of equipment and produce). The dominant issue, unsurprisingly was the impact of the COVID-19 pandemic, which has been two-fold. First, some farmers who did not live on their farmland have been unable to work on their land due to restrictions on movement, which led to spoilage, and second, an increased demand for fresh produce benefited several respondents due to increased local/community sales as customers could not access supermarkets.

Social and cultural conditions and values are generally consistent across the communities. There is a general level of bonding and support, and shared values of thrift and mutual support. Communities are generally considered peaceful. Women tend to focus on duties in the home when away from work, while men spend more time on leisure activities. However, some men deviated from this pattern, with some mentioning their focus on their children. For the most part, outside of work, most respondents spent their time in the home.

The environment was observed to be both a facilitator and barrier to livelihood and food security. There are however differences related to location and activity (agriculture versus fisheries). In La Digue, for example, location is an advantage due to topography and soil quality, with topography presenting challenges for irrigation. In La Sagesse, the low-lying nature of agricultural lands presents a challenge due to flooding. In Victoria, while the environment provides opportunities for fishing,

the community is challenged by rough seas and variations in the quality and quantity of fish stocks.

Asset-building mechanisms: level of access

The level of access to asset-building mechanisms varies across the communities. It appears that the main issue in accessing these mechanisms relates to current asset stocks, mainly education and financial.

While all working respondents are able to trade and establish a client-base, some local residents are unwilling to pay for goods. Input cost constraints were noted by many and there were calls for government to address the cost of manure/fertilizers and price stabilization. For fisherfolk in Victoria, the ability to trade is constrained by the condition of the fish dock and amenities (i.e. storage facilities, utilities and bathrooms). In general, trade earnings are constrained by the farmers and fishers being price-takers with dominant buyers (major supermarkets and exporters) controlling prices.

The availability of work does not appear to be a problem for respondents; many are employed and people wanting additional jobs to supplement their income can find them However, as with paid work in agriculture, remuneration is generally low in second or third jobs. Men and women tended to obtain additional employment in jobs based on gender roles – security and construction for men and cleaning and childcare for women.

While generally available, many people are not motivated to pursue post-primary education. The older generation lacked post-primary education due to lack of opportunity; more recently, dropout rates were attributed to family financial constraints, care duties in the home, and teenage pregnancy. Access to healthcare does not appear to be an issue, apart from occasional transport and cost constraints. Healthy balanced diets appear to be the norm, however the poorest people appear to have unhealthy diets comprising mainly ground provisions and unsubstantial meals during the day (e.g. tea, hot water or bread as a main meal).

Despite their apparent level of deprivation, few respondents receive welfare support. The government's SEED programme is used by some respondents, while one couple participated in a government work programme that involves roadside cleaning. National insurance was mentioned as a source of support for people qualify, but most respondents rely on limited savings and family support to assist with current needs. There is limited planning for the future. People with the ability to save and invest consider their property and savings to be their main sources of maintaining and growing their assets; loans ae secured to improve properties by the few with the financial resources to do so.

Social networks are occasionally used to build assets. A few farmers and some fishermen participate in networks to serve their businesses, but in general such networks are informal with more formal organizations considered to be reserved for larger entities. Social support is mainly provided by family, while neighbours sometimes provide temporary support.

A major constraint for people in agriculture relates to ownership rights; lack of tenure presents challenges for crop planning and expansion. Topography also challenges irrigation on the slopes surrounding La Digue and flooding threatens La Sagesse. Climate issues constrain output in all of the communities as extreme weather leads to crop loss from high winds and flooding, while higher temperatures affect yields. An increase in stormy weather and climatic impacts on the quality and quantity of fish stocks have affected the fishing community in Victoria.

Infrastructural difficulties experienced by respondents mostly relate to blockages to the movement of agricultural goods to market and, for fisheries, the conditions of the docks and instances of theft. Water supply issues were noted in relation to the ability to irrigate agricultural land; drainage facilities were also an issue in La Sagesse.

Social inclusion/exclusion

The interviews suggest that the level of social inclusion in the communities is moderate. While some people participate in formal social organizations and limited leisure activities outside of the home, most have strong bonds with their families and neighbours, relying on them as a coping mechanism to some degree. Gender may determine how men and women pass their time outside of work; while both male and female respondents generally spend a good deal of their free time at home, far more men than women also take part in activities outside of the home.

With respect to cultural/normative integration, there is a strong work ethic among community members, with many people working long hours. Many of the respondents did not complete their secondary education or participate in any further education or training (although there was a general understanding of the importance of education). The main reasons given were financial constraints, family duties and teenage pregnancy.

Respondents express few concerns about access to healthcare and education, while it was noted that access to social security was limited to people meeting certain requirements such as registration with the agency and length of time making contributions. Some respondents receive support through the government's SEED programme. However, respondents prefer to get support from social networks, mainly family, rather than from the state or non-governmental organizations. The general comments around state support indicated that it is slow to arrive and does not meet their needs.

According to Khan (2001), the key assets of the rural poor relate are physical possessions (access to land and water, machinery, buildings, animals and food stocks), personal valuables, insurance, savings and access to credit. The main issues cited by respondents are lack of land tenure and irrigation equipment, and access to formal savings and credit facilities. There was a clear delineation among respondents: the more affluent people have access to land and formal savings and credit services, while the poorest people have no land, work in precarious jobs and either have no savings or keep their savings in the home.

In general, poverty and inequality in Grenada are reinforced by the lack of formal social participation and avenues through which the community can advocate for their needs, and inconsistent access to land and formal financial services. The provision of support from family in times of need may preclude a demand for alternative, more formal, coping mechanisms.

7. Summary and recommendations

The research commenced with a series of questions. These questions have been addressed in the preceding discussions of the experiences of communities in Barbados and Grenada. Of particular concern are the experiences of the most vulnerable people and the actions that are required to address inequality. The following sections highlights some of the key issues and proposes a set of recommendations to address the factors that cause asset degradation or impede asset accumulation.

7.1. LIVELIHOODS OF THE MOST VULNERABLE PEOPLE

Our findings indicate the most vulnerable people generally reside in low quality housing with low and/or unstable incomes that are insufficient to meet monthly needs. These people are not able to save money and few own significant assets such as land, a house or a car. This was especially true for women with childcare responsibilities. To compensate for their low or unstable incomes from agriculture or fisheries, many individuals take on multiple jobs (mainly low or semi-skilled jobs), which generally are based on traditional gender roles.

Vulnerable people generally do not have educational certification nor take advantage of available technical and vocational training. Financial constraints, lack of encouragement, childcare and teenage pregnancy and the desire to earn money were among the variety of reasons cited for leaving school at an early age.

Life generally revolves around the home outside of work, and people are not much involved in social groups outside of the family. Family is an important source of support.

7.2. AVAILABLE LIVELIHOOD SUPPORT (GOVERNMENTAL AND NON-GOVERNMENTAL ORGANIZATIONS)

Several government and NGOs support programmes operate in the two countries. However, there is not much participation; respondents cited the unsuitability of support available, bureaucratic delays and lack of subsidies on key inputs as reasons for lack of uptake. It may also be that many people are unaware of the support available; despite extensive preliminary desk research, we only discovered the existence of many of the programmes through the elite interviews. In general, the support programmes appear to be small-scale and "temporary", in that once donor funding for a programme has ended, the programme ends as well.

Our basic finding is that although there are livelihood support mechanisms in place, including training, technical assistance and funding, including for social welfare payments, there was no evidence that people make significant use of these avenues to support or to advance livelihood options.

7.3. ACCESS TO ASSETS AND ASSET-BUILDING MECHANISMS

The most vulnerable respondents lack the core assets described above. While there is moderate access to asset-building mechanisms in each country, these are not much used for a number of reasons (as noted above, particularly in relation to education). The resulting lack of human capital has had consequences in terms of the jobs available to individuals, which are generally in low skilled activities. The lack of uptake of education and training opportunities, it is suggested, is an element in a vicious cycle, where opportunities are not exploited since relevant jobs are not available. This may also be the consequence of a lack of investment in certain areas due to an inadequate pool of labour. Such cycles will need to be broken.

Access to asset-building mechanisms, such as healthcare and transport, did not appear to be a general issue for many. Persons did indicate that the long wait times at public polyclinics often leads them to access private care at a high price. Similarly, the costs associated with transporting goods to market were also noted. The capacity regulations of the public transport vehicles limits the amount of goods that can be conveyed at a given time and renting transportation for this purpose is deemed expensive.

Access to equipment and supplies is a barrier for many people in fisheries and agricultural activities. The high cost of boats, fishing equipment, fertilizers and irrigation systems were often mentioned by respondents and noted by elites. Infrastructure issues are also prominent in relation to the condition of the dock and market in Grenada and the absence of sheltered docking facilities in Barbados. These are issues that the FAO's Hand-In-Hand initiative may seek to address.

The lack of participation in formal social networks is a matter for concern. There are few active cooperatives and the ones that exist are often considered elitist. This perception is disquieting since many of the barriers experienced by the communities (including cost of supplies, the need for greater government support, and low bargaining power with dominant buyers) can be addressed through advocacy by cooperatives.

The above-mentioned observations reflect general trends arising from the in-depth interviews, however, there was some deviation by age, land ownership and gender. The older generation generally lacked education above the primary school level, a legacy of the structure of education at the time of their youth. It is generally understood that younger persons are averse to entering agriculture due to low levels of remuneration (although this was not observed among our respondents). However, it was noted that those younger persons involved in agriculture made greater use of technology and had income sources from additional jobs such as raising livestock and operating village shops. Men and women are seen to take on different kinds of jobs, both in agriculture/fisheries and in the extra jobs they may undertake. People with land can access credit for improvements and are better able to plan, given their security of tenure. This indicates the link between the level of current assets and the ability to accumulate more assets. On the other hand, the absence of assets and access to asset-building mechanisms results in the livelihood profiles seen among the most vulnerable people, i.e. low levels of human capital, low and unstable income from low skilled jobs and lack of significant assets, including savings. Given these livelihood constraints, the most vulnerable people generally rely on family support and some access state welfare support, e.g. the SEED programme in Grenada.

7.4. AVAILABILITY, ACCESS AND USE OF FOOD

While food was generally available in the communities, some people are not able to access enough healthy food. The poorest people rely heavily on ground provisions for their diets, with little use of meat, fish or poultry, or missing meals.

The outbreak of COVID-19 and resultant lockdowns revealed a level of food insecurity when normal food sources were not available to community members. While the lockdowns made it difficult for some people to work on their farms, there was increased demand in communities for local produce since the supermarkets were closed.

To cope with lack of food, the most vulnerable either receive support from family or neighbours or simply skip meals. Families tend to eat less or eat different (cheaper) foods, although many parents asserted that their children never went to bed hungry. The elites also noted that there has been a proliferation of backyard gardening since the COVID-19 pandemic began.

7.5. ENVIRONMENTAL EFFECTS ON LIVELIHOODS

Three main issues emerged relating to environmental impacts on farming and fishing. First, periods of flooding and drought have a significant effect on crop production; the need (and expense) of irrigation and drainage equipment are considered as important tools for combatting these effects.

Second, severe weather events, specifically tropical storms and hurricanes, have caused a loss of crops and have damaged fishing boats due to rough seas. Third, the lower quality and quantity of fish stocks, attributed in part to overfishing, degradation of near shore reefs from pollution, climate change causing changes in migratory patterns and the influx and inundation of Sargassum seaweed are also major issues for fisheries.

7.6. RECOMMENDATIONS FOR IMPROVING RURAL LIVELIHOODS

The lives of the most vulnerable people in rural areas are characterized by a lack of physical and financial assets, which constrains their access to basic needs such as quality housing and food. Low levels of education or training have also made it difficult to obtain employment with sufficient levels of remuneration. There are also constraints at the sector level, which affect profitability and hence the ability to either earn a living or pay suitable wages to workers. These include buyer power over prices, the cost of inputs and, of course, the environment and climate change.

Drawing on noted constraints, several recommendations were developed. The recommendations were developed following an identification of the deficits in asset stocks that were causing social exclusion and an identification of the main causes of these deficits. Recommendations obtained directly from interviews with community members and elites were reviewed and collated to form a listing that was supplemented by the research team where required. The recommendations were developed in reference to the components of the framework presented in **Table 2**.

While age and gender differences were observed in relation to access to asset-building mechanisms and roles played, the main **individual issues** that ultimately resulted in social exclusion were deficits in physical and human capital. A lack of social capital was partially a result of a lack of these asset stocks, mainly time constraints. The analysis highlighted that there were several **intervening factors** that have led to constraints on access to asset-building mechanisms, namely a limited focus on agriculture as a key sector and consequently a lack of proactive interventions to boost production, trade and jobs in the sector.

To promote social inclusion in rural communities, policymakers will need to increase access to state/non-state resources and facilitate the provision of factors of production- land, labour, capital, and technology. Given the rural nature of the communities under study,

agriculture and fisheries would form the sectoral basis of any intervention, with the understanding that linkages with other productive sectors of the economy will be critical for long term growth.

At the root of the recommendations is addressing the three components of food security (availability, access, and utilization). Issues of food availability could be addressed through physical planning and the allocation of suitable lands to agriculture, while physical access could be addressed by improving markets and transportation systems. Financial access could be facilitated directly by targeted concessional finance to keep costs feasible, direct cash transfers through welfare programmes, or indirectly through activities that generate economic growth in general, including the integration of agriculture within other sectors of the economy, and the provision of means to enhance earning capacity, such as education and training.

The primary recommendation, from which the others emanate, is that food security needs to be treated as a national security issue, and agriculture and fisheries considered as quasi-public goods, much like healthcare and education. As such, assessing the viability of any intervention not only needs to consider economic costs and benefits, but also social benefits, such as greater social inclusion and sustainable development. Whilst there may be potential trade-offs between investments in more lucrative sectors, such as tourism, rural livelihoods centre on agriculture, and with targeted interventions, the current constraints to the development of the sector can be addressed. Agricultural and fishery skills exist in these communities, but their full potential is yet to be realized.

The immediate concern to emerge from the research was food insecurity within the vulnerable communities due to a lack of financial access. While welfare approaches can address this concern in the short term, targeted support for the development of the agricultural sector can address both lack of asset stocks at the individual level, but also the wider issue of national food security and greater opportunities for economic growth through internal and external market development, foreign exchange savings, and social expenditure savings. It is within this context that the recommendations are presented below. Within this framework, the recommendations seek to address constraints within intervening factors, building asset stocks and facilitating trade, and dealing with cost issues. Specifically, the four broad areas for attention are: i) expanding agriculture's role in the economy; ii) providing land and infrastructure; iii) enhancing productivity; and iv) addressing costs and prices.

Addressing intervening factors

Expand the role of agriculture in the economy

The outbreak of the COVID-19 pandemic, subsequent lockdowns, and the loss of national income sources, such as tourism, revealed a number of vulnerabilities in regional economies. The isolation caused by the COVID-19 pandemic brought the issue of food insecurity to the forefront. With the borders closed, people were required to rely on stocks of food imports and what could be produced domestically. The region depends heavily on food imports, with the value of food imports significantly outweighing domestic production and comprising a large percentage of domestic consumption. Estimates indicate that imports comprise as much as 90 percent of domestic food consumption in Barbados (Ewing-Chow, 2019a). COVID-19 offered a dystopian glimpse of what could occur without sufficient agricultural production at the national level. While complete domestic food security may not be achievable by the small and micro-states of the region, COVID-19 highlighted the importance of a strong and productive agricultural sector. The task of reinforcing the vital role of agriculture lies with the government, while NGOs and civil society have roles to play in ensuring the actual realization of a strong and productive agricultural sector. It should be noted that some of the recommendations have to some degree already been implemented, however, they are either on a small scale, not utilised due to bureaucracy or lack of knowledge, or only temporary. The recommendations in relation to expanding the role of agriculture are as follows:

- **Treat food security as a national security issue.** Historically, with the movement of national

economies in the region towards the provision of services (e.g. financial services and tourism), agriculture became relegated in importance and now only accounts for a small share of national GDP. Given the shock of the COVID-19 pandemic, and the stark demonstration of the high level of dependence in the region on tourism and economies in the global north, it is clear that agriculture should not be treated like the other productive sectors, but as a quasi-public good in the vein of education and healthcare. Ensuring the development and growth of the agricultural sector should cut across government ministries and agencies (and be adequately funded) as policies and programmes are developed and implemented. For example, at a macro level, issues of availability could be addressed by allocating land exclusively for agriculture, while physical access could be addressed by upgrading markets and transportation systems. The interviews revealed that the main constraints to food security are financial access and utilization. There are insufficient funds or household production to provide people with an adequately varied diet. Financial access could be addressed directly by targeted concessional finance or direct cash transfers through welfare programmes, or indirectly through activities that generate economic growth in general, including the integration of agriculture within other sectors of the economy, and the provision of means to enhance earning capacity, such as education and training. Healthy eating campaigns could be launched by ministries of health to ensure proper utilization of foods available, and a reduction in the utilization of unhealthy options.

- **Promoting agriculture as a key sector in the economy** beyond production for export to support increased domestic food security. The development of linkages with other sectors (tourism, food manufacturing) would assist in greater integration of the sector in the economy. The upkeep of government owned/operated facilities will also be required (markets, docks).

- **Promote membership in cooperatives**, not only to assist in developing the image of the sector but also to provide a platform for lobbying the government and negotiating greater bargaining power with buyers. Actively recruiting community members can help build social capital in rural communities and support the development of stronger relationships between suppliers, customers and farmers. Small-scale farmers in some cases feel excluded from the cooperatives operating in their community, perceiving them to be interested in representing larger farmers. More active engagement with the smaller farmers, through community leaders and other elites, is needed to encourage their participation and to demonstrate the benefits of such cooperative arrangements.

- **Disseminate information on available support more widely**. Many people in Grenada identified land tenure as an issue, not knowing that there is a process for claiming land, through the Possessory Titles Act of 2016, if the applicant has been using the land as an owner for twelve or more years.[26] Likewise, interviewees in Barbados noted that the FEED programme[27] was not adequately publicised, limiting its potential for uptake. A revitalized cooperative sector could act as an avenue for wider dissemination.

- **Encourage direct interaction** between support organizations and donors and rural communities to enable more context-relevant programme development.

- **Enhance the image of agriculture and fisheries** and promote them as career choices in the traditional education system. Raising awareness about new practices and the use of technology can help dispel the negative, old fashioned image of agriculture that exists in some places. The perception of agriculture as poorly paid serves as a disincentive to enter the sector. While interviewees noted that "a good living" could be made from agriculture, it requires dedication and hard work, traits, it is believed, that are not commonly found among young people. Initiatives that enhance demand for local produce could help resolve the issue of agricultural income.

[26] This does not apply to Crown lands.

[27] For further information, see www.badmc.org/feed

- **Encourage the consumption of locally grown foods** and promote kitchen gardening to increase household food security and generate income through the sale of surplus. Initiatives to promote and teach kitchen gardening may also enhance demand for local foods and create interest among younger generations raised outside of agricultural families/communities. Interviewees cited the importance of the so-called demonstration effect in attracting youth into the sector: many noted that they worked in agriculture at the suggestion or insistence of their parents or because agriculture was the main form of employment their community.

Expanding the role of agriculture in the economy is a necessary step for enhancing rural livelihoods, and hence cannot be separated from actions at the community level. The identification of a clear role for agriculture in the socio-economic development of the country is necessary to ensure that any specific actions have continuity and the necessary resources to succeed.

Building asset stocks and facilitating trade

Provide land and infrastructure

While many of the recommendations listed above require the development of clear government policies and programmes, the following proposals have greater expenditure implications and may not be feasible in the short term given current economic conditions, but may be feasible in the longer terms as interventions to promote the sector results in greater returns to producers, and governments in the form of taxes. The recommendations relate to two issues raised in the community interviews – access to land and the development of markets – and require mentioning.

- **Zoning lands for agriculture only** can ensure adequate space for farming and provide security of tenure for farmers. While this may disrupt some national development efforts, such as the construction of tourist facilities, it will increase food security and confidence among farmers. The current level of uncertainty has been prompted by actions like the forced removal of small farmers from Crown lands in Grenada to allow for the construction of tourism facilities; the Crown lands they were moved to were less suitable due to flooding. In Barbados, respondents cited the need for land dedicated to agriculture, noting that residential encroachment has created conflict in relation to the use of chemical products and odours emanating from agricultural activity.

- **Develop Community Land Trusts (CLTs).** Tracts of land are acquired by a CLT and leased to landless community members on a long-term basis (e.g. ninety-nine years); the land can be passed down to heirs. For farmers, such security of tenure enables them to plan and develop the land and to access other assets through credit. CLTs obtain finance or land in a variety of ways, including donated property, cash donations and support from governments. Currently, some small farmers rent land from the Crown in Grenada, while Barbados has a land lease programme; however, these do not provide the level of security and benefits afforded by the long-term lease of a CLT.

- **Establish agroprocessing and storage facilities** in rural communities for local consumption, the development of niche export markets, and the general development of non-farm rural enterprises (NFRE). Such facilities can use the surplus production of farmers in canning/freezing/processing, which can generate revenue or provide supplies in times of food shortage.

Enhancing productivity

Increasing productivity is a key recommendation to address the balance between keeping costs and prices at reasonable levels, providing sufficient profits to producers, expanding production and providing workers with suitable wages.

Many of the preceding recommendations emerged from the in-depth interviews with elites. Issues related to costs and productivity, however, were largely identified at the community level, because these relate to respondents' main concern, a lack of

earnings (low wages or low profits). It was noted that concessions are available to some degree, with official registration required. However, bureaucracy and lack of awareness of their availability have hampered uptake. The recommendations on enhancing productivity include the following:

- **Targeted concessional finance, access to microfinancing and financial literacy services.** Governments across the region already provide forms of concessional finance as well microfinance. Greater targeting of agriculture through these channels would assist in boosting investment in agriculture and consequently enhance productivity. Microfinancing services enable access to credit, savings and leasing and insurance services, while accommodating the small sums involved. Financial services exist and are accessible in the region (most interviewees have some form of account), especially credit union membership (penetration ratios[28] were 113 percent for Barbados and 96 percent for Grenada [WCCU, 2019]). However, there are difficulties in getting credit in the absence of collateral and without microfinancing services such as microleasing and microinsurance.

- **Increase worker productivity** through training and certification (national vocational qualifications). This will benefit both the farmer and farmworkers through increased output, increased wages and the other benefits certification brings.

- **Provide transportation services** for transporting agricultural produce to market. Many indicated that they needed to hire or use public transport and this had a significant impact on income.

- **Ensure greater use of technology and innovations** at the various stages of crop development. This includes the use of ICTs and social media in crop planning, crop monitoring, information dissemination, marketing and advertising for both governmental agencies and farmers and the general adoption of innovation in agriculture to address issues such as water scarcity and limited inputs.

Addressing costs and prices

Issues concerning costs (food, inputs, equipment) were raised by community members who are particularly concerned with profitability or remuneration. Preceding recommendations to provide greater support for the sector and enhance productivity could assist in addressing these issues. However, although there are government expenditure and income implications, the recommendations still warrant mentioning as they could, even on a small scale, have a role in building out the sector. The recommendations to address costs and prices include:

- **Reduce cost of inputs (e.g. seeds, fertilizer) and equipment (e.g. irrigation and drainage, and portable equipment, such as pumps, access to tractor service, etc.)** through tax concessions/rebates to suppliers/producers in addition to efforts at moral suasion by governments for profit margin moderation through public/private negotiation. As an example of the last point, the Government of Barbados, to address rising inflation following the outbreak of war in Ukraine in early 2022, entered a compact with the private sector to moderate their profit margins to keep prices reasonable to the consumer. The compact was renewed in revised form in early 2023.[29] This acts as a demonstration of the role of moral suasion by a government on private sector operatives.

- **Measure to increase wages.** A major issue for agricultural workers was insufficient wages and the need to undertake additional employment to make a living Interventions to increase productivity can have a positive effect on remuneration in the sector. Government may however need to implement measures in the short-term to retain workers through tax incentives to producers or direct cash transfers to workers to supplement income as part of a welfare intervention.

[28] Calculated as number of members (accounts) divided by economically active population. With multiple accounts, the figure can exceed 100%.

[29] See https://gisbarbados.gov.bb/blog/government-to-sign-agreement-with-private-sector/ [Accessed 27th February 2023]

While governmental financial support will be required to enhance the position of agriculture in the economy, it is expected that, with the implementation of interventions to enhance output and productivity, such support will be reduced over time.

Summary

A number of common themes emerged from the interviews in the agricultural and fishery communities in Barbados and Grenada. Livelihoods are characterized by low paying/low skilled jobs; most people have multiple jobs, and work into old age, having little or no savings or pensions. Lacking physical and financial assets, many people must rely on family support to get by. Poor diets and limited/low supplies of food are common.

A number of factors are seen to contribute to these outcomes: limited education or training as a consequence of leaving school at a young age, or, in the case of older people, early school-leaving, a lack of access to education; a disinterest in further education or training; and underuse of existing state support due to ignorance of such measures or an aversion due to perceived high levels of bureaucracy. Reasons given for leaving school were family pressure to help support the household, the need for childcare for family members, employment, teenage pregnancy, a lack of importance attached to education and, for some, the attraction of earning money.

Overcoming the outcomes described by the interviewees in Barbados and Grenada will require tackling a number of underlying issues, such as a shortage of skills, insufficient remuneration and lack of awareness of sources of external support.

Our recommendations provide a roadmap for the development of a productive and lucrative agricultural sector by:

- treating domestic food security as a national security issue and enhancing the role of agriculture in the economy;
- providing land and infrastructure for the development of the agricultural sector, including the development of processing and storage facilities; and
- enhancing productivity and reducing costs through concessionary finance, training, transport and the use of technology.

Other issues need to be addressed to enhance rural livelihoods, including accessible and affordable healthcare and education, social support and dissemination of information on what is available, development initiatives, such as enhancing financial literacy and microfinancing services such as microsavings and microcredit. The establishment of rural non-farm enterprises (RNFE) would provide another income-generating activity for rural communities, and could add value to agricultural production. Such efforts will enhance the ability of rural Caribbean communities to build asset stocks and better protect themselves from shocks (e.g. pandemics, hurricanes, international financial crises) and stresses (e.g. economic recessions, climate change).

References

Bailey, C., Lashley, J. & Barrow, C. 2019. *Rethinking poverty: assets, social exclusion, resilience and human rights in Barbados.* Kingston, UWI Press.

Barker, B. 2012. Caribbean agriculture in a period of global change: vulnerabilities and opportunities. *Caribbean Studies*, 40(2): 41–61.

Beckford, C.L. &. Campbell, D.R. 2013. *Domestic food production and food security in the Caribbean: building capacity and strengthening local food production systems.* New York, USA, Palgrave Macmillan US.

Beuermann, D. 2017. *Main findings - Barbados survey of living conditions 2016-2017.* Barbados, IDB (Inter-American Development Bank).

Bhagat, D. & Dhar, U.R. 2011. Agriculture supply chain management: A review. *IUP Journal of Supply Chain Management*, 8(3): 7–25.

BVC (Business View Caribbean). 2015. Barbados Agricultural Development and Marketing Corporation. In: *Business View Caribbean*. Cited 12 May 2015. https://businessviewcaribbean.com/barbados-agricultural-development-and-marketing-corporation/

Campbell, C. 2018.Crop insurance deemed better alternative to bailout. In: *Grenada now*. Cited 14 December 2020. www.nowgrenada.com/2018/12/crop-insurance-deemed-better-alternative-to-a-bailout

CDB (Caribbean Development Bank). 2009. *Country poverty assessment: Grenada, Carriacou and Petit Martinique: technical and statistical appendices.* Bridgetown.

CDB. 2016. *The changing nature of poverty and inequality in the Caribbean: new issues, new solutions.* Bridgetown.

Castañeda, A., Doan, D., Newhouse, D., Nguyen, M.C., Uematsu, H. & Azevedo, J.P. 2018. A new profile of the global poor. *World Development*, 101: 250-267. https://doi.org/10.1016/j.worlddev.2017.08.002

Central Statistical Office. no date. Granada Census Data from 2011 (unpublished).

Central Statistical Office. 2017. *Grenada 2017 National Labour Force Survey Results Basic Tables.* Saint George's.

Commonwealth of the Bahamas. 2016. *Bahamas household expenditure survey report, 2013.* Cited 10 December 2020. www.bahamas.gov.bs/wps/wcm/connect/5312dd47-5cd9-45f5-bf6c-dea99f3a6226/Bahamas+Household+Expenditure+Survey+2013+Report_v2.pdf?MOD=AJPERES

Downes, A. 2010. Poverty and its reduction in the small developing countries of the Caribbean. Paper presented at "Ten Years of War Against Poverty," Chronic Poverty Research Centre, University of Manchester, UK, 8–10 September 2010.

Ewing-Chow, D. 2019a. Agriculture project promises to slash Barbados' hefty food import bill. In: *Forbes*. Cited 20 March 2021. www.forbes.com/sites/daphneewingchow/2019/03/25/agriculture-project-promises-to-slash-barbados-hefty-food-import-bill/?sh=7dcbec6c50f6

Ewing-Chow, D. 2019b. Five overlooked facts about Caribbean food security. In: *Forbes*. Cited 10 May 2020. www.forbes.com/sites/daphneewingchow/2019/02/20/five-facts-about-caribbean-food-security/#7e8591295016

FAO. 2008. *An introduction to the basic concepts of food security.* Rome. (also available at www.fao.org/3/al936e/al936e00.pdf).

FAO. 2013. CA*RICOM food import bill, food security and nutrition. Subregional office for the Caribbean, Issue Brief 5.* (also available at www.fao.org/3/a-ax740e.pdf).

FAO. 2015. *State of food insecurity in the CARICOM Caribbean: meeting the 2015 Hunger Targets – taking stock of uneven progress.* Bridgetown.

FAO. 2020. Rur*al Multidimensional Poverty Index (R-MPI): first results - Ethiopia 2015/16.* Rome, FAO.

FAO & CDB. 2019. *Study of the state of agriculture in the Caribbean.* Rome.

Hazenberg, R., Lashley, J, & Denny, S. 2016. Enhancing youth employability in the Caribbean: lessons from UK NEET programmes. Paper presented at "Revolution, Socio-economic Change and Freedoms," 17th Annual SALISES Conference, Bridgetown, Barbados, 30 March–1 April 2016.

Kairi Consultants, Ltd (Kairi). 2018. *Santa Lucia national report of living conditions, 2016.* Trinidad and Tobago. www.stats.gov.lc/wp-content/uploads/2019/01/Saint-Lucia-National-Report-of-Living-Conditions-2016-Final_December-2018.pdf

Khan, M.H. 2001. Rural poverty in developing countries: implications for public policy. *Economic Issues*, 26. Washington, DC, IMF (International Monetary Fund). Cited 25 November 2021. www.imf.org/external/pubs/ft/issues/issues26/index.htm

Lashley, J. 2012. *Demand for weather-related insurance and risk management approaches in the Caribbean.* MCCI (Munich, Germany, Munich Climate Change Initiative)/GIZ (Gesellschaft für Internationale Zusammenarbeit).

Lashley, J. 2013. *Contrasting coping in the Caribbean and the Indian Ocean.* London, Climate and Development Knowledge Network.

Lashley, J., Marshall, D., Bailey, C., Crawford, C., Lazarus, L. & Lord, K. 2015. *Youth are the future: the imperative of youth employment for sustainable Caribbean development*, Bridgetown, CDB.

Lewis, W.A. 1954. Economic development with unlimited supplies of labour. *The Manchester School*, 22(2): 139–191.

Marschke, M., Campbell, D. & Armitage, D. 2019. Precarious livelihoods: examining the intersection of fish work and ecological change in coastal Jamaica. *People and Nature*, 2: 152–162.

Odusola, A. 2017. Agriculture, rural poverty and income inequality in sub-Saharan Africa. In A. Odusola, G.A. Cornia, H. Bhorat & P. Conceição, eds. *Income inequality trends in sub-Saharan Africa: divergence, determinants and consequences*, pp. 77-103. New York, USA, UNDP (United Nations Development Programme).

OPHI (Oxford Poverty and Human Development Initiative). 2019. *Global Multidimensional Poverty Index: What is the Global MPI?* Cited 29 November 2021. https://ophi.org.uk/multidimensional-poverty-index/

Tandon, N. 2012. *Food security, women smallholders and climate change in Caribbean SIDS*. Saint Louis, Federal Reserve Bank of St Louis.

United Nations. 2008. *International standard industrial classification of all economic activities. Revision 4*. UNDepartment of Economic and Social Affairs. New York, USA. https://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4e.pdf

UNDP. 2016. *Caribbean human development report: multidimensional progress: human resilience beyond income.* New York, USA.

Webster, N. & Ganpat, W.G. 2015. Youth: adding value to agriculture in the Caribbean. In W.G. Ganpat & W-A.P. Issac, eds. *Sustainable food production*, pp. 34–52. Kingston, Ian Randle Publishers.

WCCU (World Council of Credit Unions). 2019. *Statistical report*. Washington, DC. Cited 14 December 2020. www.woccu.org/documents/2019_Statistical_Report

World Bank. 2018. *International Development Association (IDA) Program Document for a Proposed Development Policy Credit (DPC) to Grenada*. Washington, DC.

World Bank. 2021. DataBank – Metadata Glossary. In: *World Bank*. Washington, DC. Cited 25 November 2021. https://databank.worldbank.org/metadataglossary/gender-statistics/series/SI.POV.GINI

WFP (World Food Programme). 2020. Caribbean COVID-19 – food security and livelihoods Impact survey – round 2 – July 2020. Cited 11 December 2020. https://www.wfp.org/publications/caribbean-covid-19-food-security-and-livelihoods-impact-survey-round-2-july-2020

WFP & CARICOM (Caribbean Community). 2020. *Caribbean COVID-19 food security and livelihood impact survey.* PowerPoint presentation. https://docs.wfp.org/api/documents/WFP-0000118438/download/?_ga=2.224136859.1605948007.1619383041-1889668767.1619383041)

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