Socio-Economic and Environmental Impacts of Covid-19 in the Turks and Caicos Islands

Technical Report

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The Joint Nature Conservation Committee

Project Summary:

This report has been produced as part of the *Resilient Community Recovery from Covid-19 in the Turks and Caicos Islands* project, delivered in partnership between the Joint Nature Conservation Committee (JNCC), the Turks and Caicos Islands Government Department of Environment and Coastal Resources (DECR), the Turks and Caicos Islands Fishing Cooperative, the Turks and Caicos National Trust, and Invest Turks and Caicos.

By asking how communities and businesses have been impacted by Covid-19, this project provides insights into how the Turks and Caicos Islands can build resilience to future shocks. The project aims to identify new economic activities and opportunities for skills development, that support the natural environment and deliver widespread benefits to communities across the islands.

Report details:

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Executive Summary

The RESEMBID-supported project: *Defining a Post-Covid-19 Resilient Recovery in the Turks and Caicos Islands (TCI): Sustainable Investment in the Future of the Island's People and Environment* was designed to conduct a forward look into how the TCI can enhance economic, social and environmental resilience against future disruptions as it recovers from the pandemic. The project aims to identify new job opportunities in the islands' blue and green economies, identify opportunities for diversifying existing sectors, and reveal opportunities to invest in the skills development of the islands' residents. This report includes the results of a socio-economic and environmental impacts survey.

The socio-economic and environmental impacts survey was developed and launched online between January and May 2023. It was designed to understand where and how certain societal groups and sectors, and the environment, have been impacted by the pandemic and to provide an opportunity for people in the TCI to identify opportunities for sustainable livelihoods and the skills development required. The survey was distributed through local networks, media, and social media in the TCI, and on-the-ground data collectors were employed to gather additional survey responses, especially in communities with limited access to the internet. Survey data was supplemented with eleven key informant interviews and informal discussions with project partners.

Demographics and survey representation

A total of 133 respondents completed the survey of which 49% were male and 46% were female. A broad range of age groups and domestic statuses were reported, with 62% reporting to have dependents, and 6% reporting to have a disability. Thirty five percent of respondents had a university degree suggesting a **possible overrepresentation of highly educated respondents**. Sixty-two percent reported their nationality as TCI, 8% as Filipino and 7.5% as Haitian (among others), suggesting an **underrepresentation of Haitian respondents**, given that ~35% of the TCI population were from Haiti according to the 2012 TCI census. The largest number of responses were received from those living in Providenciales (34%), followed closely by Middle and North Caicos (32%), then South Caicos (14%) and Grand Turk (10%). Whist the sampling methodology did provide geographical distribution there is an **underrepresentation of respondents from Providenciales**, given that this is where ~75% of the TCI population reside.

Sixty-two percent of respondents were employed either full or part time, and 7.5% were unemployed. The most highly represented sectors of employment included

'hotels, tourism and catering' (12%), followed by 'education' (11%), 'construction' (8%) 'financial and professional services' (7%) and 'public service' (7%). In terms of job roles, almost a third of respondents (27%) were 'higher grade professionals, administrators, and officials; managers in large industrial establishments; large proprietors', suggesting a **potential overrepresentation of higher-tier job roles**.

Disability, education, island and electoral district all affected average income. **Those with a disability, and lower education levels reported lower average income,** along with those from **South Caicos and Middle and North Caicos, who reported lower income than those from Providenciales (in particular, Leeward Providenciales).** There were indications of a difference in average income between nationalities. Disability and electoral district also affected reported financial wellbeing; those with a **disability reported lower financial wellbeing,** and those in **Grand Turk South and Leeward Providenciales, reported higher financial wellbeing than Middle and North Caicos**. Additionally, there were differences in financial wellbeing between sectors; **'health services' reported significantly higher financial wellbeing than 'education'.**

Impacts of Covid-19 on livelihoods

Twenty-three percent of respondents reported that they lost their job / were made unemployed in the short term; 12% reported this as a longer-term impact. Twelve percent reported having closed their business in the short term; 7% in the longer term.

Around **half (51%) reported decreases in earnings** as a result of the pandemic (either temporarily or longer term) and 8% reported increases, while 42% reported no significant changes. Similarly, around **half (52%) reported negative impacts on their household income** and 12% reported positive impacts (32% reported no significant impact). **Just over half (54%) reported negative impacts on their overall quality of life** and **17% reported positive impacts** (30% reported no/marginal impact); this higher proportion reporting positive impacts on quality of life (than earnings/household income) illustrates the complexity of Covid-19 impacts.

There was a significant difference between impact of Covid-19 on quality of life across islands, and also electoral districts, with those on **'Middle and North Caicos' reporting a higher impact on quality of life than those in 'Providenciales' (specifically 'Leeward Providenciales'** when considering the electoral district level).

In general, 'construction', 'fisheries', 'public service' and 'tourism' had lower median scores for impact of Covid-19 on sector (meaning that more negative impacts were reported), compared to those in 'education', 'financial services', 'health services' and

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'other' sectors. There was a significant difference between sectors with regard to the reported impact on earnings, with those in **'fisheries' and 'tourism', reporting significantly higher impact on earnings than those in 'education' and 'financial services'.**

Impacts of Covid-19 on the environment

Perceived impacts of Covid-19 on the environment were in some cases contradictory, with **a third of respondents (32%) reporting both positive and negative impacts** (26% reported positive only, and 19% reported negative only). For example, the main positive theme related to cleanliness of the environment due to reduced pressure from tourists and residents, allowing environmental recovery. The main negative theme was neglect of environmental maintenance (e.g. increased litter, PPE) and increased pressure on the environment post lock-down. Ideas to manage impacts included: improved management of waste, development, and tourism; increased maintenance and monitoring of nature; enforcement and strengthening of legislation; and increased environmental education and awareness.

Skills to support long term sustainable recovery

Respondents identified a number of skill development ideas to support a long-term sustainable social and economic recovery in the TCI. Ideas with clear links to the environment included: **agriculture and gardens** (e.g. vegetables, chicken coops, agro-processing, and hydroponics); **environmental education** (e.g. how to protect the environment and sustainability for businesses); **fishing** (e.g. aquaculture); **waste and recycling** (e.g. improved facilities, education); **science, technology, engineering, and mathematics (STEM)** (e.g. electrical engineering, solar, new technologies); and **technical and vocational training** (e.g. marine biology, environmental law). Ideas with less clear links to the environment included business management; risk and disaster management; health and disease; personal and soft skills; and information technology (IT). **The most frequently mentioned ideas were agriculture and gardens, business management and environmental education.**

Key Informant interviews

Key informants from industry and government supported the questionnaire results, reporting that **tourism, hospitality and connected industries (including fishers, farmers and food processors) were the most negatively affected by Covid-19**, with few positive impacts reported. These positive impacts mainly related to entrepreneurialism in delivery and IT sectors. As reported in questionnaire results, conflicting impacts of Covid-19 on the environment were observed. Key informants' ideas relating to skill development also fit with the categories identified through the

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questionnaire responses, in particular **agriculture and gardens**, **business management skills**, **environmental education**, **fishing**, and **waste and recycling**.

Several similar projects and programmes, taking place in the TCI or regionally, that could inform opportunities to build resilience in the TCI were identified by key informants. Key barriers to engagement in development opportunities were also identified, including limited access to resources (time, expertise, equipment etc.); limited opportunities (limited positions, permits required, access to markets); existing perceptions (negative perceptions of farming and fishing); difficulty engaging due to education and language (difficulty applying for grants and reporting); and limited awareness of opportunities. Ideas to overcome these barriers were provided, including incorporating practical demonstrations into training sessions, engaging younger people through educational establishments, targeting different languages and levels of technological understanding, and highlighting the potential economic value of skill development opportunities.

Key messages

- Data suggests there was a possible uneven impact of Covid-19 across the TCI.
- Some sectors, including fisheries and tourism were markedly impacted by Covid-19, particularly when compared to financial services and education.
- Both positive and negative impacts on the environment were observed.
- Key themes identified for skills to support resilient recovery in the TCI included agriculture and gardens, business management, environmental education.
- Interpretation of results is limited by poor representation of nationality and location (Providenciales underrepresented), and higher-level job roles and education levels possibly overrepresented.

The information contained in this report will be used to inform the next stages of the project, in particular the Community Resilience Hub and associated skill development opportunities.

Contents

1. Introduction

The global Covid-19 pandemic demonstrated the fragility of the global economy to unforeseen disruption. The secondary social and economic impacts and repercussions of the pandemic have potential to be far reaching and long-lasting in the Turks and Caicos Islands (TCI) and the Caribbean region in general. Reduced tourist numbers in the early days of the pandemic and preventative measures, such as social distancing and increased hygiene requirements impacted job opportunities in the travel and tourism sectors, as well as other key industries that depend on tourists. This included local fisheries, where personnel numbers in vessels were limited to ensure social distancing and demand for catch was reduced due to lower visitor numbers and demand from hotels and restaurants. According to a study on the financial impact of Covid-19 on world tourism conducted by visa service provider Electronic System for Travel Authorization (ESTA), TCI experienced a US$452 million loss in tourism-related revenue during the pandemic, representing 37.8 percent of GDP. The TCI economy suffered a downturn of 23% due to the global disruption of economic markets (figures from July 2020) (Official-ESTA.com, 2023).

Following the early disruption caused by the pandemic, TCI was one the first Caribbean countries to re-open to tourists with a number of protocols in place to minimise spread of disease, and with the new opportunities that have emerged in the post-pandemic world (e.g., remote working offices and long-term business visas), the situation has stabilised somewhat. However, the extent of the recovery, and lasting impacts of the pandemic across different sectors and society in TCI, is currently unclear. This RESEMBID-supported project was designed to enable the Government and people of TCI to conduct a forward look into how the islands can enhance economic, social and environmental resilience against future disruptions as TCI recovers from the shocks of the pandemic. This project aims to identify new job opportunities in the islands' blue and green economies, identify opportunities for diversifying existing sectors, and reveal the prospects to invest in the skills development of the island's people to enable the community to 'build back better'.

The overall objective of the project that '*TCI has the long-term skills and investment streams to support a post-Covid-19 recovery that is economically, socially, and environmentally resilient*' will be delivered through the following outputs:

- Output 1: A technical report and executive summary detailing the key findings of a socioeconomic monitoring survey, environmental impacts survey and business attitudes survey is presented to TCI Government.

- Output 2: The TCI Natural Capital Investment Plan is published and launched.

- Output 3: A Community Hub is established, run by a full-time Coordinator, that delivers two phases of training and professional development programmes.
- Output 4: Source of revenue for reinstating the Conservation Fund are identified and a business case is submitted to TCI Government on its use and re-establishment.

See Figure 1 for the project's Theory of Change.

One of the initial activities of the project was to develop an online survey to gather essential information from the TCI population regarding social, economic and environmental effects of the Covid-19 pandemic, identifying how certain societal groups and sectors have been impacted (Output 1), and exploring opportunities for skill development and training through the Community Hub (Output 3).

To ensure a representative sample of the TCI population the project aimed to reach 30% of the resident TCI populace, aiming for a minimum of 380 responses (~1% of TCI population at the time the proposal was developed), and with a critical aim of engaging at least 160 females and 75 people from marginalised groups (e.g. older members of society, immigrant communities, fishers, and those living with impairments and disabilities). This was considered important to ensure the training provided by the Community Hub, the options for reinstating the Conservation Fund, and the natural capital investment opportunities, are all directed towards the most prominent needs expressed by TCI's diverse populace.

This report includes the results of a socio-economic and environmental impacts survey that was developed to build the knowledge base around the following areas:

- Provide TCI Government, businesses and wider civil society with the opportunity to generate essential information regarding social, economic and environmental effects of the Covid-19 pandemic;
- Identify where and how certain societal groups and sectors have been impacted by the disruption caused by the pandemic; and
- Provide an opportunity for the people of TCI to identify opportunities for sustainable livelihoods and the skills required to make these a reality.

A number of key informant interviews with relevant industries, government officials and other stakeholders were conducted to supplement and triangulate information received in the online questionnaire and increase context and information gathering from a range of sources. The results of the key informant interviews are also described in this report along with recommendations based on the survey data. Results of a business attitudes survey deployed at the same time, are reported separately.
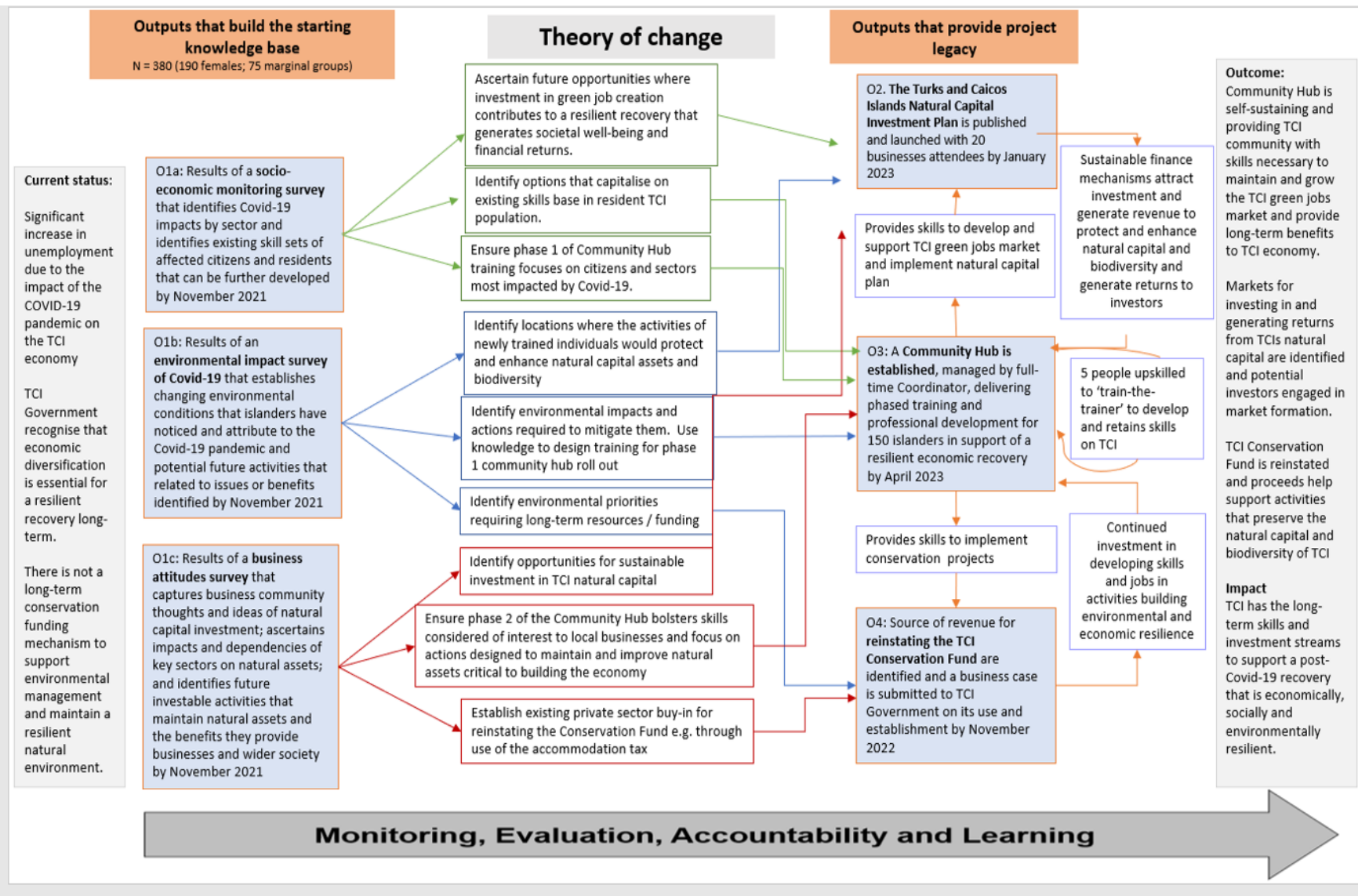
Outputs that build the starting knowledge base
N = 380 (190 females; 75 marginal groups)

Theory of change

Outputs that provide project legacy

Current status:

Significant increase in unemployment due to the impact of the COVID-19 pandemic on the TCI economy.

TCI Government recognise that economic diversification is essential for a resilient recovery long-term.

There is not a long-term conservation funding mechanism to support environmental management and maintain a resilient natural environment.

O1a: Results of a socio-economic monitoring survey that identifies Covid-19 impacts by sector and identifies existing skill sets of affected citizens and residents that can be further developed by November 2021

O1b: Results of an environmental impact survey of Covid-19 that establishes changing environmental conditions that islanders have noticed and attribute to the Covid-19 pandemic and potential future activities that related to issues or benefits identified by November 2021

O1c: Results of a business attitudes survey that captures business community thoughts and ideas of natural capital investment; ascertains impacts and dependencies of key sectors on natural assets; and identifies future investable activities that maintain natural assets and the benefits they provide businesses and wider society by November 2021

Ascertain future opportunities where investment in green job creation contributes to a resilient recovery that generates societal well-being and financial returns.

Identify options that capitalise on existing skills base in resident TCI population.

Ensure phase 1 of Community Hub training focuses on citizens and sectors most impacted by Covid-19.

Identify locations where the activities of newly trained individuals would protect and enhance natural capital assets and biodiversity

Identify environmental impacts and actions required to mitigate them. Use knowledge to design training for phase 1 community hub roll out

Identify environmental priorities requiring long-term resources / funding

Identify opportunities for sustainable investment in TCI natural capital

Ensure phase 2 of the Community Hub bolsters skills considered of interest to local businesses and focus on actions designed to maintain and improve natural assets critical to building the economy

Establish existing private sector buy-in for reinstating the Conservation Fund e.g. through use of the accommodation tax

O2. The Turks and Caicos Islands Natural Capital Investment Plan is published and launched with 20 businesses attendees by January 2023

Provides skills to develop and support TCI green jobs market and implement natural capital plan

O3: A Community Hub is established, managed by full-time Coordinator, delivering phased training and professional development for 150 islanders in support of a resilient economic recovery by April 2023

Provides skills to implement conservation projects

O4: Source of revenue for **reinstating the TCI Conservation Fund** are identified and a business case is submitted to TCI Government on its use and establishment by November 2022

Sustainable finance mechanisms attract investment and generate revenue to protect and enhance natural capital and biodiversity and generate returns to investors

5 people upskilled to 'train-the-trainer' to develop and retains skills on TCI

Continued investment in developing skills and jobs in activities building environmental and economic resilience

Outcome:
Community Hub is self-sustaining and providing TCI community with skills necessary to maintain and grow the TCI green jobs market and provide long-term benefits to TCI economy.

Markets for investing in and generating returns from TCIs natural capital are identified and potential investors engaged in market formation.

TCI Conservation Fund is reinstated and proceeds help support activities that preserve the natural capital and biodiversity of TCI

Impact
TCI has the long-term skills and investment streams to support a post-Covid-19 recovery that is economically, socially and environmentally resilient.

Monitoring, Evaluation, Accountability and Learning

Figure 1. Theory of Change developed for RESEMBID-supported project: *Defining A Post-Covid-19 Resilient Recovery in the Turks and Caicos Islands: Sustainable Investment in the Future of the Island's People and Environment*.

2. Methods

A questionnaire was deployed on the online survey platform SmartSurvey between January and May 2023, to explore impacts of Covid-19 on livelihoods and the environment in the Turks and Caicos Islands, as well as opportunities for long-term resilient sustainable recovery. Questionnaire responses were boosted with the use of on-island data collectors during April and May 2023.

The questionnaire was followed up with key informant interviews with community members, government departments, and business development and training institutes, to contextualise information received and explore topics in further detail.

2.1. Sampling Strategy and Survey Distribution

The survey aimed to engage 1% of the TCI population (~457 based on 2022 population estimate), including 50% female, and 20% (75) from marginalised groups.

The questionnaire was released officially in the TCI at the project launch press conference on 23 January 2023 which invited stakeholders and the press to find out more about the project. The questionnaire was distributed and promoted digitally through the projects' webpage (https://jncc.gov.uk/community-resilience-tc), local radio, press and media, and project partners social media platforms, including the Community Resilience Hub Facebook page and Instagram account. WhatsApp was used as a key platform to support with distribution.

In order to boost representation, and mitigate biases associated with online survey distribution (those with access to internet, social media etc), a distribution plan for on-island data collectors was developed (Table 1). This was based on calculating 1% of the estimated TCI population for each island, then boosting the numbers for islands with small populations (e.g. Salt cay, Middle Caicos) in order to collect more usable samples from each island and targeting data collectors to particular communities considered 'hard to reach' (e.g. particular settlements within Providenciales, households on Middle and North Caicos where telephone reception was poor).

Data collectors were identified on Grand Turk, South, North and Middle Caicos and Providenciales and were requested to distribute the survey to as many people as possible. Appreciating the limited availability of some participants during working hours, data collectors offered participants the option to complete the survey in-person with their support, or to provide a link for them to complete it in their own time. Where respondents chose to complete the survey in their own time a reminder was sent within 48 hours to increase chance of completion. To enhance buy-in, data collectors spent a few minutes explaining the project to potential participants.

The questionnaire was also distributed in-person via engagements with community groups and outreach from project partners. To minimize distrust and increase

stakeholder buy in, in-person engagement sessions consisted of an introduction to the project, followed by a group discussion, before individuals were given time to complete the survey, either on their own or with support of a project team member.

Table 1. Questionnaire distribution target and sampling strategy.

Island	2022 population estimate*	1% of population	Min survey target (in person data collectors target)	Sampling approach
Salt cay	60-80	1	7 (10)	~Every 7th house
Grand Turk	~5,000	50	50 (~25-30)	*Hard to reach communities only (Back salina, Overback, Godetts allotments, The Ridge & Breezy Bray, Palm Grove).*
South Caicos	1,655	17	33 (~20-25)	~Every 60th house
Middle Caicos	~100	1	10 (10)	~Every 10th house
North Caicos	1,300-1,500	14	28 (~20)	~Every 70th house • *Major Hill* • *Sandy point*
Providenciales	~38,000	380	380 (~50)	*Hard to reach communities only (The Bight, Kew town, Five keys, Blue hills, Wheeland, Dock yard, Freddie yard, Phase 1 & Phase 2, Leeward, Richmond Hills, Chalk Sound, Thompson Cove).*
Total	**45,703****	**463**	**514 (157)**	

*Population estimates from 2012 census data were increased by 45.3% (population growth from 31,458 in 2012 to 45,703 in 2022) and further refined by the Project Steering Group. **2022 population estimate: https://www.macrotrends.net/countries/TCA/turks-and-caicos-islands/population

2.2. The Questionnaire

The questionnaire (Appendix 1) was developed by JNCC, in collaboration with the Project Steering Group, and peer-reviewed by members of the James Hutton Institute, Social, Economic and Geographical Sciences department, by external contract. It was then piloted with members of the JNCC International Implementation Team and TCI-based Project Steering Group members. The questionnaire was

professionally translated into Dominican Spanish and Haitian Creole and sent to Project Steering Group members to check for any issues with the phrasing or language used in the translated versions. The questionnaire was then posted online in all three languages (including English).

The questionnaire was split into four sections as follows:

Section 1 (livelihood impacts) - Impacts of Covid-19 on livelihoods, including employment, sector of work, earnings and household income.

Section 2 (environmental impacts) - Environmental impacts of Covid-19 and ideas for mitigating or sustaining negative or positive impacts.

Section 3 (opportunities for sustainable recovery)- Ideas for how occupation, livelihood, or sector could support long-term sustainable recovery, including how skill sets could be used, and what skills were required, or in need of development.

Section 4 (demographics) - Demographic data including age, gender, domestic status, disability, electoral district, locality, nationality, average income and financial wellbeing.

Respondent names were not recorded, and respondents could leave the survey at any point. A tick box was included at the beginning of the survey for respondents to provide their consent and confirm they were over the age of 16. All demographic questions had a 'Prefer not to answer' option and questions on nationality and disability had additional text to explain how the data would be used and to refer the respondents to our privacy notice. The survey was reviewed, and privacy notice approved, by the JNCC Data Protection Manager.

2.3. Key Informant Interviews

A total of seven semi-structured interviews were carried out by MS Teams/telephone call with members of Invest TCI, Turks and Caicos National Trust, District Commissioner for one of the islands, the Department of Agriculture, the Department of Fisheries and Marine Resources Management, the Labour and Employment Services Department, and the TVET College (Technical and Vocational Education and Training). The interviews followed an interview guide (Appendix 2) but were adapted according to the respondent and their field of work/interests. In addition, four informal meetings were held in TCI with the Department of Environment and Coastal Resources and the TCI Fishing Cooperative in which questions were asked relating to sustainable recovery opportunities. Key informant interviews and meetings were undertaken to compliment the questionnaire by providing an opportunity for the key themes to be explored in more detail.

2.4. Analysis

Data were downloaded into an excel spreadsheet for cleaning and coding, combining data from all versions (translations, paper copies) into one spreadsheet. Text entered into the 'other box' were coded with pre-existing or new categories where possible. Simple descriptive data analysis was conducted in Microsoft Excel.

Given the nature of the data (Likert scale response-types/non-normal distributions), non-parametric statistical tests were used to explore differences between responses (income, financial wellbeing, impact on earnings, impact on household income, impact on quality of life) and other variables including demographics, sector, etc.

Wilcoxon tests were used to test for differences between binary response types (disability, gender etc). Kruskal-Wallis tests were used to explore differences between two or more groups (e.g. domestic situation, education, island, electoral district). Significant results were followed up with a Dunn's test to identify where differences lie within groups. The more conservative adjusted p-values were utilised to determine significant differences between groups as standard, except where it is stated that unadjusted p-values are reported. This has been done on occasions where there was a significant difference detected in the Kruskal-Wallis, but no significant differences evident between groups using the conservative, adjusted, p-values. Reporting the unadjusted p-values in these cases indicates where the differences lie, although these results should be interpreted carefully. Adjusted p-values reduce the chances of making too many type-I errors (false positives) but may miss potentially significant comparisons. All univariate analyses (and associated figures) were conducted in R version 4.3.0 utilising packages Rcmdr and FSA.

Qualitative data from open questions in the questionnaire were thematically coded into sub-categories and then grouped into categories. Sub-categories are presented according to their 'number of mentions' and this value is totalled for the category they are grouped in.

Key informant and informal Interviews were transcribed from MS Teams recordings or meeting notes and coded according to predefined themes explored through the questions, with some themes occurring naturally through the data, including:

- The impacts of Covid-19 on society.
- The impacts of Covid-19 on the environment.
- Sectors negatively impacting the environment and ideas for reducing impact.
- Skills and development opportunities for supporting sustainable recovery.
- Existing opportunities related to sustainable recovery.
- Barriers to engagement in opportunities and ideas to overcome this.
- Lessons learnt from Covid-19 and ideal vision for the future of TCI.

For each theme, data were coded using the same approach as in the questionnaire and, where appropriate, used similar sub-categories (for example when coding ideas for skill development opportunities). Information was presented where it provided relevant insights and, whilst we have noted the number of times different skills categories were mentioned by respondents, too much attention should not be placed on these numbers as these will be influenced by bias from the interest areas of those interviewed. The core aim of the interviews was to help inform the prioritisation of skills for training sessions by providing further context and feasibility around the skill development ideas.

3. Results

While the survey was being promoted online between 23 January and 28 April 2023, the project webpage hosting the surveys (jncc.gov.uk/community-resilience-tc) was visited 273 times by 100 different users excluding JNCC staff. Coverage of the survey launch in TCI included articles by four local news companies, three radio ads, and social media and WhatsApp pushes by the media company Magnetic Media who have 11,000 followers on Facebook and 2000 on Instagram. The surveys were also disseminated by project partners and the projects' own Community Resilience Hub social media through three posts which had an average reach of 71 on Facebook and 34 on Instagram. The survey was engaged with in Smart Survey by 307 people in total.

A total of 133 respondents completed the survey, including 127 who completed it online through the SmartSurvey platform, and six who completed paper copies with the help of on-the-ground data collectors. One respondent completed the survey in Dominican Spanish and one respondent completed the survey in Haitian Creole, all others were completed in English.

3.1. Demographics

3.1.1. Gender, Age and Disability

Gender

Forty nine percent (n=65) of respondents reported that they were male and 46% (n=61) reported that they were female. Five percent (n=7) abstained from answering (Table 2).

Table 2. Gender of respondents who completed the online survey (January to May 2023).

Gender	Percent	Frequency (*n*)
Male	48.9%	65
Female	45.9%	61
Prefer not to answer	5.3%	7
Prefer to self-describe	0.0%	0
N		**133**

Age

A broad range of age groups were represented in the survey, with 18% (n=24) of respondents between the ages of 18 and 34, 57% (n=76) between the ages of 35 and 54, and 23% (n=31) of 55 years or over. The modal age group in our study was 45-54. No one in the age group of 16 to 17 years completed the survey (Figure 2).
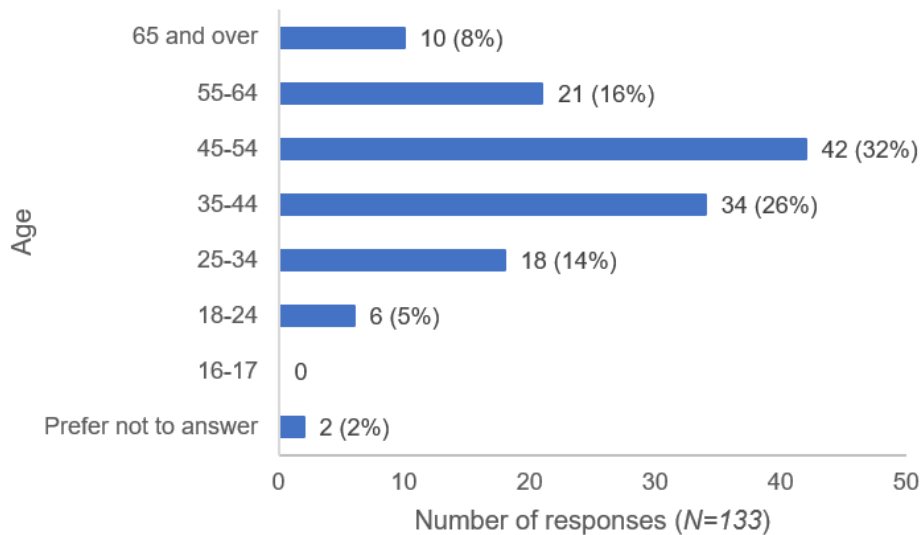
Figure 2. Respondents age at the time of survey (January to May 2023).

Disability

Six percent (n=8) of respondents considered themselves to have a disability and 87% did not (n=116) (Table 3).

Table 3. Respondents reported disability at the time of survey (January to May 2023).

Disability Status	Percent	Frequency (*n*)
Not Disabled	87.2%	116
Disabled	6.0%	8
Prefer not to answer	6.8%	9
N		**133**

3.1.2. Living and Domestic Status

Domestic Status

Overall, 51% (n=59) of respondents were living with a partner, and 44% were living independently of a partner (n=68). The highest percentage of respondents, 35% (n=46), were married and living with their marital spouse, followed by 29% (n=38) who were single (Table 4).

Table 4. Respondents' domestic status (marital and living situation) at the time of survey (January to May 2023).

Domestic Status	Percent	Frequency (*n*)
Married and living with marital spouse	34.6%	46
Single	28.6%	38
Married but living apart	10.5%	14
Living with partner (unmarried, civil partnership)	9.8%	13
Separated (incl. divorced)	6.8%	9
Widowed	3.8%	5
Civil partnership living apart	1.5%	2
Other	0%	0
Prefer not to answer	4.5%	6
N		**133**

Dependants

Sixty two percent (n=83) of respondents reported that they had dependents, including 41% (n=54) with children under the age of 18, and 18% (n=24) with elderly relatives, adults with a disability, or children over 18 that depend on them. Thirty five percent (n=47) did not have dependants (Table 5).

Table 5. Respondents reported dependents at the time of survey (January to May 2023).

Dependents	Percent	Frequency (*n*)
Yes - children (under 18 years of age)	40.6%	54
No	35.3%	47
Yes - adult dependants (e.g. elderly relatives, adults with disability, children over 18 years of age, etc.)	18.0%	24
Yes - other	3.8%	5
Prefer not to answer	4.5%	6
N		**133***

*The frequencies add up to more than 133 (*N*) as respondents could select more than one option. Percentages are calculated from the number of respondents who answered (133).

3.1.1. Area

Island and Electoral District (residing in)

When electoral districts were combined to display data by island, Providenciales represented the island where the highest percentage of respondents reported that they lived (34%, n=45), followed closely by Middle and North Caicos (32%, n=43), then

South Caicos (14%, n=19), and Grand Turk (10%, n=13). When considering electoral districts, Middle and North Caicos had by far the largest proportion of responses (32%, n=43) (Table 6).

Table 6. The electoral district that respondents reported they live in at the time of survey (January to May 2023), categorised by island.

Electoral District	Percent	Frequency (*n*)
Providenciales (all electoral districts)	**33.8%**	**45**
- Leeward, Providenciales	10.5%	14
- Richmond Hill and Cheshire Hall, Providenciales	7.5%	10
- Blue Hills, Providenciales	6.0%	8
- Five Cays, Providenciales	3.8%	5
- The Bight, Providenciales	3.0%	4
- Wheeland, Providenciales	3.0%	4
Middle and North Caicos	**32.3%**	**43**
- Middle and North Caicos		
South Caicos	**14.3%**	**19**
- South Caicos		
Grand Turk (all electoral districts)	**9.8%**	**13**
- Grand Turk North	6.0%	8
- Grand Turk South & Salt Cay	3.8%	5
Prefer not to answer	9.8%	13
N		**133**

Area Type

Sixty three percent (n=82) of respondents reported that they lived in a city or town while 25% (n=33) lived in a village or rural area. Twelve percent (n=16) of respondents recorded 'other' but 8% (n=11) of these could be categorised as island, including reference to South Caicos (Table 7).

Table 7. Respondents reported local area type at the time of survey (January to May 2023).

Local Area Type	Percent	Frequency (*n*)
City or town	62.6%	82
Village or rural area	25.2%	33
Other*	12.2%	16
N **		**131** **

*Other (n=16) includes residential home, subdivision, Breezy Brae residential zone, residential, small community, tropical islands (n=2), South Caicos (n=2), island (n=7).
**Two respondents skipped this question.

3.1.4. Education and Training

Education Level

Around a third of respondents (31%, n=41) reported that the highest level of education they had completed was secondary/high school, followed by 17% (n=22) who had completed tertiary education (associates/college). A further 35% (n=46) had a Bachelor or Master's degree from university. Fourteen percent 14% (n=18) responded that their highest education level was primary/elementary school or that they had no formal education (Table 8).

Table 8. Respondents highest level of education at the time of survey (January to May 2023).

Education Level	Percent	Frequency (*n*)
No formal education	2.3%	3
Primary (elementary school)	11.3%	15
Secondary (high school)	30.8%	41
Tertiary (associates/ college)	16.5%	22
University – Bachelor's degree	18.8%	25
University – Master's degree or higher	15.8%	21
Prefer not to answer	4.5%	6
N		**133**

Field of Study

Almost a third of respondents (31%, n=20) who answered the question (*N*=64), had studied business, administration and law for their highest academic qualification, followed by education (16%, n=10) and health and welfare (13%, n=8). The least represented fields of study with 2% of respondents reporting for each were Agriculture, forestry, fisheries and veterinary (n=1); Services (n=1); and Social science, journalism and information (n=1) (Table 9).

Table 9. Respondents broad field of study for their highest level of education at the time of survey (January to May 2023).

Field of Study	Percent	Frequency (*n*)
Business, administration and law	31.3%	20
Education	15.6%	10
Health and welfare	12.5%	8
Engineering, manufacturing and construction	10.9%	7
Arts and humanities	6.3%	4
Information and communication technologies	3.1%	2
Natural sciences, mathematics and statistics	3.1%	2
Agriculture, forestry, fisheries and veterinary	1.6%	1
Services	1.6%	1
Social science, journalism and information	1.6%	1
Other*	7.8%	5
Prefer not to answer	4.7%	3
*N***		**64**

*Other (n=5) includes BSc criminology, Hospitality Tourism Management (n=2), BSc Marine Transportations, Human Resource Management.

**61 respondents skipped this question, two responded 'Not Applicable', and this question was missed from paper surveys (n=6) and so are not included in the total response number.

Training

A large number of respondents had completed other technical, vocational, or professional training. Forty three percent (n=40) of those that answers this question had completed customer service training, followed by 13% (n=12) that had completed plumbing, and 11% (n=10) that had completed early childhood development training. Other categories were recorded to a lesser degree and a range of responses were reported under other (18%, n=17) (Table 10).

Table 10. Other technical, vocational, or professional training completed by respondents at the time of survey (January to May 2023).

Training	Percent	Frequency (n)
Customer service	43.0%	40
Plumbing	12.9%	12
Early childhood development	10.8%	10
Electrical installation	9.7%	9
Commercial food preparation	8.6%	8
Computer repairs	6.5%	6
Motor vehicle engine systems	6.5%	6
Other*	18.3%	17
Prefer not to answer	18.3%	17
*N***		**93**

*Other (n=17) summarised into the categories: Leadership training; Manufacturing; Construction (plumbing, electrics and carpentry); Electrical & Electronic Engineering Tech; Mediation; Public Relations; Graphic Design; Health care; Commercial skills; Horticulture (seed collection, controlled burning, botanical scientific collections); Caring for the elderly; Security and Management; Police Training; Nail tech; Marketing; and Own business.
**Three respondents skipped this question and 37 responded 'Not Applicable' so are not included in the total response number. The frequencies add up to more than 93 (*N*) as respondents could select more than one option. Percentages are calculated from the number of respondents who answered (93).

3.1.5. Nationality

Twelve nationalities were represented in the surveys. The highest reported nationalities were TCI (62%, n=83), Filipino (8%, n=11) and Haitian (8%, n=10), with other nationalities represented to a lesser extent (Table 11).

Table 11. Respondents' reported nationalities at the time of survey (January to May 2023).

Nationality	Percent	Frequency (n)
TCI	62.4%	83
Filipino	8.3%	11
Haitian	7.5%	10
Jamaican	5.3%	7
Dominican	3.0%	4
American	2.3%	3
Canadian	2.4%	3
Bahamian	1.5%	2
Other*	5.3%	7
Prefer not to answer	4.5%	6
N		**133**

*Other (n=4) includes African; British Overseas Territories citizenship Botc; British; Guyanese.

3.2. Financial Situation

3.2.1. Income

When asked how respondents felt their income compared to the rest of the country, respondents reported a fairly even distribution of responses, with 30% reporting above or well above average income (n=40), and 29% reporting below or well below average income (n=38), and 29% reporting average income (n=38) (Figure 3).
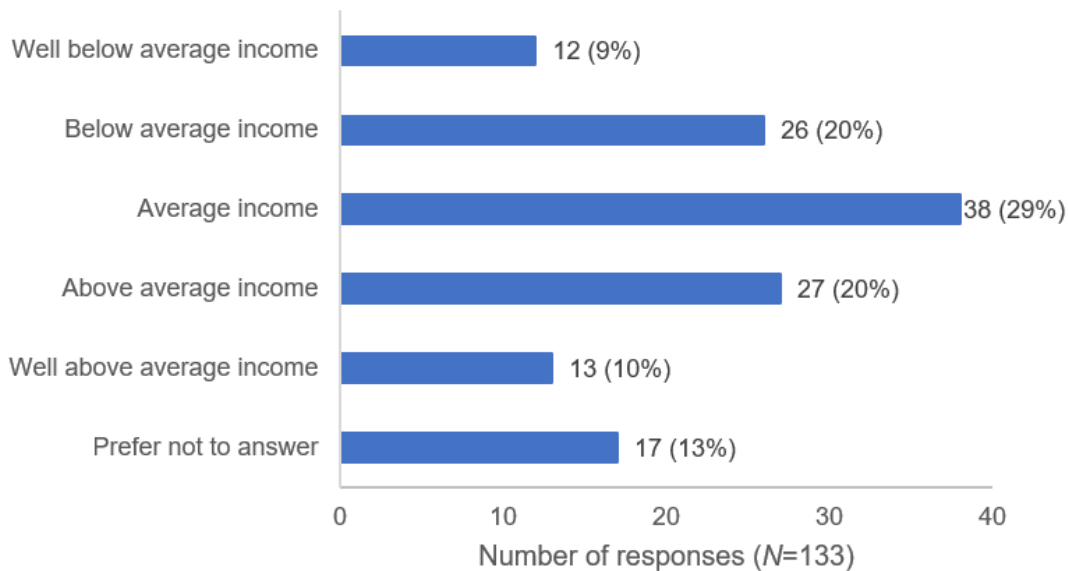
Figure 3. Respondents' perception of their income in relation to average income in the Turks and Caicos Islands (average monthly salary $1,490 USD) at the time of survey (January to May 2023).

3.2.2. Financial Wellbeing

Forty three percent (n=57) of respondents reported that, based on their personal economic situation, they were dissatisfied or very dissatisfied with their current state of financial wellbeing. Twenty seven percent (n=36) reported that they were satisfied or very satisfied with their financial wellbeing and 21% (n=27) reported that they were neither satisfied nor dissatisfied (Figure 4).
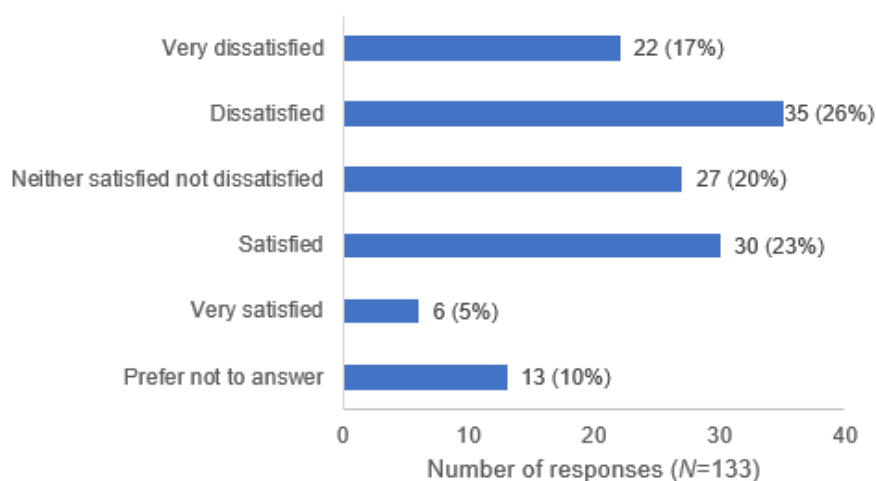
Figure 4. How satisfied respondents were with their current state of financial wellbeing based on their personal economic situation at the time of survey (January to May 2023).

3.3. Relationships between financial situation and demographics

3.3.1. Average income and demographics

There were significant differences between average income and disability; education; island; electoral district; and nationality (reported below).

There were no significant differences between average income and gender (p=0.2346), age (p=0.09193), whether respondents had dependents (p=0.6103) and sector of primary occupation (p=0.1773).

There were indications of a difference between average income and domestic status, but these results were inconclusive and have been excluded due to the low sample sizes in some groups.

Average income and disability

There was a significant difference between average income and disability (W=600, p<0.01), with those with a disability reporting a lower average income (median=2 "below average income", n=7) than those without a disability (median=3 'average income', n=102) (Figure 5).
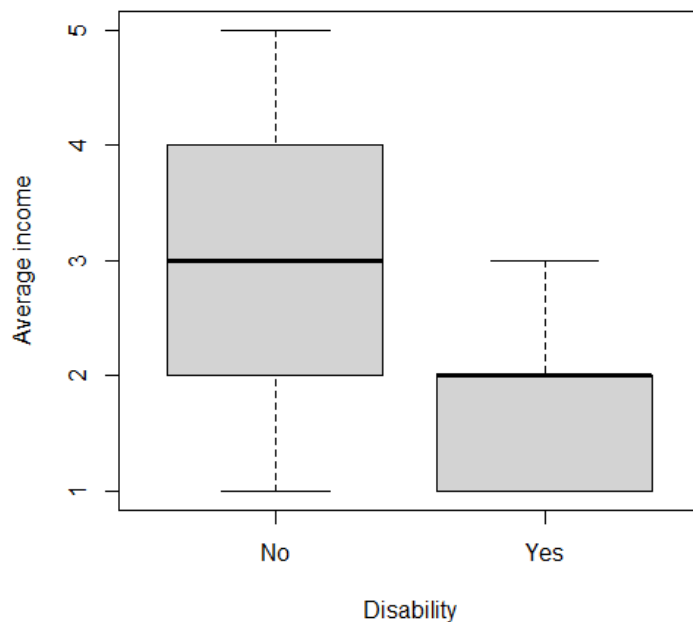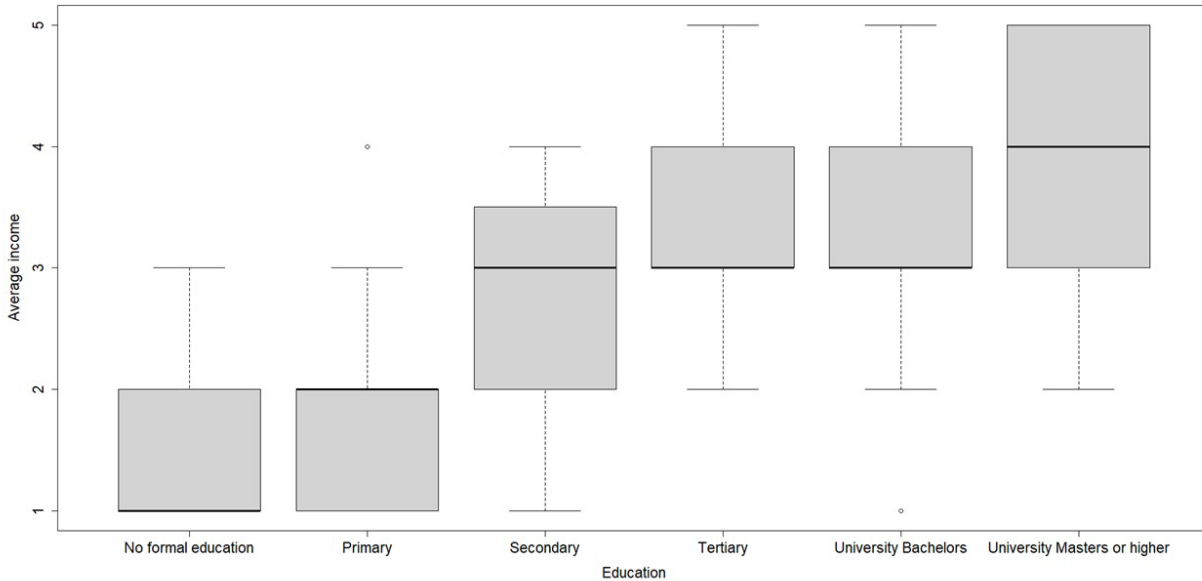

Figure 5. Box plot of average income as scored by respondents (1= 'well below average income', 2= 'below average income', 3= 'average income', 4= 'above average income', 5= 'well above average income') by disability. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Average income and education

There was a significant difference between average income and education (H=27.161, df=5, p<0.001), with higher education levels generally reporting higher average income.

Those with 'no formal education' reported a median score of 1 ('well below average', n=3), those with 'primary' reported a median score of 2 ('below average', n=13), compared to those with 'Secondary' (n=35), 'tertiary' (n=19) and 'University: Bachelors' (n=23) who reported a median score of 3 ('average income'), and those with 'University: Masters or higher' who reported a median of 4 ('well above average', n=20) (Figure 6).

Pairwise comparisons using a Dunn's test indicated that average income was significantly different between 'primary' and 'tertiary' (p<0.05), 'primary' and

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'university - Bachelor' (p<0.01), 'primary' and 'university - Masters or higher' (p<0.0001), 'no formal education' and 'university - Masters or higher' (p<0.05) and 'secondary' and 'university - Masters or higher' (p<0.05). No other differences were significant.
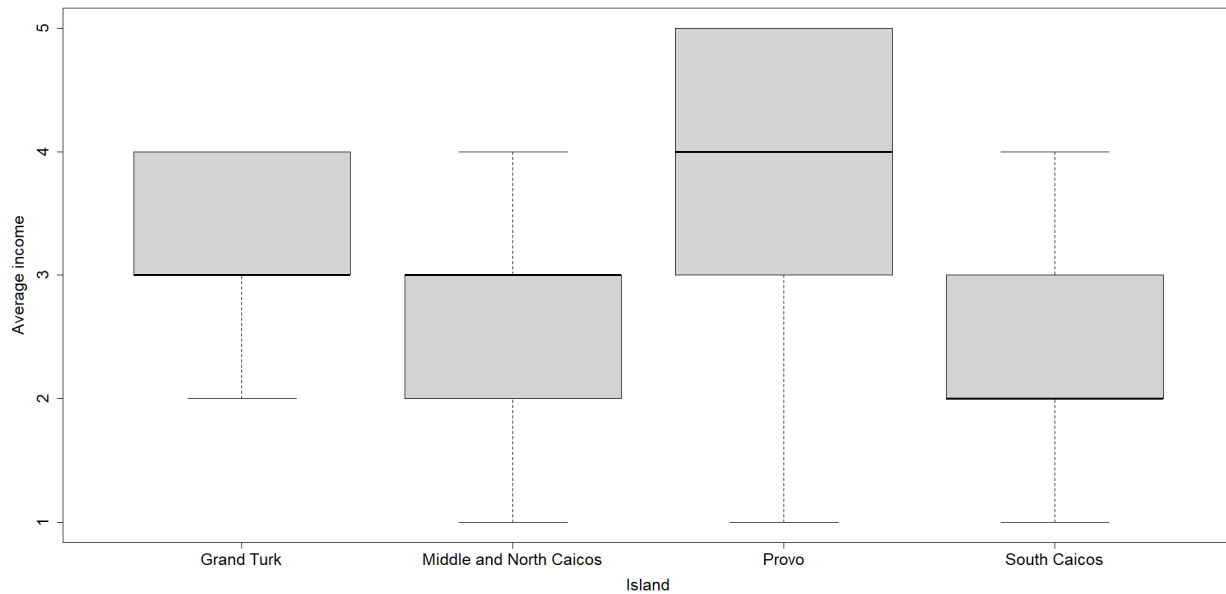

Figure 6. Box plot of average income as scored by respondents (1= 'well below average income', 2= 'below average income', 3= 'average income', 4= 'above average income', 5= 'well above average income') by education level. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Average income and island

There was a significant difference between average income and island (H=25.95, df=3, p<0.00001). In general South Caicos reported a lower average income (median = 2 'below average income', n=19) than Middle and North Caicos (median = 3 'average income', n=31), Grand Turk (median=3 'average income', n=12) and Providenciales (median=4 'above average income', n=43) (Figure 7).

Pairwise comparisons using a Dunn's test indicated that average income was significantly different between Middle and North Caicos and Providenciales (p<0.0001) and South Caicos and Providenciales (p<0.001).
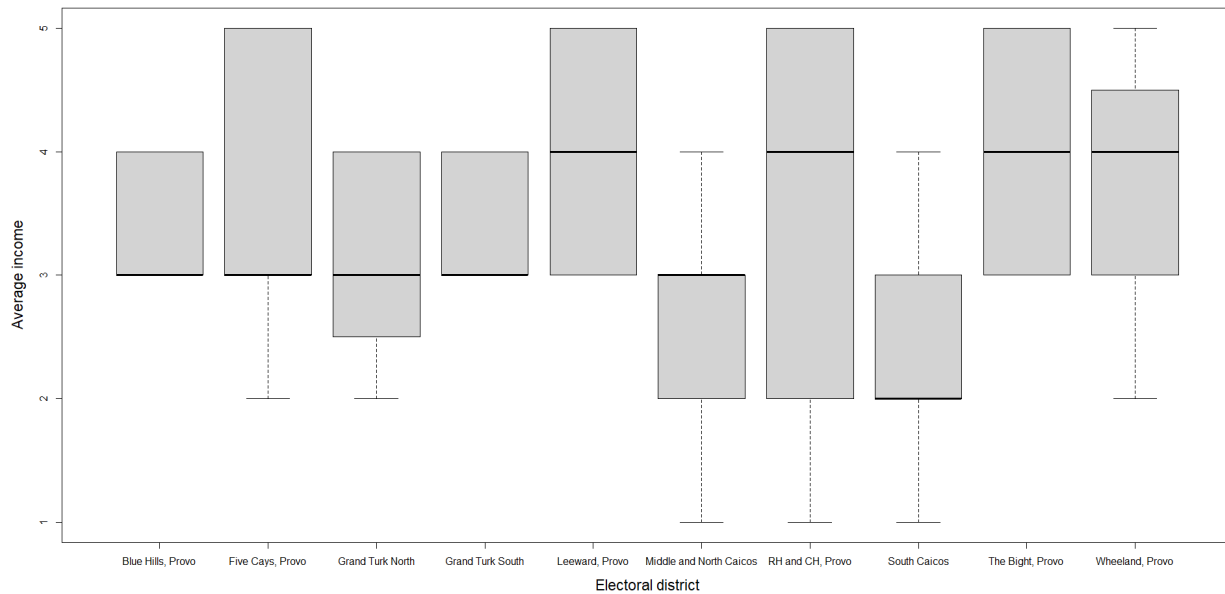
Figure 7. Box plot of average income as scored by respondents (1= 'well below average income', 2= 'below average income', 3= 'average income', 4= 'above average income', 5= 'well above average income') by Island. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Average income and electoral district

There was a significant difference between average income and electoral district (H=27.483, df=9, p<0.005).

In general South Caicos reported a lower average income (median = 2 'below average income', n=19) than Middle and North Caicos (n=31), Blue Hills Provo (n=7), Five Cays Provo (n=5), Grand Turk North (n=7), Grand Turk South (n=5), (all median=3 'average income'), and The Bight Provo (n=4), Leeward Provo (n=12), Richmond Hill and Cheshire Hall (n=10) and Wheeland Provo (n=4) (median=4 'above average income') (Figure 8).

Pairwise comparisons using a Dunn's test, utilising adjusted p-values, indicated that average income was significantly different between Leeward Provo and Middle and North Caicos (p<0.01) and Leeward Provo and South Caicos (p<0.05).

Figure 8. Box plot of average income as scored by respondents (1= 'well below average income', 2= 'below average income', 3= 'average income', 4= 'above average income', 5= 'well above average income') by electoral district. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles). 'RH and CH' = Richmond Hill and Cheshire Hall.

Average income and nationality

There was a significant difference between average income and nationality (H=18.719, df=7, p<0.01).

Haitian (n=9) and Dominican (n=3) reported the lowest average income (median = 2 'below average income'), followed by Filippino (n=10) and TCI (n=74) (median = 3 'average income'), compared to Jamaican (n=5) and 'other' (n=8) (median = 4, 'above average'), and finally Canadian (n=3) (n=5 'well above average') (Figure 9).

Pairwise comparison utilising a Dunn's test indicated a significant difference in average income between 'Canadian' and 'Haitian' (p<0.05). However, these results should be treated with caution given the low sample sizes in some groups.
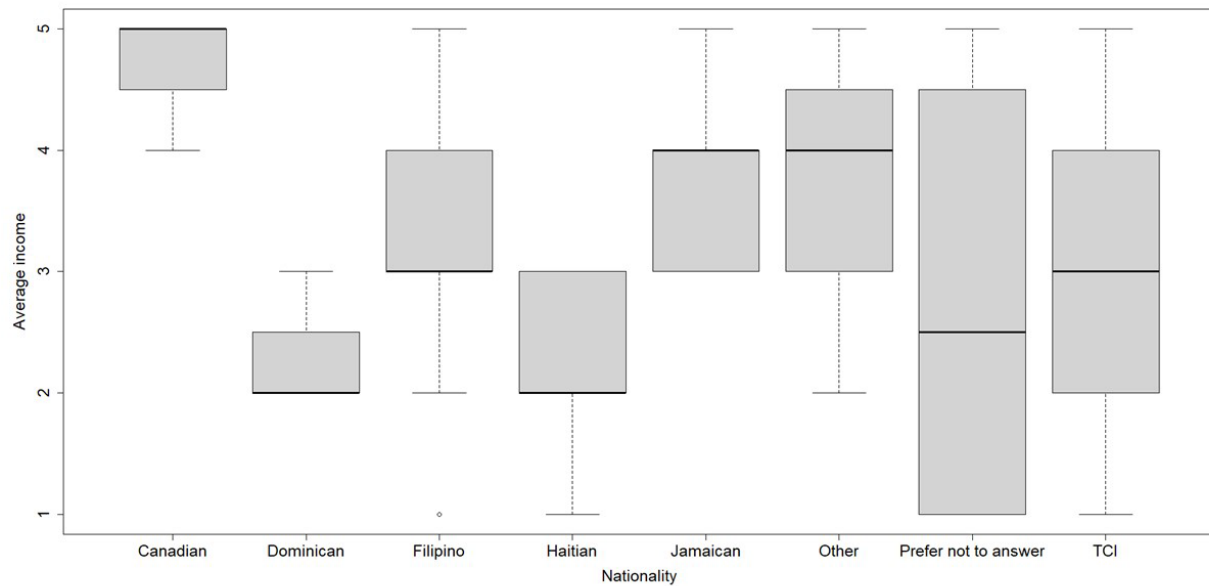
Figure 9. Box plot of average income as scored by respondents (1= 'well below average income', 2= 'below average income', 3= 'average income', 4= 'above average income', 5= 'well above average income') by nationality. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles). 'Other': Nationalities with n<3: American (2), Bahamian (2), Botc (1), African (1), Guyanese (1), British (1).

3.3.2. Financial wellbeing and demographics

There were significant differences between financial wellbeing and disability, electoral district and sector of primary occupation (reported below). Whilst there were also differences detected between financial wellbeing and island, these should be interpreted carefully due to the use of less conservative, unadjusted p-values, when considering pairwise comparisons (see Methods).

There were no significant differences between financial wellbeing and gender (p=0.2806), age (p=0.6324), domestic status (p=0.1902), whether respondents had dependents (p=0.921), education (p=0.1072) and nationality (p=0.06244).

Financial wellbeing and disability

There was a significant difference between financial wellbeing and disability (W=667, p>0.01) with those with a disability reporting significantly lower financial satisfaction (median=1 'very dissatisfied', n=8) than those without a disability (median=3 'Neither satisfied nor dissatisfied', n=106) (Figure 10).
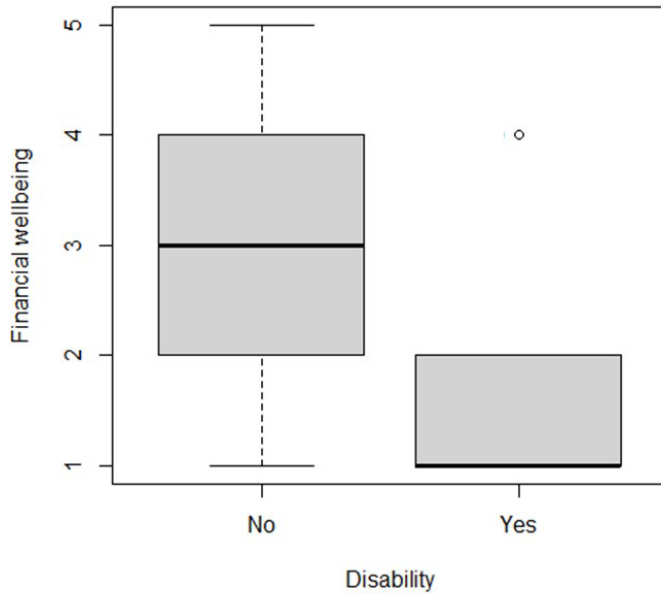
Figure 10. Box plot of financial wellbeing as scored by respondents (1='very dissatisfied', 2='dissatisfied', 3='neither satisfied nor dissatisfied', 4='satisfied', 5='very satisfied') by disability. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Financial wellbeing and island

There was a significant difference between financial wellbeing and island (H=9.6624, df=3, p<0.05) (Figure 11).

Dunn's test, utilising unadjusted p values, indicated differences between Grand Turk (n=13) and Middle and North Caicos (n=34) (p<0.05), Grand Turk and South Caicos (n=19) (p<0.05), Provo (n=43) and Middle and North Caicos (p<0.05). However using the more conservative adjusted p values, none of these differences were significant, therefore these results should be treated with caution and as indicative only.
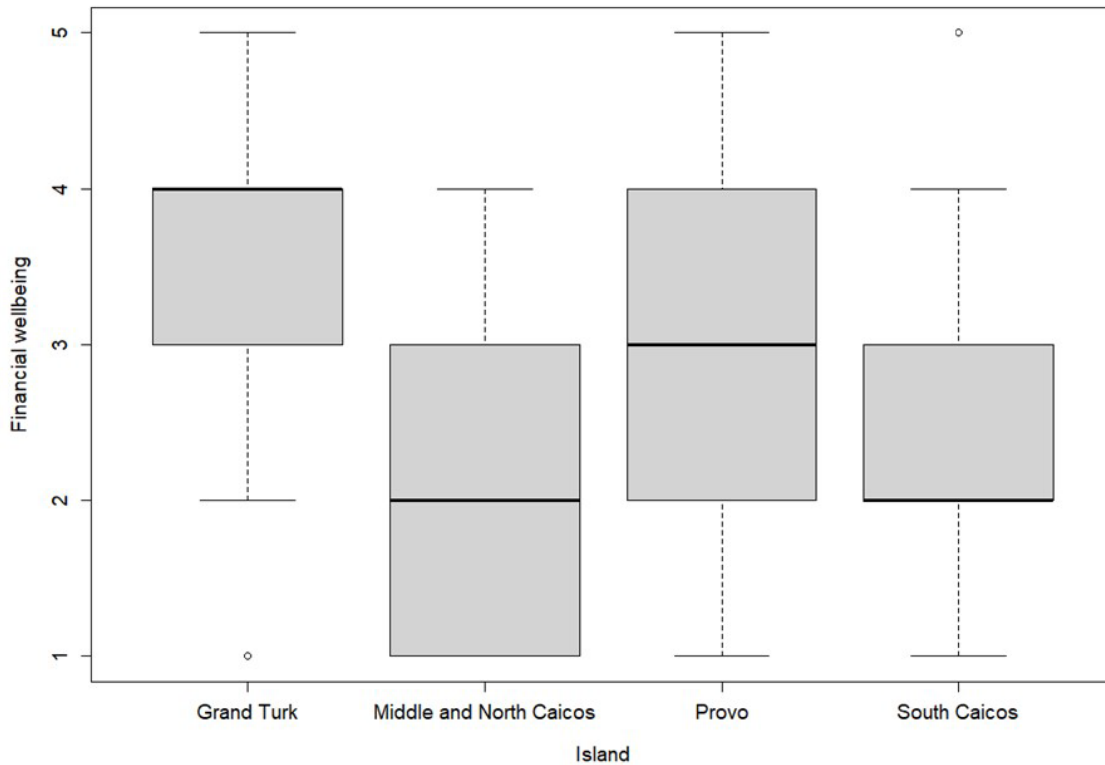
Figure 11. Box plot of financial wellbeing as scored by respondents (1= 'very dissatisfied', 2= 'dissatisfied', 3= 'neither satisfied nor dissatisfied', 4= 'satisfied', 5= 'very satisfied') by island. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Financial wellbeing and electoral district

There was a significant difference between financial wellbeing and electoral district (H=25.7, df=9, p<0.005) (Figure 12).

Pairwise comparisons using a Dunn's test indicated that financial wellbeing was significantly different between Leeward Provo (median = 4 'satisfied', n=14) and Middle and North Caicos (median = 2 'dissatisfied', n=34) (p<0.05) and Grand Turk South (median = 4 'satisfied', n=5) and Middle and North Caicos (p<0.05).
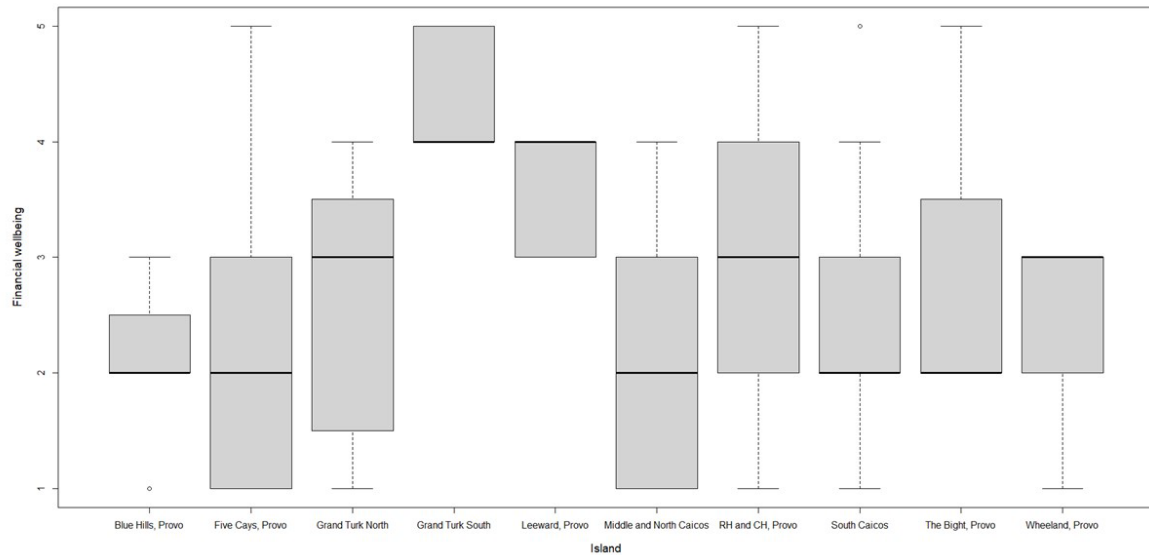
Figure 12. Box plot of financial wellbeing as scored by respondents (1= 'very dissatisfied', 2= 'dissatisfied', 3= 'neither satisfied nor dissatisfied', 4= 'satisfied', 5= 'very satisfied') by electoral district. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Financial wellbeing and sector of primary occupation

There was a significant difference between financial wellbeing and sector (H=14.302, df=7, p<0.05) (Figure 13).

Education (median=2, 'dissatisfied, n=11) and fisheries (median=2.5, n=6) reported lower average financial wellbeing, than construction (n=9), financial services (n=7), public services (n=8), tourism (n=10), and 'other' (n=43) (all median=3 'neither satisfied nor dissatisfied'). Health services (n=5) reported the highest average financial wellbeing (median = 4 'very satisfied').

Dunn test, utilising unadjusted p values, indicated differences between education and financial services (p<0.05), education and health services (p<0.001), education and tourism (p<0.05) fisheries and health services (-<p<0.05), health services and public services (p<0.05), education and 'other' (p<0.05) and health services and 'other' (p<0.05). These results should be treated with caution and as indicative only. Using the more conservative adjusted p values, the only significant difference was between education and health services (p<0.05).
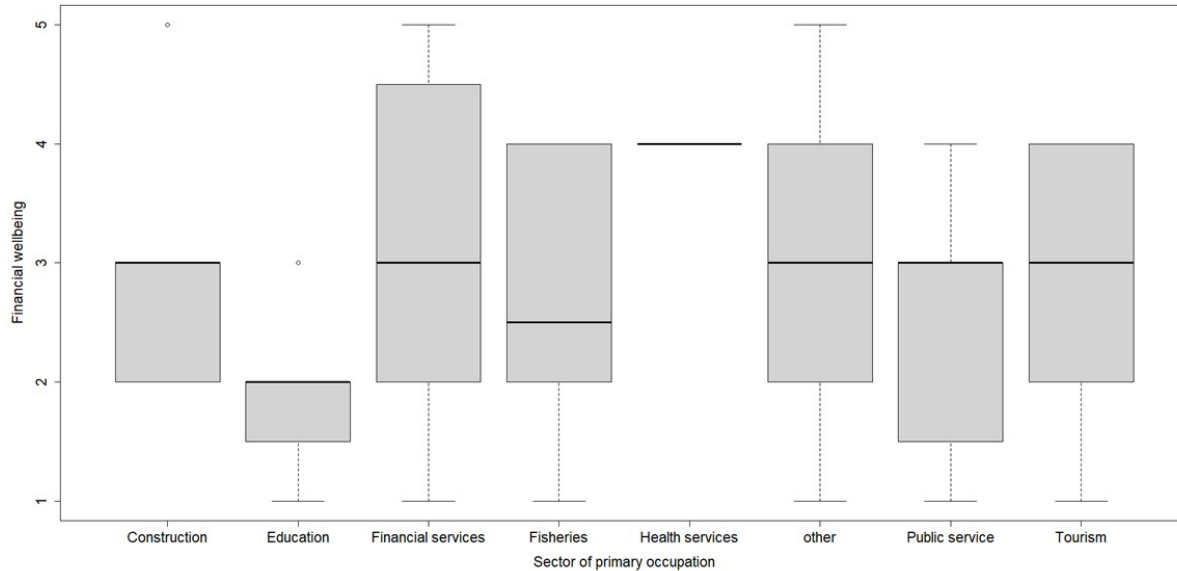
Figure 13. Box plot of financial wellbeing as scored by respondents (1='very dissatisfied', 2='dissatisfied', 3='neither satisfied nor dissatisfied', 4='satisfied', 5='very satisfied') by sector of primary occupation. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

3.4. Employment

3.4.1. Employment status

Sixty two percent of respondents (n=83) were employed either full or part time at the time the survey was completed (Jan to May 2023), 18% (n=25) were self-employed either full or part time and two respondents were 'casual workers' (Table 12). Twenty three percent (n=31) indicated that they were not in work, including 7.5% of respondents (n=10) that were unemployed, with a further 16% (n=21) not in paid work for other reasons (e.g. education, caring, retired).

Table 12. Respondent employment status at the time of survey (January to May 2023).

Employment status	Percent	Frequency (*n*)
Employed - full time	58.6%	78
Employed - part time	3.8%	5
Self-employed (own business/trade) - full time	14.3%	19
Self-employed (own business/trade) - part time	4.5%	6
Casual worker	1.5%	2
Unemployed	7.5%	10
Retired	6.8%	9

Employment status	Percent	Frequency (*n*)
In education or training	3.8%	5
Out of work due to long term sickness or disability	3.0%	4
Unpaid carer (e.g. children, relatives, etc.)	2.3%	4
Other ("entrepreneur", "data training"):	1.5%	2
N		**133***

*The frequencies add up to more than 133 (*N*) as respondents could select more than one option e.g. employed part time and self-employed part time. Percentages are calculated from the number of respondents who answered (133).

3.4.2. Sector of employment – primary occupation

The most highly represented sectors of employment included hotels, tourism and catering (12%, n=13), followed by education (11%, n=12), construction (8%, n=9) financial and professional services (7%, n=7), public service (7%, n=8), fisheries (6%, n=6) and health services (5%, n=5), with smaller numbers (< 5%) engaged in other sectors (Table 13).

Table 13. Sector of primary occupation at the time of survey (January to May 2023)

Sector of employment	Percent	Frequency (*n*)
Hotels; tourism; catering	12.0%	13
Education	11.1%	12
Construction	8.3%	9
Public service	7.4%	8
Financial services; professional services	6.5%	7
Fisheries	5.6%	6
Health services	4.6%	5
Food; drink; tobacco	4.6%	5
General labourer	2.8%	3
Environmental consultancy	1.9%	2
Landlord	1.9%	2
Legal services	1.9%	2
Mechanical and electrical engineering	1.9%	2
Media; culture; graphical	1.9%	2
Retail	1.9%	2
Childcare (paid childcare, excluding own caring responsibilities)	1.9%	2
Agriculture; plantations; other rural sectors	0.9%	1
Basic metal production	0.9%	1
Real estate, land requisitions	0.9%	1
Shipping; ports; inland waterways; maritime activities	0.9%	1
Utilities (gas, fuel)	0.9%	1
Other*	19.4%	21
N		**108**

*Other (n=21) includes security, office administration (2), design, engineering design and consultancy, sales – car dealership, transportation – aviation, IT services, vehicle rentals, consultancy, Airport Authority, government – high school, member of parliament, caretaker, store clerk, pension and maintenance.

3.4.3. Job roles – primary occupation

In terms of job roles, almost a third of respondents (27%, n=29) reported to be 'higher grade professionals, administrators, and officials; managers in large industrial establishments; large proprietors', with 15% (n=16) representing 'lower grade professionals, administrators and officials; higher grade technicians; managers in small industrial establishments; supervisors of non-manual employees' and 11% representing each of 'skilled manual workers' (n=12), 'routine non-manual employees, lower grade' (sales and services) (n=12) and 'routine non-manual employees lower grade(administration and commerce)' (n=11). Five percent of respondents reported to be either 'agricultural workers or other workers in primary production' (mainly including fishing) or 'farmers and small holders' (Table 14).

Table 14. Job roles (primary occupation) at the time of survey (January to May 2023)

Job role	Percent	Frequency (*n*)
Higher grade professionals, administrators, and officials; managers in large industrial establishments; large proprietors	27.1%	29
Lower grade professionals, administrators and officials; higher grade technicians; managers in small industrial establishments; supervisors of non-manual employees	15.0%	16
Skilled manual workers	11.2%	12
Routine non-manual employees, lower grade (sales and services)	11.2%	12
Routine non-manual employees, higher grade (administration and commerce)	11.0%	11
Small proprietors, artisans and so on, without employees	5.6%	6
Semi-skilled and unskilled manual workers (not in agriculture etc.)	3.7%	4
Small proprietors, artisans and so on, with employees	3.7%	4
Lower grade technicians; supervisors of manual workers	2.8%	3
Agricultural workers and other workers in primary production	3.7%	4
Farmers and small holders; other self- employed workers in primary production	0.9%	1
Other* or not sure	4.7%	5
N		**107**

*Other (n=5) included Community leader, day-care for babies 9 months to 3 years of age, dental assistance and teacher.

3.4.4. Sectors of employment – secondary occupation

Twenty eight percent (n=30) of respondents reported that they had a secondary occupation; with almost three quarters of respondents (73%, n=79) reporting that they did not have a secondary occupation or livelihood (Table 15).

Table 15. Sector of secondary occupation at the time of survey (January to May 2023).

Sector of employment	Percent	Frequency (*n*)
Food; drink; tobacco	16.7%	5
Hotels; tourism; catering	10.0%	3
Construction	10.0%	3
Fisheries	13.3%	4
Agriculture; plantations; other rural sectors	6.7%	2
Public service	6.7%	2
Sector of employment	**Percent**	**Frequency (*n*)**
Retail	6.7%	2
Education	3.3%	1
Financial services; professional services	3.3%	1
General labourer	3.3%	1
Landlord	3.3%	1
Legal services	3.3%	1
Real estate, land requisitions	3.3%	1
Other*	10.0%	3
N		**30**

*Other (n=3) includes Entrepreneur, virtual assistance and social media marketing, and barber.

3.5. Impacts of Covid-19 on livelihood

3.5.1. Short- and long-term impacts on primary occupation

Thirty four percent of respondents (n=37) reported no significant changes to their primary occupation or livelihood in the short term (end March to end July 2020) and 40% (n=43) reported no significant changes to their primary occupation in the longer term (from end July 2020 to present) (Table 17).

Twenty three percent (n=25) reported that they lost their job / were made unemployed in the short term, and 12% (n=13) reported this as a longer-term impact. Whilst 13% (n=14) reported working fewer hours in the short term, 19% (n=20) reported working fewer hours in the longer term. Twelve percent of respondents (n=13) reported that they closed their business in the short term, and 7% (n=8) reported this as a longer-term impact. Slightly more people reported seeking alternative financial support in the longer term (7%, n=8) than in the short term (6%, n=5) (Table 16).

Table 16. Impacts of Covid-19 on primary sector in: A. the short term (end March to end July 2020); and B. the long term (from end July 2020, when airports, seaports, beaches, schools and other businesses were re-opened, until the time of survey (Jan - May 2023).

Impacts of Covid-19 on primary occupation	A. Short term: end March to end July 2020 (Percent, n)	B. Long term: from end July 2020 to time of survey (Percent, n)
No significant changes to my occupation/livelihood	34.3% (37)	39.8% (43)
I lost my job / was made unemployed	23.1% (25)	12.0% (13)
I worked fewer hours	12.9% (14)	18.5% (20)
I closed my business	12.0% (13)	7.4% (8)
I stopped working altogether	9.3% (10)	6.5% (7)
I worked a greater number of hours	5.6% (6)	4.6% (5)
I started a new business	4.6% (5)	3.7% (4)
I sought alternative financial support from outside employment (e.g. help from government, friends, family) to maintain income	5.6% (5)	7.4% (8)
I moved my business online	3.7% (4)	0.9% (1)
I worked fewer jobs than I did previously	2.8% (3)	2.8% (3)
I increased my customer base	1.9% (2)	2.8% (3)
Impacts of Covid-19 on primary occupation	**Short term: end March to end July 2020 (Percent, n)**	**Long term: from end July 2020 to time of survey (Percent, n)**
I started a new occupation/type of work in addition to my existing occupation	1.9% (2)	2.8% (3)
I worked a greater number of jobs than I did previously	0.9% (1)	1.9% (2)
I changed my occupation/the type of work I do to a different occupation	0.9% (1)	4.6% (5)
Other	8.3% (9)	4.6% (5)
N	**108**	**108**

3.5.2. Overall impacts of Covid-19 on sector of primary occupation

Overall, 44% (n=48) of respondents reported negative or substantially negative impact of Covid-19 on the sector of their primary occupation, 32% (n=34) indicated no/marginal impact, and 13% (n=14) indicated positive or substantially positive impact of Covid-19 on the sector of their primary occupation (Figure 14).
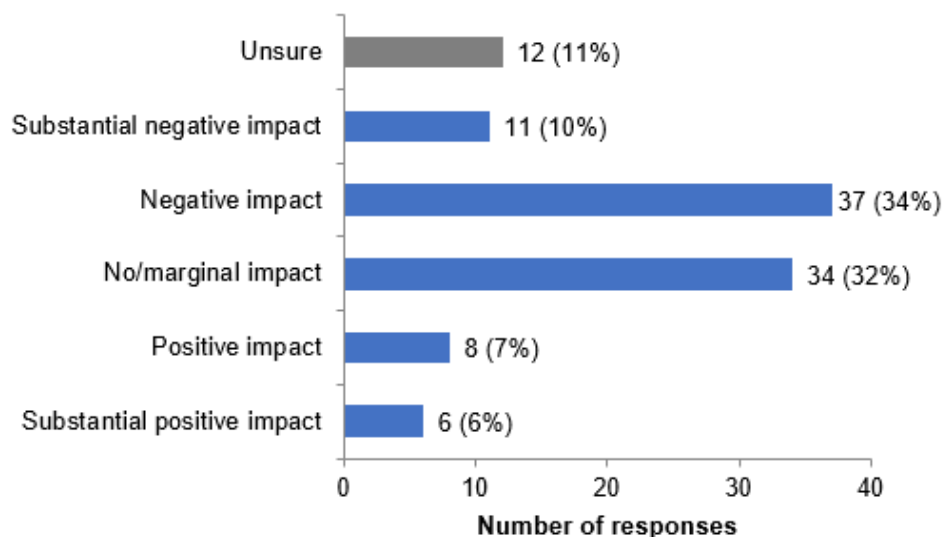
Figure 14. Impact of Covid-19 on primary sector as reported by survey respondents (*N*=108).

3.5.3. Changes to primary occupation as a result of Covid-19

Twenty five percent (n=27) of respondents that answered the question (108) indicated that they had changed their primary occupation due to the pandemic. Of those, 11% (n=12) reported that they had changed their sector of employment (Table 17).

Table 17. Changes to sector of primary occupation, reported by those that changed sector due to the pandemic (n=12).

Sector of employment before pandemic	Sector of employment at time of survey
Hotels; tourism; catering	Other: Security
Hotels; tourism; catering	Shipping; ports; inland waterways; maritime activities
Hotels; tourism; catering	Utilities (gas, fuel)
Public service	Environmental consultancy
Construction	Agriculture; plantations; other rural sectors
Construction	General labourer
Health services	Education
Health services	Other: administrative officer
Transport equipment manufacturing	Other: Vehicle services
Mechanical and electrical engineering	Hotels; tourism; catering
Commerce	Other: consultancy
Education	Other: (not specified)

3.5.4. Impacts of Covid-19 on earnings

Over half (51%, n=55) of respondents reported that their earnings either decreased temporarily during the pandemic (23%) or decreased and remained lower than before the pandemic (28%). Eight percent (n=8) reported either temporary (4%) or long term (4%) increases in income as a result of the Covid-19 pandemic. Forty two percent (n=45) reported no significant changes to their income as a result of the pandemic (Figure 15).
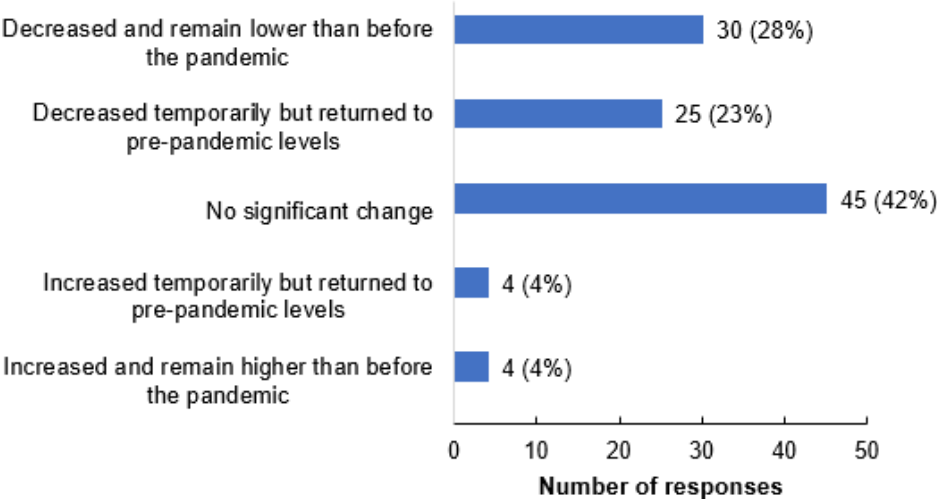

Figure 15. Impacts of Covid-19 of earnings as reported by respondents (*N*=108).

3.5.5. Impacts of Covid-19 on household income

Over half (52%, n=56) reported negative or substantially negative impacts of earnings on their household income as a result of the Covid-19 pandemic. Twelve percent (n=13) reported positive impacts on their household earnings and 32% (n=35) reported no significant impact on their household earnings (Figure 16).
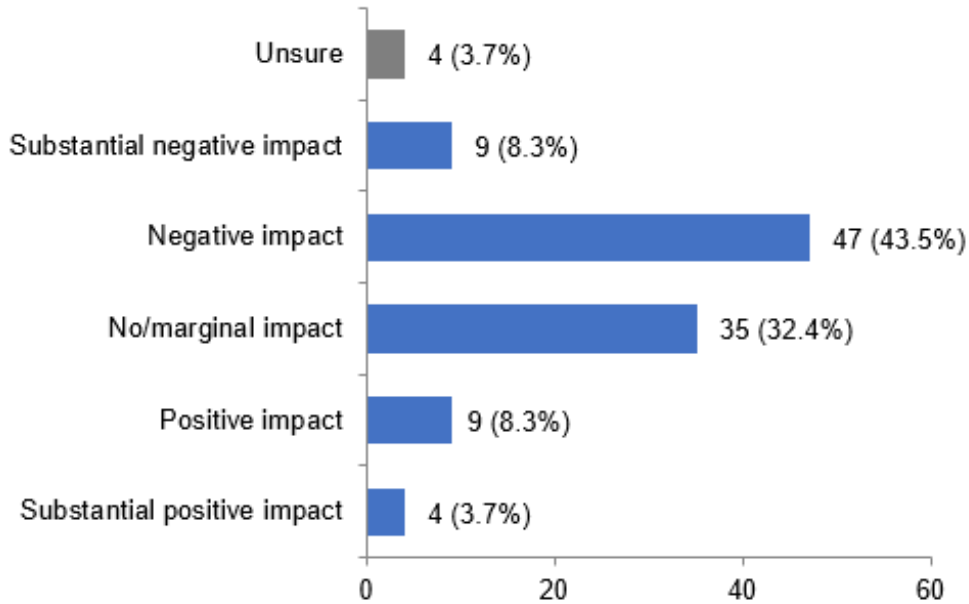
40

Figure 16. Impacts of Covid-19 of household income as reported by respondents (*N*=108).

3.5.6.Impacts of Covid-19 on quality of life

Over half of respondents (54%, n=72) reported a negative or significantly negative impact of Covid-19 on their overall quality of life. Seventeen percent (n=21) reported a positive or substantially positive impact and 30% (n=40) reported no/marginal impact (Figure 17).
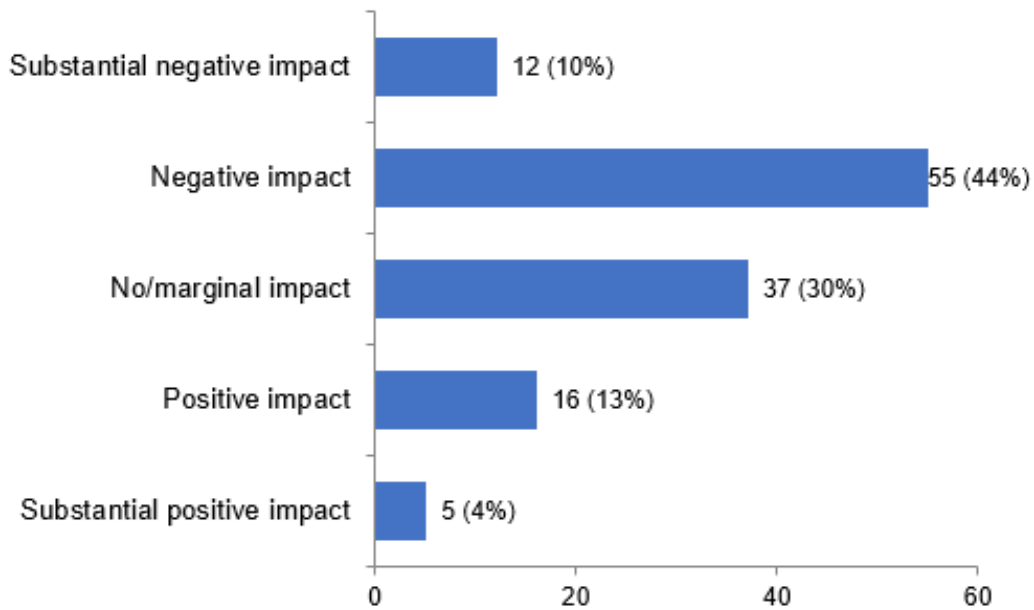

Figure 17. Impacts of Covid-19 of overall quality of life as reported by respondents (*N*=133).

3.5.7. Comments on how Covid-19 has affected livelihoods

Respondents were asked if they wish to leave any additional comments on how Covid-19 has affected their livelihoods; 50 (of 133) respondents left comments (Appendix 3).

Of those, the majority (62%, n=31) referred to negative impacts of the pandemic on their work/livelihood, on other aspects of personal or family life or, in one case, on security. Comments related to loss of jobs or income/closing businesses, difficulty paying bills and supporting family, owing money, getting in debt - "*The best way to describe this is being devastated to living pay check to pay check, but still owe everyone*", having to relocate, long lines for medications and no food in shops, excess produce because of not being able to harvest crops and increased levels of crime.

Six (12%) of those who left comments referred to both positive and negative impacts of the pandemic, including opportunities to grow business - "*I saw a silver lining in the midst of the pandemic*", forcing people to make changes and modernize how they operate business, creating learning/knowledge generating - "*It give me knowledge on how to teach my students from online...*", more time with family but children suffering from boredom.

Three people referred only to positive impacts of the pandemic including a boost in business and time to devote to business development, more time with family and igniting a desire to learn more to boost profession: "*as a nurse COVID 19 have open up my eyes to the world at hand and make me want to learn more and dig deeper into my Profession*".

Five respondents reported no, or very limited/temporary impact.

Supporting information

Section 3.7 reports on the part of the questionnaire that explored impacts of Covid-19 on the environment. Despite this focus, a substantial percentage of respondents reported impacts that Covid-19 had on their livelihoods. For example, 50% (n=50) of responses to the question on negative impacts on the environment were coded as 'negative livelihood impacts'. The sub-categories most frequently cited as negative impacts included job losses or no work (n=10); reduced tourists and closure of tourism negatively impacting income (n=8) and negative social and mental health impacts (n=7).

In response to the question on positive impacts on the environment, 22% (n=22) of responses were coded as 'positive impacts on livelihoods'. The sub-categories most frequently cited as positive impacts included: having more time available to spend

with family (n=6); new businesses and better job opportunities (n=6) and people taking better care of their health, including diet, exercise, cleanliness (n=6).

The most frequently cited ways to sustain positive impacts or lessen negative impacts of Covid-19 on livelihoods reported by respondents included:

- Job creation (n=14).

- Government / financial support for communities, people on low incomes, new businesses, and key industries (n=9).

- Government involvement to develop local talent and provide jobs programmes (n=5).

These comments align with the comments on how Covid-19 had impacted people's livelihood (section 3.5.9) and provide some additional insights to the impacts, such as the negative impact on social life and mental health, as well as the positive impact on physical health and cleanliness. Additional information, including quotes, are provided in Appendix 4 and 5.

3.6. Relationships between impacts of Covid-19 and demographics

3.6.1. Impacts on earnings, by demographics

There were no significant differences between respondents reported impact of Covid-19 on earnings and gender (p=0.823), age (p=0.4285), domestic status (p=0.9541), dependents (p=0.6268), disability (p=0.1881), electoral district (p=0.6066), or island (p=0.1373).

Whilst there were differences detected between impact on earnings and education level, these should be interpreted carefully due to the use of less conservative, unadjusted p-values, when considering pairwise comparisons (see Methods).

There were also indications of a difference between impact on earnings and nationality, but these results were inconclusive and have been excluded due to the low sample sizes in several of the nationality groups.

Impact on earnings and education

There was a significant difference between respondents reported impact on earnings and education level (H=12.119, df=5, p<0.05).

On average, those with no formal education (n=2) reported a median of 1 'substantial negative impact', those with primary (n=6), secondary (n=34) and tertiary education (n=18) reported a median of 2 'negative impact' and those with University: Bachelors (n=22) and University: Masters or higher (n=21), reported a median of 3 'no/marginal impact' (Figure 18).

Pairwise comparisons using a Dunn's test, utilising unadjusted p-values, indicated significant differences between 'no formal education' and 'University: Masters or higher' ($p<0.05$), 'secondary' and 'University: Masters or higher' ($p<0.01$) and 'tertiary' and 'University: Masters or higher' ($p<0.05$). However, utilising the more conservative adjusted p-values, these differences were no longer significant. These results should therefore be treated as indicative only.
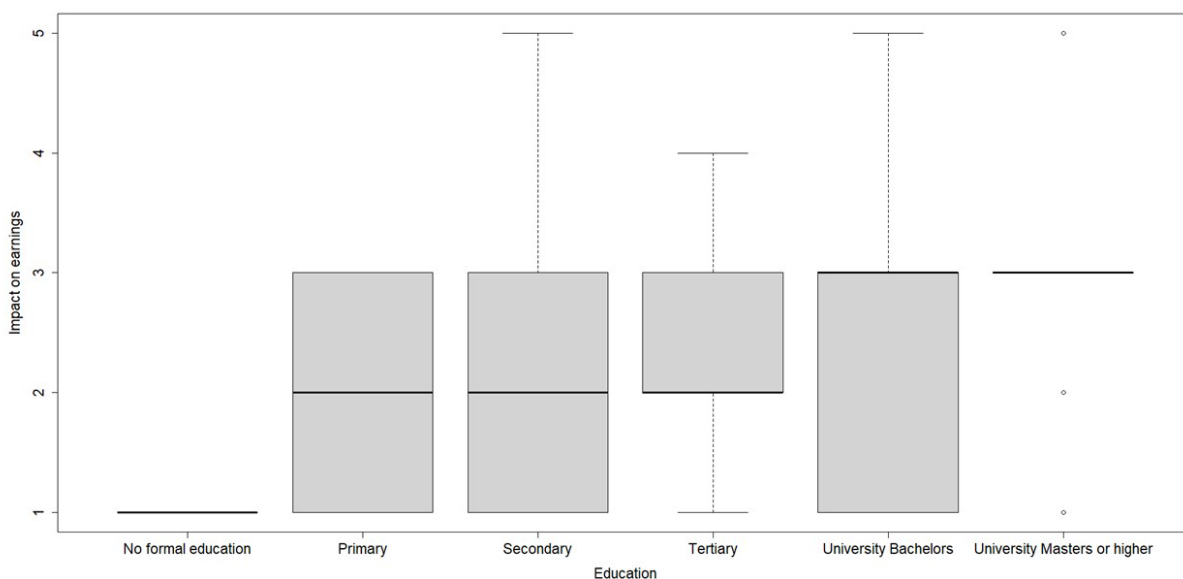

Figure 18. Box plot of impact of Covid-19 on earnings as scored by respondents (1= 'substantial negative impact', 2= 'negative impact', 3= 'no/marginal impact', 4= 'positive impact', 5= 'substantial positive impact') by education level. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

3.6.2. Impacts on household income, by demographics

There were no significant differences between respondents reported impact on household income and gender (p=0.4061), age (p=0.8058), domestic status (p=0.3634), dependents, disability (p=0.6854), (p=0.2126), education (p=0.3459), electoral district (p=0.7923), island (p=0.8897) or nationality (p=0.1212).

There were indications of a difference between impact on household income and nationality, but these results were inconclusive and have been excluded due to the low sample sizes in several of the nationality subgroups.

3.6.3. Impacts on quality of life, by demographics

There were significant differences between impact on quality of life and island and electoral district (reported below).

There were no significant differences between respondents reported impact on quality of life and gender (p=0.1755), age (0.7344), domestic status (0.1902), dependents (p=0.4835) or disability (0.6268).

Whilst there were differences detected between impact on quality of life and education, these results should be interpreted carefully due to the use of less conservative, unadjusted p-values, when considering pairwise comparisons (see Methods). There were also indications of a differences between impact on quality of life and nationality, but these results were inconclusive and have been excluded due to the low sample sizes in several of the nationality subgroups.

Impact on quality of life and education

There was a significant difference between impact on quality of life and education level (H=11416, df=5, p<0.05). On average, those with no formal education (n=2), primary (n=15), and secondary education (n=41) reported a median score of 2 'negative impact', compared to those with tertiary (n=22), University: Bachelors (n=25) and University: Masters or higher (n=21), who reported a median impact score of 3 'no/marginal impact' (Figure 19).

Pairwise comparisons using a Dunn's test, utilising unadjusted p-values, indicated significant differences between no formal education and University: Masters or higher (p<0.05), primary and University: Masters or higher (0<0.05) and secondary and University: Masters and higher (p<0.05). However, utilising the more conservative adjusted p-values, these differences were no longer significant. These results should therefore be considered indicative only.
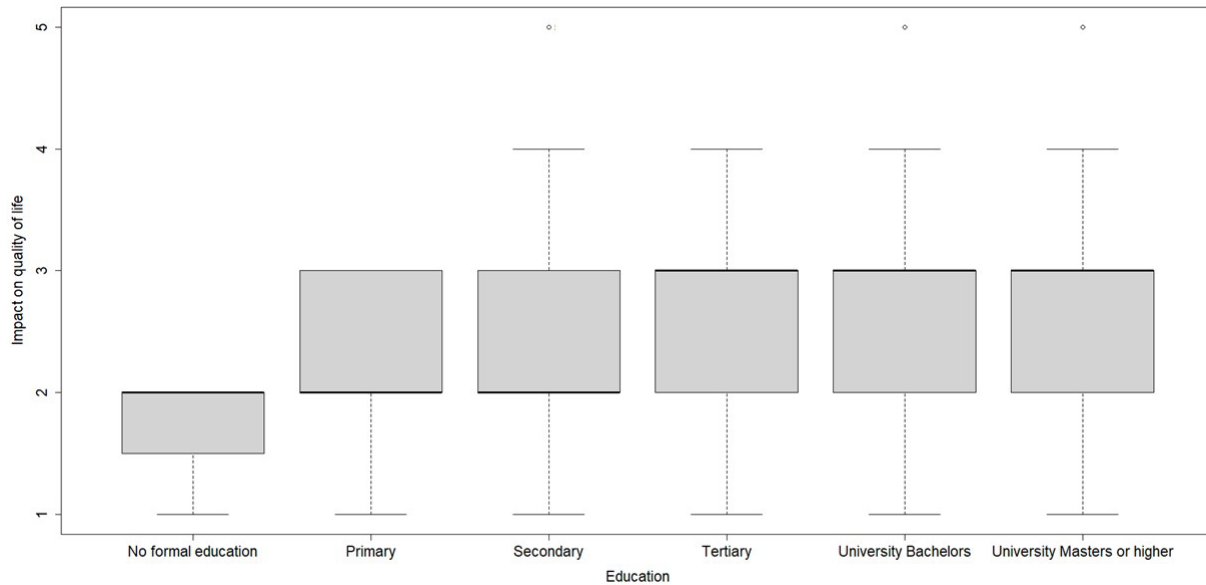
Figure 19. Box plot of impact of Covid-19 on quality of life as scored by respondents (1= 'substantial negative impact', 2= 'negative impact', 3= 'no/marginal impact', 4= 'positive impact', 5= 'substantial positive impact') by education. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Impact on quality of life and island

There was a significant difference between impact on quality of life and Island (H=16.687, df=3, p<0.001).

On average, Grand Turk (n=13), Middle and North Caicos (n=43) and South Caicos (n=19) reported a median impact on quality of life of 2 'negative impact', and Providenciales (n=45) reported a median impact of 3 'no/marginal impact' (Figure 20).

Pairwise comparisons using a Dunn's test, indicated significant differences between Middle and North Caicos and Providenciales (p<0.001). Using the less conservative, unadjusted p-values, there was also a difference detected between Grand Turk and Providenciales (p<0.05).
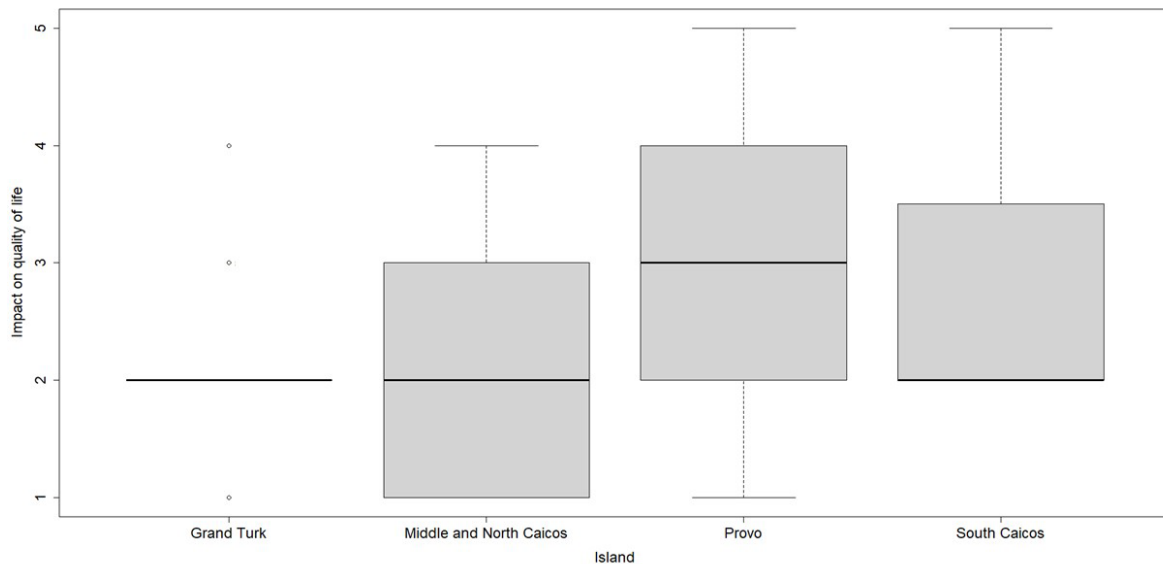
Figure 20. Box plot of impact of Covid-19 on quality of life as scored by respondents (1= 'substantial negative impact', 2= 'negative impact', 3= 'no/marginal impact', 4= 'positive impact', 5= 'substantial positive impact') by island. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

Impact on quality of life and electoral district

There was a significant difference between impact on quality of life and electoral district (H=18.842, df=9, p<0.05).

On average, those in Grand Turk North (n=8), Grand Turk South (n=5), Middle and North Caicos (n=43), and South Caicos (n=19) reported an average impact on quality of life of 2 'negative impact'; The Bight Provo (n=4) and Richmond Hill and Cheshire Hall (n=10) reported a median impact on quality of life of 2.5 (between 'negative impact' and 'no/marginal impact'), those in Blue Hills Provo (n=7), Five Cays Provo (n=5), Leeward Provo (n=14) and Wheeland Provo (n=4) reported a median impact of 3 'no/marginal impact' (Figure 21).

Pairwise comparisons using a Dunn's test indicated significant differences between Leeward Provo and Middle and North Caicos (p<0.01). Using the less conservative unadjusted P-values, significant differences were detected between, Grand Turk North and Leeward Provo (p<0.05), Grand Turk South and Leeward Provo (p<0.005), Middle and North Caicos and Leeward Provo (p<0.001) and South Caicos and Leeward Provo (p<0.05). These results should be used as indicative only.
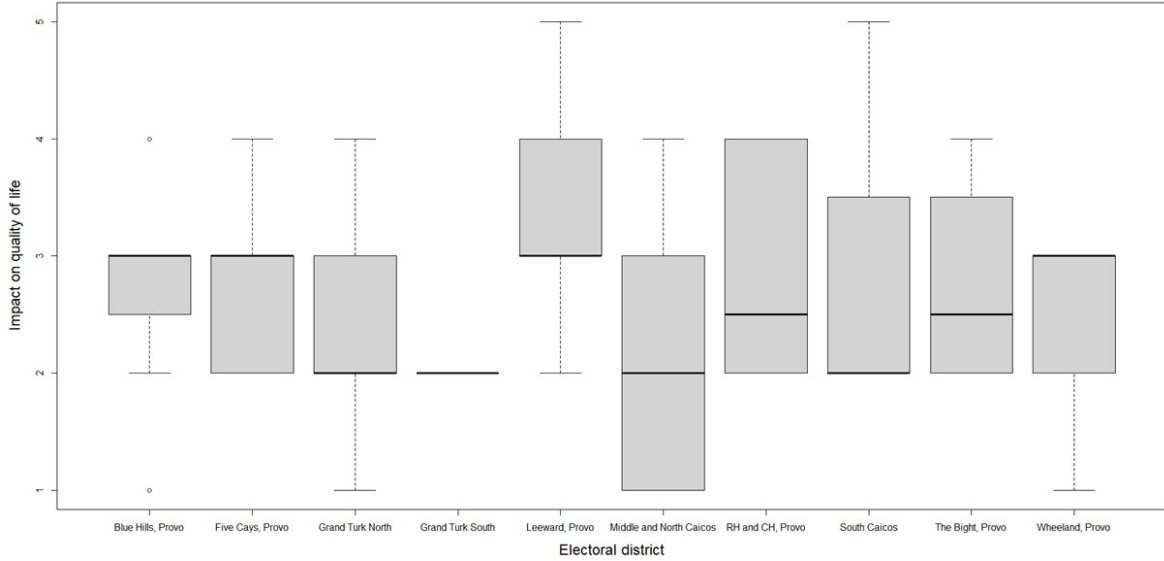
Figure 21. Box plot of impact of Covid-19 on quality of life as scored by respondents (1= 'substantial negative impact', 2= 'negative impact', 3= 'no/marginal impact', 4= 'positive impact', 5= 'substantial positive impact') by electoral district. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

3.7. Relationship between impacts of Covid-19 and sector

3.7.1. Impacts of Covid-19 on sector, by sector of primary occupation

There was no significant difference between respondents reported impact of Covid-19 on their sector, and sector of primary occupation (p=0.1245). However, it's worth noting that on average, construction (n=9), fisheries (n=6), public service (n=5) and tourism (n=11) had lower median scores for impact on sector (median=2 'negative impact'), compared to those in education (n=10), financial services (n=5), health services (n=5) and 'other' (n=44) (median = 3, 'no/marginal impact').

3.7.2. Impacts on earnings, by sector of primary occupation

There was a significant difference between sector and impact on earnings (H)= 28.038, df=7, p<0.001).

In general, fisheries (n=6) reported the most negative impact on earnings (median=1 'substantial negative impact'), followed by construction (n=9), tourism (n=13) and

'other' (n=47) (median=2 'negative impact'), compared to education (n=12), financial services (n=7), health services (n=5) and public service (n=8) (median = 3, 'no/marginal impact') (Figure 22).

Pairwise comparisons using a Dunn's test indicated significant differences between education and fisheries ($p<0.05$), financial services and fisheries ($p<0.05$), financial services and tourism ($p<0.05$) and education and tourism ($p<0.05$).
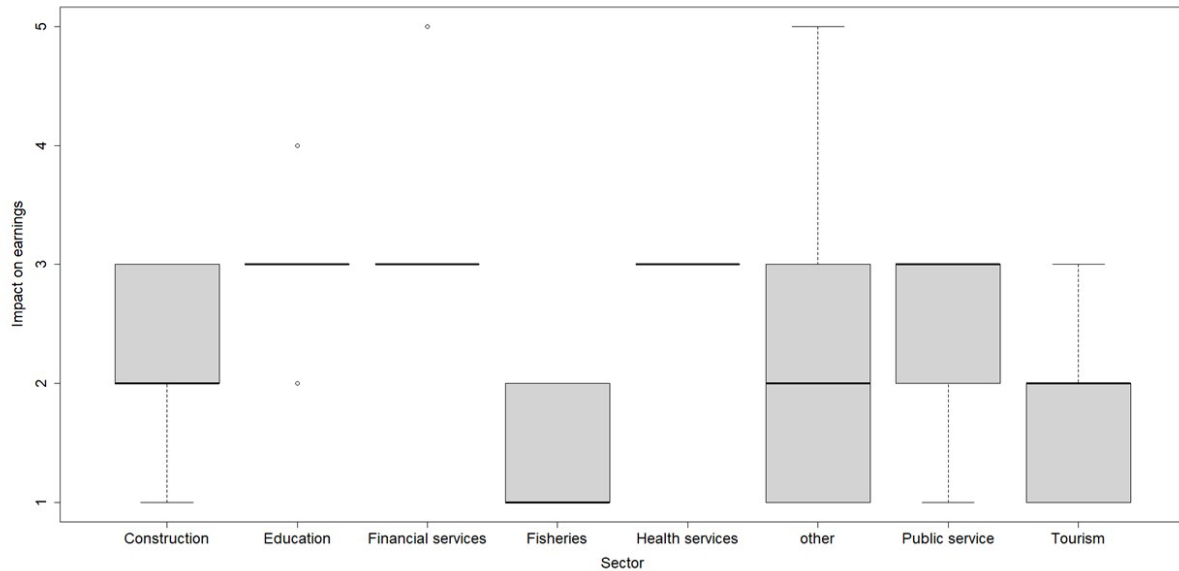

Figure 22. Box plot of impact on earnings as scored by respondents (1= 'substantial negative impact', 2= 'negative impact', 3= 'no/limited impact', 4= 'positive impact', 5= 'substantial positive impact') by Sector of primary occupation. Plot displays the Median (thick black line), upper and lower quartiles (box), interquartile range (whiskers) and outliers (circles).

3.7.3. Impacts on household income, by sector of primary occupation

There were no significant differences between sector and impact on household earnings ($p=0.07595$) or impact on quality of life ($p=0.373$).

3.7.4. Impacts on quality of life, by sector of primary occupation

There were no significant differences between sector and impact on quality of life ($p=0.373$).

3.8. Environmental Impacts of Covid-19 in TCI

3.8.1. Overall (perceived) impact of Covid-19 on the environment

Thirty-two percent (n=43) of respondents reported that they thought Covid-19 had both a positive and a negative impact overall. Twenty six percent (n=34) reported only positive impacts, 19% (n=25) reported only negative impacts and 14% (n=18) reported no overall impact (Figure 23).
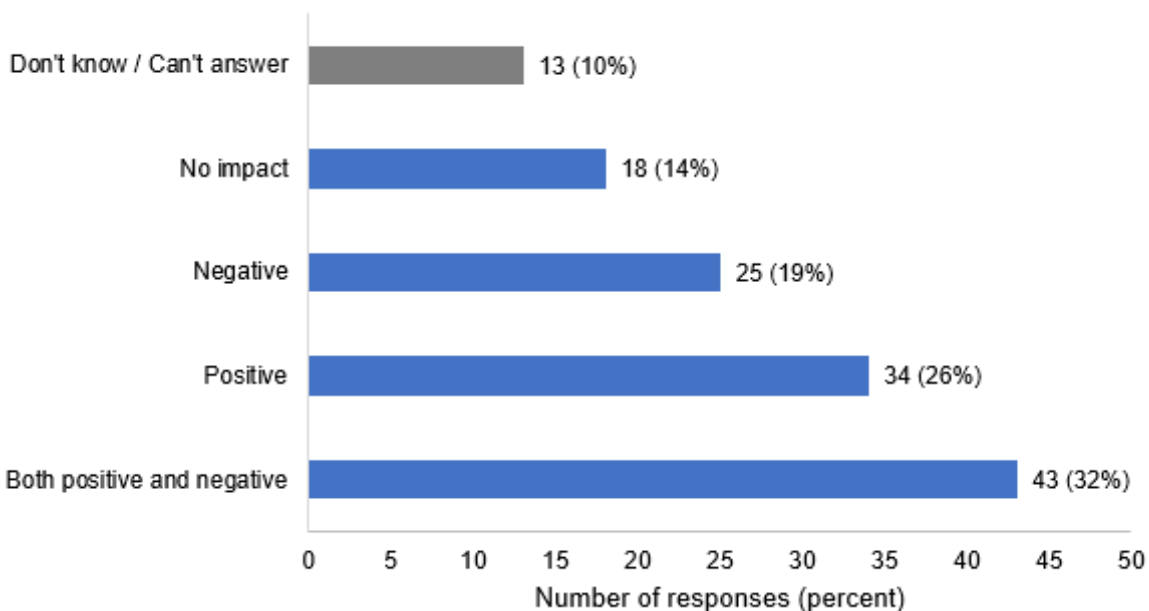

Figure 23. Respondents' perception of the overall impact that the Covid-19 pandemic had on the environment in TCI, by frequency of responses, with percentage in brackets (*N*=133).

3.8.2. Positive impacts of Covid-19 on the environment

Positive impacts of Covid-19 on the environment, reported by 86% (n=87) of respondents that answered this question (N=101) were coded into key themes and subcategories (Table 18). A small proportion of respondents (14%) responded that Covid-19 only had a negative impact, no positive impact, or no impact at all on the environment. Twenty two percent (n=22) of respondents to this question referred to livelihoods. These responses are summarised in Section 3.5.9. Detailed results and quotes are included in Appendix 4.

The theme most frequently cited by respondents was 'Cleaner environment' (47%, n=47) including less pollution (litter, noise, air, water), and increased natural beauty, for example:

"Littering and garbage accumulation decreased substantially and noise pollution from heavy equipment and vehicular traffic was almost non-existent".

This was followed by the theme 'Environmental recovery' (37%, n=37), with many referring to fisheries recovery (fish, conch and lobster stocks) but also observations relating to increased vegetation and activity or visibility of marine life and birds, for example:

"I am a keen scuba diver, and it seems to me that the absence of tourists has helped the recovery of our reef system, and certainly (in my entirely and unreliable anecdotal experience!) led to larger marine life being more visible".

The other key themes highlighted were 'Less human activity putting pressure on the environment', including fewer people, vehicles, and boats, and 'Personal action', including that more people started caring for nature and gardening.

Table 18. The themes and subcategories of themes for reported positive impacts of Covid-19 on the environment in TCI, excluding livelihood impacts* (*N*=101). The 'number of mentions' a subcategory received is given and totalled for each theme. The subcategories mentioned more frequently by respondents are in bold.

Theme (percent**, number of mentions, n)	Subcategory (number of mentions, n)
Cleaner environment (47%, 47)	**Less pollution from litter and garbage (14)** **Cleaner environment (streets, beaches, tourist areas) (11)** Less pollution generally (6) Less noise pollution (6) Less air pollution (5) Less water contamination / increased water quality (3) Increased natural beauty (2)
Environmental recovery (37%, 37)	**The environment had chance to rest and recover (12)** **Decreased fishing, fisheries recovery, increased catch sizes (10)** Marine life and coral reef recovery (6) More growth of trees and plants growth (6) Increased visibility and activity of marine life (2) More birds flying (1)
Less human activity putting pressure on the environment (19%, 19)	**Less pressure from residents and tourists (11)** Fewer vehicles (4) Fewer marine activities (boats, cruise, charter vessels) (3) Lower use of water, energy, and resources (1)
Personal action (9%, 9)	People made more time and effort to clean and care for nature (6) More people gardening / planting / farming (3)

Theme (percent**, number of mentions, n)	Subcategory (number of mentions, n)
Miscellaneous (7%, 7)	General positive impact (2) More visitors to TCI beaches and public places (post lockdown) (4) More open-mindedness (1)

* Twenty two percent (n=22) of respondents to this question referred to livelihoods. These responses are summarised in Section 3.5.9 and detailed in Appendix 4.

**The 'number of mentions' add up to more than 101 (*N*) as some responses code to more than one subcategory. Percentages are calculated from the number of respondents (101).

3.8.3. Ways to sustain the positive impacts of Covid-19 on the environment

Eighty-five percent (n=72) of respondents that answered this question (N=85) suggested ideas to sustain the positive impacts of Covid-19 on the environment, which were coded into key themes according to which positive impact they applied to (Table 19). The remaining 15% responded that Covid-19 only had a negative impact, no positive impact, or no impact at all on the environment. Twenty-two percent (n=19) of respondents to this question referred to livelihoods. These responses are summarised in Section 3.5.9. Detailed results and quotes are found in Appendix 4.

The ideas most frequently cited by respondents related to the theme 'Cleaner environment' (27%, n=23) and included suggestions on maintaining cleanliness, better waste management, environmental education, and enforcing laws and regulations, for example:

> "*Legislation. TCI needs new laws to protect and preserve and enforcement of current environmental and welfare laws. Enforcement of fines for littering, for illegal fishing and dumping, exploitation, abuse in the national park, for overdevelopment, etc. We have banned plastic bags but Styrofoam is everywhere. Infrastructure needs to support this growth. Waste management and recycling need very serious consideration.*"

This was followed by the theme 'Environmental recovery' (24%, n=20) where suggestions also included environmental education and law enforcement, in addition to, environmental monitoring, temporary 'no-go zones' - "Rotation of use of the natural areas, to promote recovery, and increase abundance.", and practical activities to support the environment, for example:

> "*People like specifics and if we can show them where small changes in their behaviours can have a positive impact, then maybe they will stick to those changes long term.*"

A number of other ideas were suggested relating to the themes 'Less human activity putting pressure on the environment', and 'Personal action', including caps on development, promoting more sustainable behaviours, increasing education and awareness, and practical activities such as encouraging people to plant fruit bearing plants and vegetables, for example:

> "*Regarding tourist behaviour and those accommodating them they can be encouraged to be more environmentally conscious in their activities. For example to reduce waste items like plastics they can consider more green alternatives like agave straws and wooden takeaway utensils instead of plastic or refillable bottles.*"

Table 19. The themes and subcategories of themes for reported ways to sustain the positive impacts of Covid-19 on the environment in TCI, excluding livelihood impacts* (*N*=85). The 'number of mentions' a subcategory received is given and totalled for each theme. The subcategories mentioned more frequently by respondents are in bold (some sub-categories applied to multiple themes and are added together).

Theme (percent**, number of mentions, n)	Subcategory (number of mentions, n)
Cleaner environment (27%, 23)	**Maintain the cleanliness and order of the environment (10)** **Additional / stronger laws for environmental protection (5)** Improved waste management and recycling (4) **Educate and raise awareness of the environment, its value, human impacts on it, and how to take care of it (3)** **Enforce existing laws and regulations (including fines) (1)** No vendors on beaches (1)
Environmental recovery (24%, 20)	**Enforce existing laws and regulations (including fines) (4)** Temporary no go zones in national parks or rotate the use of highly visited natural areas (3) Improved government action and involvement in the environment (3) **Educate/raise awareness of the environment, its value, human impacts on it, and how to take care of it (3)** Provide activities for people to support the environment (2) Environmental monitoring (2) Extend national parks and reserves (1) Less pollution (1) Treat the earth kindly (1)
Less human activity putting pressure on the environment (21%, 18)	**Educate/raise awareness of the environment, its value, human impacts on it, and how to take care of it (5)** Encourage more sustainable tourism development, activities, and tourist behaviour (4) Restrict or cap development (2)

Theme (percent**, number of mentions, n)	Subcategory (number of mentions, n)
	Evaluate the carrying capacity of the environment (2) Keep some Covid-19 measures that benefitted the environment (2) Include environmental expertise into planning board decisions (1) Use of electric cars and encourage bike use (1) More help in the community (1)
Personal action (9%, 8)	Encourage yard gardening and farming (2) More support for residents and communities (3) More environment jobs (1) Provide activities for people to support the environment (1) Transport: Use of electric cars and encourage bike use (1)
Miscellaneous (8%, 7)	Funding generally (1) Restructuring of development (2) Areas for food collection (1) Better policing of legal business (1) More beach activities and water sports (1) Help one another (1)

* Twenty-two percent (n=19) of respondents to this question also referred to livelihoods. These responses are summarised in Section 3.5.9 and detailed in Appendix 4.

**The 'number of mentions' add up to more than 85 (*N*) as some responses code to more than one subcategory. Percentages are calculated from the number of respondents (85).

3.8.4. Negative impacts of Covid-19 on the environment

Negative impacts of Covid-19 on the environment were reported by 65% (n=66) of respondents who answered this question (N=101) and were coded into key themes and subcategories outlined in Table 20. Just over a third (35%) of respondents responded that Covid-19 only had a positive impact or had no negative impact on the environment. Fifty percent (n=50) of respondents to this question referred to negative impacts on livelihoods. These responses are summarised in Section 3.5.9. Detailed results and quotes are included in Appendix 5.

The theme most frequently cited by respondents was 'Poor maintenance / cleanliness of the environment' (23%, n=23), including people not being able to go out during lockdown to maintain areas, more household waste, and more litter, particularly relating to increased tourism pressure post-lockdown and PPE:

> "*The dramatic increase in the use of disposable PPEs really placed a strain on our local landfills and saw more medical-related litter in the bushes*".

This was followed by the theme 'Negative impacts on biodiversity' (6%, n=6), including increased seaweed on beaches, poaching, threat to conch, and development in natural areas, for example:

> "*TCI real estate was seen as a bargain during the COVID situation by outside investors that had easy access to capital. Consequently, record sales were made, much of which was undeveloped land. This land is now being developed.*"

Table 20. The themes and subcategories of themes for reported negative impacts of Covid-19 on the environment in TCI, excluding livelihood impacts* (*N*=101). The 'number of mentions' a subcategory received is given and totalled for each theme. The subcategories mentioned more frequently by respondents are in bold.

Theme (percent**, number of mentions, n)	Subcategory (number of mentions, n)
Poor maintenance / cleanliness of the environment (23%, 23)	**Environment neglected as people were not able to check it (9)** **More litter and streets unclean generally (5)** **Increased tourism and resident pressure post lockdown creating litter (4)** Increased use and poor disposal of PPE (3) More household waste (2)
Negative impact on biodiversity (6%, 6)	More seaweed/seagrasses on the beach (3) Poaching in protected areas (1) Increased threat to conch (1) Sale of real estate / development of natural areas (1)

* Fifty percent (n=50) of respondents to this question also referred to livelihoods. These are summarised in Section 3.5.9 and detailed in Appendix 5.

**The 'number of mentions' add up to more than 101 (*N*) as some responses code to more than one subcategory. Percentages are calculated from the number of respondents (101).

3.8.5. Ways to reduce the negative impacts of Covid-19 on the environment

Eighty-five percent (n=75) of respondents that answered this question (N=88) suggested ways to lessen the negative impacts of Covid-19 on the environment, which were coded into the key themes according to which negative impact they applied to (Table 21). The remaining 15% responded that Covid-19 only had a positive impact or no negative impact on the environment. Forty-three percent (n=38) of respondents to this question also referred to livelihoods. These responses are summarised in Section 3.5.9. Detailed results and quotes are found in Appendix 5.

Ideas most frequently suggested by respondents (33%, n=29) related to 'Poor maintenance / cleanliness of the environment', and included recurring ideas such as better waste management, more clean-ups - "Hire beach wardens to monitor the beach more frequently", and better enforcement and monitoring, for example:

> "*Keep TCI clean campaign. More garbage receptacles for public use. Better and more visible recycling services. Need to do more clean-up in all areas where visitors go.*"

Ideas were also suggested relating to 'Negative impacts on biodiversity' (7%, n=6), for example:

> "*Conch export should be banned and a conch farm or sanctuary implemented immediately.*"

Several miscellaneous responses were also coded, for example:

> "*Prepare now for the next possible pandemic, so that we have better environmental management strategies to tackle these problems.*"

> "*More knowledge of the environment to persons.*"

Table 21. The themes and subcategories of themes for reported ways to lessen the negative impacts of Covid-19 on the environment in TCI, excluding livelihood impacts* (*N*=88). The 'number of mentions' a subcategory received is given and totalled for each theme. The subcategories mentioned more frequently by respondents are in bold (some sub-categories applied to multiple themes and so n is totalled across themes).

Theme (percent**/ number of mentions, n)	Subcategory (number of mentions, n)
Poor maintenance / cleanliness of the environment (33%, 29)	**Better waste management (landfill and recycling) (8)** **More clean-ups (allow people out to clean) (6)** Monitor and maintain the environment (4) Increased law enforcement (including fines) (4) Sustainable / Recyclable PPE (2) Beach parties stopped (1) Job creation (1) Curfew in specific areas (1) Implement new technology (1) Holding event organisers accountable for uncleanliness (1)
Negative impact on biodiversity (7%, 6)	Using seaweed in health products (1) Less pressure on the environment (1) Increased law enforcement / fines (1) Management of Conch (1) Replace staff at the planning department for development (1)

Theme (percent**/ number of mentions, n)	Subcategory (number of mentions, n)
Miscellaneous (16%, 14)	**More awareness and education on the environment (6)** Preparedness (4) Remove C19 policies / lessened curfew (2) More research / survey people (1) Planting more trees (1)

* Forty-three percent (n=38) of respondents to this question also referred livelihoods. These are summarised in Section 3.5.9 and detailed in Appendix 5.

**The 'number of mentions' add up to more than 101 (*N*) as some responses code to more than one subcategory. Percentages are calculated from the number of respondents (88).

3.8.6. Comments on how Covid-19 has affected the environment.

Respondents were asked if they wish to leave any additional comments on how Covid-19 has affected the environment. Sixteen respondents (*N*=16) provided further comments; however, these did not relate solely to environmental impacts. Responses were coded into 'negative experiences' (n=5) 'positive experiences' (n=4), 'suggested solutions' (n=5) and 'growth and development' (n=3).

In summary, the responses related to positivity regarding the improved environment during lockdown and more time for family, negativity regarding the impact of rising prices and reduced resources during Covid-19, criticisms of poorly planned and widespread development, and identification of the need for more jobs, businesses, and less pollution. Detailed responses and quotes are included in Appendix 6.

3.9. Opportunities for Sustainable Recovery

3.9.1. Skills to support long-term Sustainable Recovery

Respondents identified a number of skill development and training ideas to support a long-term sustainable social and economic recovery in TCI. Ideas were categorised into twelve key skills categories, half with clear potential links to an improved environment ("green recovery"), half with less obvious links to the environment (Figure 24).

The skill categories with links to the environment that received the highest number of mentions from respondents were 'Agriculture and gardens' (n=17), including growing vegetables, chicken coops, agri-processing, and hydroponics, for example:

> "... *we need more farms, chicken coops. Learning to farm basic household needs like onions and peppers can help. Harvesting your own eggs would be a great way to sustain*".

This was followed by 'Environmental education' (n=9), including an environment curriculum in schools, business sustainability training, and education for tour operators, for example:

> "*A major issue I see is education for boat/tour operators to ensure our reefs and wildlife are unharmed. I see so many boats operating [un]safely around reefs and wildlife. Enforcement around licensing would also need to keep pace.*"

The other skill categories include 'Fishing' (e.g. fish production and investment, n=5), 'Waste and recycling' (e.g. improved facilities and education on how to recycle, n=5), 'Science, technology, engineering, and mathematics' (STEM) (e.g. solar, electrical engineering, new technologies, n=5) and 'technical and vocational training' (e.g. trade school programmes like marine biology and environmental law, n=5).

The skills categories with less clear links to the environment that received the highest number of mentions from respondents were 'Business management skills' (n=9), including, accounting, finances, and business continuity plans, for example:

> "*... Persons especially need to learn how to develop business continuity plans, so that they can keep thriving in the face of any future challenges*"

This was followed by 'Risk and disaster management' (n=8) which focussed on risk assessment, population safety measures, and responses such as "*Innovation and creativity in times of crises*" and "*Teaching persons to deal with situations*".

The other skill categories include 'Health and disease' (e.g. health programmes and disease education, n=8), 'Personal and soft skills' (e.g. social skills, work etiquette and saving, n=7), 'Information technology' (e.g. IT support, server farms, data management, n=6) and 'Education generally' (n=5).

Ideas which did not fall into any category and were mentioned infrequently were coded into a 'Miscellaneous' category (n=12) and included construction skills, plumbing, hairdressing etc. Further detail on skill development ideas and quotes from respondents are included in Appendix 7.
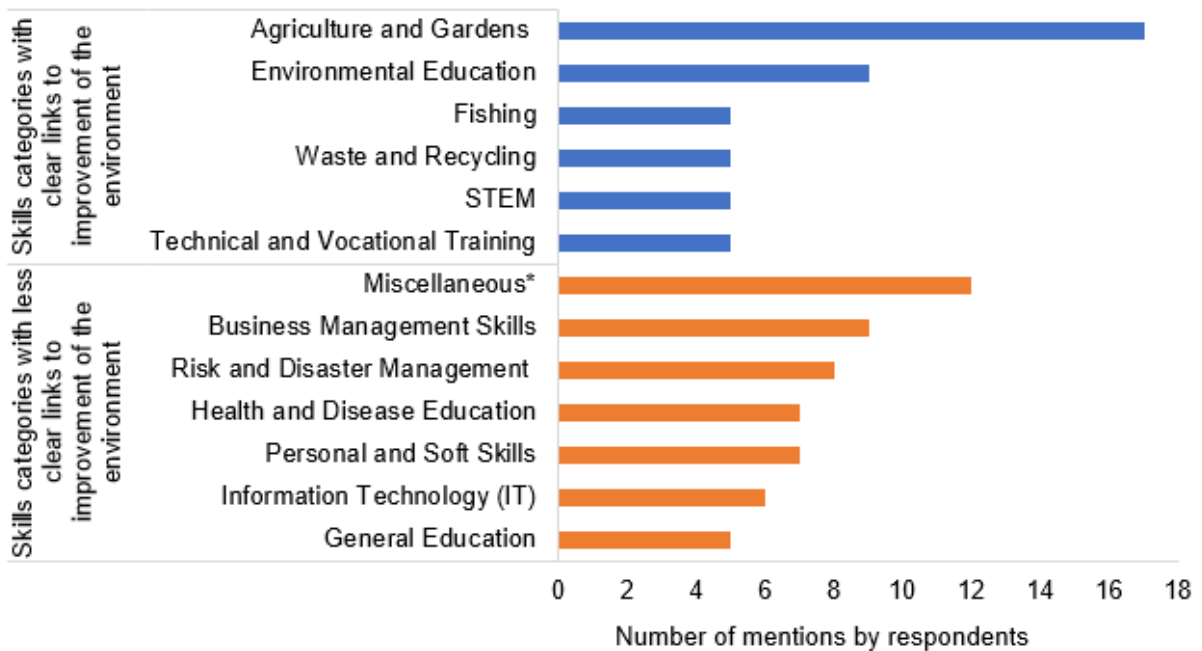
Figure 24: The skill categories identified from responses on skill development opportunities for sustainable recovery and the 'number of mentions' (n) in responses that related to each category. Blue bars show skills with clear links to improving the environment and orange bars show skills with less clear links.
*Miscellaneous (n=12) includes construction, plumbing, hairdressing etc (Appendix 7).

3.9.2. How sectors could support sustainable recovery

The largest majority of responses (n=26) regarding ideas for how specific sectors could support sustainable recovery related to 'education and awareness raising' (Table 24). This was mostly environment focussed (with a few comments relating to health and hygiene), including spreading the word and raising awareness regarding environmental action within communities and business sectors. The second most frequently mentioned category related to 'environmental action' (n=10), including recycling, better packaging and keeping the environment clean (e.g. beach cleans).

Comments (n=5) also related to 'entrepreneurialism and expansion of new sectors with low environmental impact', including promotion and marketing, reducing dependence on tourism, and entrepreneurialism in waste management. Respondents (n=3) also suggested expanding current sectors (e.g., fishing at a wider scale, expanding tourism) and reducing impacts within current sectors (n=3) (e.g., reducing emissions, promoting existing regulations etc). It was suggested (n=4) that construction and engineering could contribute by improving homes, creating jobs and incorporating environmental understanding into design. A full list of categories

are provided in Table 22 and direct quotes broken down by sector are provided in Appendix 8.

Table 22. Ideas on how occupation / sector can support sustainable recovery as identified by survey respondents in response to the question: 'Do you have any ideas for how your occupation / livelihood / sector could support a long-term sustainable recovery?' Ideas were coded into categories.

Category	Number of mentions (n)
Education and awareness raising (general, environment, health)	26
Environmental action (e.g. reducing plastic, recycling, cleaning the environment)	10
Entrepreneurism & expansion of new sectors with low environmental impact	5
Construction & engineering (Air B&B, home improvement)	4
Basic skills & vocational training (bookkeeping, IT skills e.g. online banking, financial management, trade schools)	3
Expanding current sector (e.g. fishing on larger scale, increasing tourism)	3
Reducing impacts in current sector (e.g. reducing emissions in engines)	3
Food provision / supply	3
Development (restrict, manage, enforce)	3
Agriculture (simplify business licensing)	2
Risk management (learn from Covid-19 pandemic)	2
Ways of working / behaviour (work from home to reduce impacts)	2
Improved fisheries management (restrict exports, raise prices, pay fishermen more)	1
Financial support (e.g. refinancing loans)	1
Enforcement of laws, policies (e.g. of planning and development)	1
Infrastructure (e.g. container ports)	1
Miscellaneous	11

3.9.3. How existing skillsets could support sustainable recovery

When asked how existing skill sets could be used to support resilient recovery, the most frequently mentioned ideas related to 'environmental action' (e.g. cleaning, recycling, and supporting conservation, n=12), 'education' (n=9), and 'awareness raising, influencing and communications' (n=9). These latter two categories were split up as while many people mentioned formal teaching and education, including providing seminars and short courses; a second group referred in particular to awareness, empowerment, information dissemination (e.g. through social media),

creating and disseminating communication materials and influencing policy. Many respondents also referred to general volunteering where needed (n=6) and providing non-specific or trade related training (n=5). A full list of categories is provided in Table 23 and direct quotes broken down by sector are provided in the Table A6 b (Appendix 8).

Table 23. Ideas on how current skill sets can be used as identified by survey respondents in response to the question: 'How could your existing skill set be used, enhanced or diversified to support these ideas and opportunities?' Ideas were coded into the categories.

Category	Number of mentions (n)
Environmental action (cleaning, recycling, supporting conservation)	12
Education	9
Awareness raising, influencing and communications	9
General volunteering (help where needed, church groups etc)	6
Specific trade-related training (generic)	5
Cooking and food supply (supplying fish etc)	4
Organizing, coordinating & facilitating	2
Financial advice / training	2
Miscellaneous	13

3.10. Key Informant Interviews

Seven key informant semi-structured interviews and four informal meetings were completed to compliment the questionnaire results and provide further insight into emerging themes. Details on the interview method, data analysis, and approach to comparing with the questionnaire results is provided in Section 2.3 and 2.4. 'Number of mentions' refers to the number times a subcategory is referred to in the responses and so coded to that subcategory. Therefore, the 'number of mentions' can exceed the number of key informants (N=11) when multiple sub-categories are mentioned.

3.10.1. Impacts of Covid-19 on society

Seven key informants responded to questions related to this theme exploring the groups in society (sectors and demographics) most impacted by Covid-19. Responses focussed mainly on negative impacts (n=22) and business sectors, with 'tourism, hospitality and connected industries' being the sector reported most often for experiencing negative impacts from Covid-19 (n=3) (Table 24).

It was highlighted that commercial fishers, tour operators, and migrant workers (or those holding work permits) did not qualify for relief programmes which is a reason

for heightened negative impact, in addition to migrant workers not being able to return home. The negative impacts on tourism, fishers, farmers and related industries were referred to as temporary by multiple respondents. However, one respondent reported that the economic, social, physical and emotional impact of Covid-19 in TCI was great and long-term.

Positive or neutral impacts of Covid-19 on sectors were reported to a lesser extent (n=5). Increased 'Entrepreneurialism', with reference to delivery and IT sectors in particular, was the most reported positive impact (n=3). Entrepreneurialism was noted as a potential reason for TCI recovering from the impacts of COVID-19 relatively quickly.

Table 24. The a. negative and b. positive/neutral impacts of Covid-19 on groups in society including business sectors and demographics, reported in key informant interviews.

a. Groups negatively impacted by Covid-19 (*n*=22)

Category of societal group	Number of mentions (n)
Tourism, hospitality and connected industries	5
Small to medium businesses	2
Commercial fishers	2
Farmers	2
Food processors	2
Health care	2
Migrant workers or people on work permits*	2
People on lower incomes / unemployed	2
Sector: Finance	1
Vulnerable (elderly, existing illness, or low immunity)	1
Students in school and education	1

b. Groups positively or neutrally impacted by Covid-19 (*n*=5)

Category of societal group	Number of mentions (n)
New businesses and entrepreneurialism	3
Local stores	1
Construction	1

*Haitian and Dominican Republic nationalities were mentioned as part of this category.

3.10.2. Impacts of Covid-19 on the environment

Five key informants responded to questions related to this theme exploring the perceived impacts of Covid-19 on the environment. Responses were limited in detail and two respondents reported that the environment was not their field of expertise. Slightly more positive responses (n=5) were reported compared to negative responses (n=3) and focussed on changes in human pressures on the environment (Table 25).

Table 25. Positive and negative impacts of Covid-19 on the environment, reported in key informant interviews.

Positive Impacts	Number of mentions (n)	Negative Impacts	Number of mentions (n)
Less pressure on the environment as fewer tourists and expatriates	2	More pressure on the environment post-lock-down as people try to make up for lost income	1
Less pollution as people could not go out as much	2	Increased catch size of lobster post lockdown	1
Less pressure on fish, lobster and conch from fishing	1	Possible increased fishing pressure on inshore species during lock-down	1
Increased backyard farming	1		

3.10.3. Sectors negatively impacting the environment and ideas for reducing impact

Six key informants responded to questions related to this theme exploring which sectors are thought to have the greatest impact on the environment in TCI and what opportunities exist to reduce this. Responses were limited with tourism, development, and energy being the most reported sectors impacting the environment. Ideas to reduce the impact related primarily to education and carrying capacity for tourism and better planning and review of environmental impact assessments for developments (Table 26).

Table 26. Sectors impacting the environment in TCI and ideas to reduce this impact, reported in key informant interviews.

Category of Sector	Number of mentions (n)	Ideas to reduce impact related to category (number of mentions, n)
Tourism (including water sports)	3	Education on the long-term protection provided by environment (2) Research study on the impact of water sports and carrying capacity (1)
Development (particularly large scale and over natural habitats)	3	Better development planning and plans to include vegetation (1) Improved environmental impact assessment review for development (2)
Energy (burning diesel for fuel)	3	

Category of Sector	Number of mentions (n)	Ideas to reduce impact related to category (number of mentions, n)
Waste and sewage management (burning waste and limited recycling)	2	Recycling (2)
Transportation and shipping	2	Construct more sidewalks and encourage cycling (1)
Fishing (unsustainable methods like bleach and spear fishing)	1	

3.10.4. Skills and development opportunities for supporting sustainable recovery

Eleven key informants responded to questions relating to the theme exploring ideas, skills gaps, and development opportunities for supporting sustainable recovery. Responses were coded according to the skills categories identified in the questionnaire (Section 3.8.1).

The categories of skills interviewees mentioned most often were agriculture and gardens (n=14), business management skills (n=9), environmental education (n=7), fishing (n=4), and waste and recycling (n=4), with details of responses provided in Table 27. The skills categories mentioned more overall in interviews were those with clearer links to the environment, compared to the questionnaire. However, the three skills categories with the most mentions were the same for the questionnaire and key informant interviews(Figure 25).

Table 27. The sub-categories of skill development ideas coded from key informant interviews and the number of times mentioned. Sub-categories are grouped by the categories identified from the questionnaire responses.

Skills with clear potential links to improving environmental sustainability

Skills Category (number of mentions, n)	Subcategory (number of mentions, n)
Agriculture and gardens (14)	• Developing agriculture and farming training generally (4) • Backyard gardening for food security (2). • Hydroponics, composting, mulching, efficient water management techniques, sustainable pesticide (2) • Forming of farmers association and access to market (2) • Small scale livestock farming / poultry (2) • Food preservation / processing to add product value (2)
Environmental education (7)	• Sustainability for business development (1) • Accurate environment education in the blue sector (1) for sharing with tourists (1)

Skills Category (number of mentions, n)	Subcategory (number of mentions, n)
	• Education on reduction of carbon emissions (1) • Biological/environmental sciences (1) • Education on protection afforded by the environment (1) and humans' environmental impact (1)
Fishing (5)	• Aquaculture (2) • Fisheries diversification e.g., to recreational fishing (1) or marine taxi/rescue service (1). • Sustainable business/skills training with fishers (MSME) (2)
Waste and recycling (4)	• Recycling training and encouragement (organising recycling and pay-back scheme) (2) • Upcycling / the producing products from recycled materials like packaging, tiles, turning glass back into sand (2).
STEM (3)	• STEM skills (1) • Electric public transportation (1) • Solar panels (1)
Technical and vocational training (2)	• Craft school for carpentry, plumbing, electrics etc. to create alternative industry for fishers and women (1) • TVET programme to train local people (1)

Skills with less clear potential links to improving environmental sustainability

Skills Category (number of mentions, n)	Subcategory (number of mentions, n)
Business management (9)	• Business management skills: business planning, budgeting, administration, logistics of operations, record keeping, reporting, monitoring, and evaluation (3) • Skills to diversify business: product awareness, niche market creation, marketing, business continuity plans (4) • Education on the value of business and entrepreneurism (1) • Promote domestic tourism to increase resilience (1)
Miscellaneous (4)	• Artisanal/handmade crafts (2) • Skills in cooking, maintenance, beauty etc (1) • Upskilling human capacity (1) • Trade (1)
Education generally (2)	• Education (2)
Health and disease education (1)	• Skills training for health workers (1)
Personal and soft skills (1)	• Leadership skills and strategic planning (1)
Information Technology (1)	• IT skills so small business can use technology to improve delivery: websites and ecommerce (1)
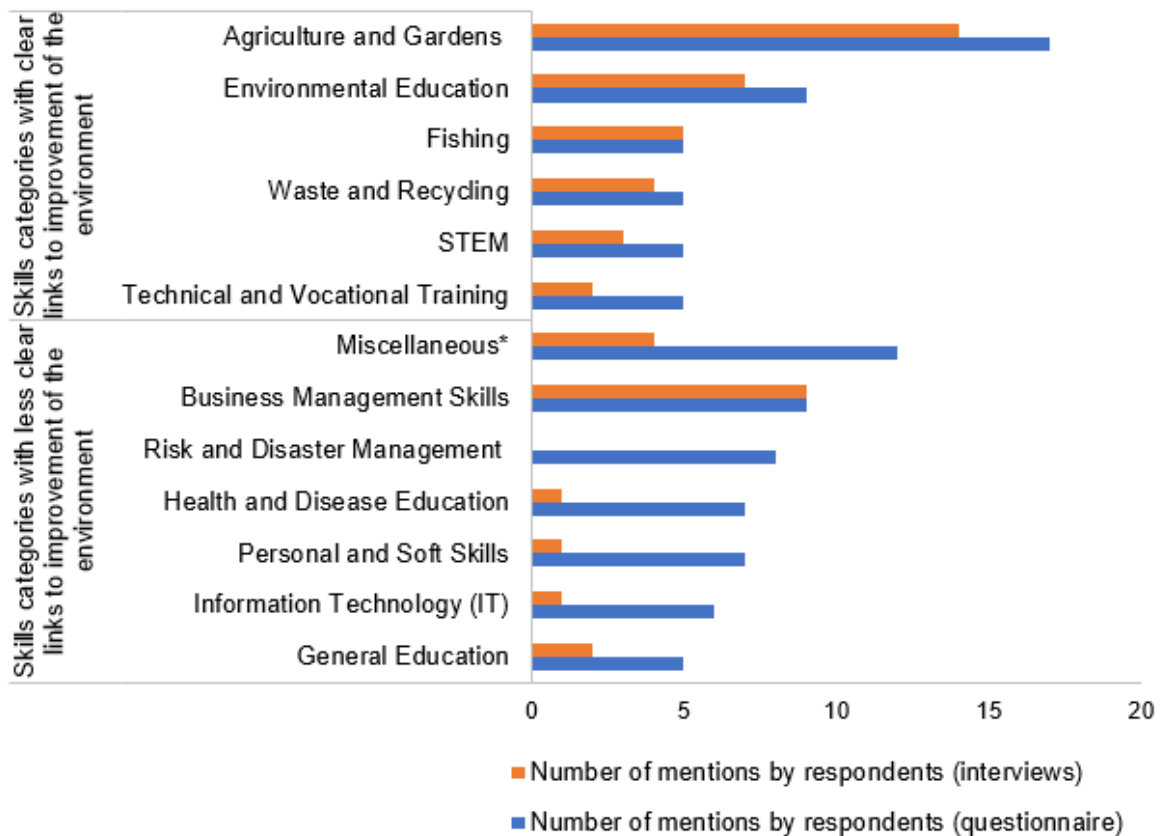
Figure 25: The skill categories identified from questionnaire responses on skill development opportunities and the 'number of mentions' (n) from interview responses (orange) and questionnaire responses (blue) that were coded to each category.
*Miscellaneous skills categories included construction, plumbing, hairdressing etc.

3.10.5. Existing opportunities related to sustainable recovery

Interviewees were asked to provide examples of any existing projects or programmes taking place in TCI or regionally that were related to or could inform opportunities to build resilience in TCI. Twenty-five different examples were provided with the highest number of projects relating to agriculture and gardening (Table 28).

Table 28. Existing projects or programmes relating to sustainable recovery in TCI reported by key informants and coded to the key skill categories identified, including the number of key informants that mentioned the project/programme.

Skills Category (number of mentions, n)	Project / Programme (number of mentions, n)
Agriculture and gardening (7)	Department of Agriculture's Agro Incentive Programme (grants and trainings) (3) Covid19 Backyard Farming project in Trinidad, Antigua and St. Lucia (1) Chicken Coop Businesses on Grand Turk (1) Hydroponics in Salt cay (1) Bee-keeping project in Cuba with Melipona bees (1)
Environmental education (5)	Nature School (1) Greening our Schools TCI (1) TCI Reef Fund Safeguarding Training (1) National Trust Iguana Safeguarding Certification (1) TVET Blue Economy Programme (1)
Fishing (5)	Conch Farming Projects (Providenciales and Grand Turk) (2) Blue Belt and Department of Fisheries aquaculture legislation (1) Department of Fisheries Sustainable Development project for fishers (1) TVET Blue Economy Programme (1)
Business management skills (4)	Micro Small and Medium Enterprise (MSME) Programme* and Invest TCI training (2) Employment Services (1) Community Entrepreneur Development Organisation (1)
Technical and vocational training (2)	TVET (Technical and Vocational Education and Training) College (2)
STEM (1)	ILO Just Transition (1)
Waste and recycling (1)	Department of Environmental Health: recycling education and training (1)

*TCI Government MSME Programme is managed by Invest Turks and Caicos with support from the Ministry of Finance, Investment and Trade. The programme allows qualifying locally owned businesses in priority sectors to access benefits including Cash Grant, Customs Duty Reduction and/or Technical Assistance.

3.10.6. Engagement in development opportunities: barriers and opportunities

Nine key informants responded to questions relating to the theme exploring barriers to participation and ideas to effectively engage people in training or development opportunities. Responses were coded into overarching categories of barriers with sub-categories detailing those barriers and ideas for more effective engagement.

The most prominent category of barrier was 'limited access to resources' (n=6) including capacity, time, expertise, equipment, land, capital and funding. The most ideas for improving engagement related to the barrier 'existing perceptions' and included targeting schools to promote certain skills and making sectors more attractive by diversifying or demonstrating how you can make money from them (Table 29).

Table 29. Existing barriers to participation in training and development opportunities, coded into main categories of barriers, subcategories detailing these barriers (a), and the ideas for overcoming them (b). Within categories, 'A' refers to the total number of mentions of barrier subcategories and 'B' refers to the total number of mentions of engagement subcategories.

Category of barriers (number of mentions, n)	a. Sub-categories of barriers to engagement (number of mentions, n)	b. Subcategories of ideas for effective engagement (number of mentions, n)
Limited access to resources (A: 6) (B: 3)	Expense to start-up a business (1) Time availability (1) Limited resources: capacity, expertise, equipment, land, capital, and funding (4)	Be flexible with timings (1) Have training programmes part of employment requirements (1) Work alongside existing programmes: MSME, Community Entrepreneur Development Organisation (1)
Limited Opportunities (A: 5) (B: 4)	Limited resources to provide training (1) Limited positions in environmental fields (1) Young people move to the UK for study and work and don't return (1) Permits required to sell hand-made crafts (1) Difficult to access the market to sell produce (1)	Create a standard for sustainability for people to work towards and be held to (2) Reward scheme for recycling (1) Inspire champions of green positions to embed sustainable practice into business development (1)
Existing perceptions (A: 5) (B: 6)	Limited interest in environmental sciences (compared to medicine) (1)	Target educational institutes as well as adults (2) Promote maths, science (1) and vocational skills (1) in schools

Category of barriers (number of mentions, n)	a. Sub-categories of barriers to engagement (number of mentions, n)	b. Subcategories of ideas for effective engagement (number of mentions, n)
	Perception that vocational training is for lower education levels (1)	Make industries like fisheries more attractive to young people through sport or tourism (1)
	Negative perception of fisheries (young people) (1)	Demonstrate how to make money through agriculture (1)
	Negative perception of farming (young people) (1)	
	Fishers not interested in engaging with MSME grants (1)	
Difficulty in engaging due to education and language (A: 4) (B: 4)	Difficulty applying for grant programme (1)	Trainings in multiple languages (1)
	Difficulty monitoring and reporting for grant (1)	Use the appropriate training platform, either in the field or virtual (1) or demonstrations for creating new products (2)
	Education, language or technological barriers (1)	
	People are not aware of connections with the environment to implement 'Green Agenda' (1)	
Limited awareness of opportunities (A: 2) (B: 3)	Lack of awareness of training opportunities and their value (1)	Direct sectors like fishers where to go when looking for work or skills (1)
	Not taking advantage of technology (1)	In-person engagement for people without technology knowledge or access, and training in how to use required technology (1)
		Robust marketing strategy including social media and word of mouth (1)

3.10.7. Lessons learnt from Covid-19 and ideal vision for the future of TCI

Six key informants responded to questions relating to the theme exploring lessons from Covid-19 that support a resilient and sustainable future and ideal vision for the future of TCI. The range of responses were grouped into categories, presented in Table 30. The most prominent categories across these themes included the need for a diverse economy (n=4), the value of utilising technology and the internet (n=4), and the desire for more government control of development in the future, so that it benefits local people and the environment (n=4).

Table 30. The categories identified from interview responses on key lessons learnt from Covid-19 for supporting a resilient future and ideal vision for the future of TCI.

Categories: key lessons learnt from Covid-19 (number of mentions, n)	Categories: ideal vision for the future of TCI (number of mentions, n)
The need for a diverse economy (particularly diversifying tourism) (4)	More government control of development to benefit local people and addresses environment concern (4)
The value of using technology and the internet (particularly online classes) (4)	More farms and livestock for food security and diversified economy (3)
The need for flexible business models and diverse skills for security (3)	Build human capacity in TCI to be able to respond to disruption (1)
Value of growing your own food for food security (2)	Government support for local people to invest in their ideas increasing TCI ownership of the economy (1)
Increased awareness of and provision in companies for mental health (1)	Infrastructure improvements (transport, recycling, water and sanitation, parks for recreation) (1)
Importance of sustainability and resilience for the next generation (1)	Develop stock market for TCI and workers (1)
Need to invest in savings / security for unemployed (1)	Agriculture as part of the curriculum (1)

4. Discussion

4.1. Survey and data limitations

The survey aimed to reach a minimum of 360 responses, from as representative proportion of the population as possible, but only 133 responses were received.

A number of issues contributed to this including:

- The questionnaire was designed to be mainly deployed online (and supplemented by on-the-ground data collectors), but there was a lack of uptake. This may be due to lack of awareness or insufficient promotion, lack of access (to internet and social media), survey fatigue, lack of time or interest in the topic, lack of incentive or clear reason to complete the survey, and the complexity or length of the survey.

- Delays within the project to recruit a community hub coordinator, who would have been instrumental in helping promote the survey in TCI and recruit data collectors.

- Difficulty recruiting on-the-ground data collectors, which meant there was not time or capacity to deploy data collectors to all areas identified in the sampling strategy.

- Difficulty and sensitivities around access to certain areas in TCI, including illegal settlements.

Having a presence in-person to introduce and assist in the completion of the questionnaire significantly boosted response rates compared to what was achieved through electronic promotion alone. Therefore, recommendations to boost survey responses in similar projects would be to rely more heavily on on-the-ground data collectors, following the predefined sampling strategy. In addition, focus groups in target communities would allow the opportunity to explain the purpose of the project in detail, promote buy-in and ensure hard-to-reach communities are integrated in a more accessible way than through online questionnaires. In this project, there was insufficient capacity and resources to accommodate this.

4.1.1. Representation

Despite the limitations discussed above, we were able to cross-check a number of key statistics with various data sources from TCI, in particular previous census data, to understand the representativeness of our sample (Appendix 9). We also supplemented the questionnaire data with key informant interviews in order to

triangulate information from the questionnaire and provide further context. In many cases, information from key informant interviews corroborated information from the questionnaire data and provided further useful information to inform subsequent stages of the project.

Key issues around representation were identified relating to location (Providenciales substantially underrepresented, North and Middle Caicos overrepresented), nationality (respondents from Haiti were underrepresented) and a possible overrepresentation of highly educated respondents and higher-level job roles. This information should be borne in mind in any further interpretation and utilisation of these data.

4.2. Impacts of Covid-19 in TCI

The questionnaire aimed to provide insight into the groups in society that were more negatively impacted by Covid-19, whilst also understanding environmental impacts of Covid-19, in order to target skills trainings where they are needed most. This study also aimed to inform the identification of new or existing resilient economic activities in TCI and opportunities to invest in skills development for local people.

The questionnaire results relating to demographics and the impact of Covid-19 on livelihoods suggest that those in sectors related to fisheries and tourism experienced significantly greater impact on earnings from Covid-19, compared to sectors such as finance and education. There was also an indication that Covid-19 had a greater impact on the quality of life of people residing in North and Middle Caicos compared to Providenciales, and on people who left education at an earlier stage. However, as discussed, these results should be interpreted carefully due to the limitations of representation and small sample sizes for some groups. Those leaving education at an earlier stage and fisheries and tourism related sectors are suggested target groups for training sessions, and it is recommended that the Community Resilience Hub continue to explore opportunities, and delivery means, for reaching hard-to-reach groups (including a range of nationalities) for achieving good representation across TCI.

Exploring the perceived impact of Covid-19 on the environment provided an insight into what aspects of the environment are most visible to and valued by people. The cleanliness of the environment, both built and natural, was a prominent feature in the results, followed by the impact of human pressure on natures ability to thrive. Some of the ways identified to improve the environment aligned with the skill development opportunities identified, including waste management and recycling, eco-tourism, and environmental education. However, some did not align, such as better maintenance and monitoring of the environment which was not highlighted as an

area for skill development. Other suggestions for environmental improvement were outside the scope of skills trainings, such as environmental law, enforcement, and management of development.

4.3. Skill development opportunities

The skill development categories identified in the questionnaire (Section 3.8.1) were supplemented with the relevant categories from the key informant interviews (section 3.9) to inform the prioritisation of results for the Community Resilience Hub trainings. Appendix 11 provides the full list of skills categories identified in both the questionnaires and key informant interviews, and a summary of respondents' ideas.

'Agriculture and gardening' followed by 'business management skills' and 'environmental education' were the three most prominent categories for skill development reported in both the questionnaires and interviews. Therefore, these are areas the Community Resilience Hub could focus on initially. Other skill development categories highlighted related to 'fishing', 'waste and recycling', and 'STEM'. A key element of this project is delivering training sessions that can support the resilience of both people's livelihoods and nature to future shocks. Some skills categories identified did not have clear links to the environment, for example 'business management', 'information technology', and 'personal and soft skills'. However, these skills are still important to consider as potential components of developing a sustainable income opportunity, which is the long-term outcome the training sessions are looking to support.

The prioritisation of skill categories for developing effective skill training should incorporate insights from across the results, such as, how existing skillsets and sectors can contribute to sustainable recovery, what relevant activities already exist, barriers to engagement in opportunities and ways to overcome these barriers.

4.4. Conclusion and next steps

This questionnaire aimed to understand the socio-economic and environmental impact of Covid-19, representative of the diverse population of TCI, and provide a platform for people to share their experience and ideas for sustainable recovery from the Covid-19 pandemic.

Whilst the goal of receiving responses from 1% of the TCI population was not achieved, and there are important considerations regarding representativeness of the data contained in this report, a number of useful insights have been gained from the questionnaire data and subsequent key informant interviews to inform next steps of the project:

- Those in tourism (and related sectors), as well as fisheries, were the sectors most impacted by Covid-19. This is particularly in comparison to the education and financial services sectors which are potentially more resilient to shocks such as Covid-19.

- There is some evidence that impacts vary across the main islands of TCI, and also based on education level, although data are limited (by representation and sample sizes) and therefore should be interpreted cautiously.

- Negative impacts of the pandemic on livelihoods (including jobs, personal and family life) were a prominent theme, with few examples of positive impacts, mainly based around entrepreneurialism and seeing opportunities in the midst of the crisis for family, self- or professional development.

- Environmental impacts of the pandemic were mixed and contradictory, and examples demonstrate immediate positive impacts may have been offset by longer term negatives (e.g. increased resource use following a period of reduced pressure on the environment, to make up for lost earnings).

- A number of categories with ideas for skill development opportunities relating to a sustainable and resilient recovery were identified, with 'agriculture and gardens', 'business management' and 'environmental education', highlighted across questionnaire and key informant interviews.

The results of this study will inform the activities of the Community Resilience Hub (established through this project) so that trainings delivered are tailored to the skills needed for creating new, and improving existing opportunities, that provide value to people, economy, and the natural environment of TCI.

References

Official-ESTA. 2023. How the coronavirus affected tourism worldwide. USA ESTA. Access online: https://www.official-esta.com/information/reports/how-the-coronavirus-affected-tourism-worldwide

TCI Socioeconomic & Environmental Impacts Survey - English

Information sheet for participants (*to be read and optionally provided to participant*)

This survey is designed to understand how Covid-19 has affected your livelihood as well as the environment in the Turks and Caicos Islands. Survey results will be used to support and inform development of a community hub. The community hub will provide professional development, building on existing skills and developing new skillsets that Turks and Caicos Islanders feel are needed to enhance wellbeing, improve the natural environment, and support a resilient economic recovery post Covid-19.

Please only complete this survey if you are a resident of the Turks and Caicos Islands and 16 years of age or older. We will not collect your name or use any of the details provided to identify you - please see our privacy notice online at the web address below (or request a copy), for further information on how we will use your data. Completing this survey should take approximately 20 minutes. We are very grateful for your time.

The project is funded by the European Commission via the Caribbean Overseas Countries and Territories Resilience, Sustainable Energy and Marine Biodiversity Programme (ReSEMBiD) COVID-19 Resilience Response Facility. The project is led by the Joint Nature Conservation Committee (JNCC) and managed in partnership with the Department of Environment and Coastal Resources (DECR), the Turks and Caicos Islands National Trust, Invest Turks and Caicos and the Turks and Caicos Fishing Cooperative. You can find out more about the project online at:
https://jncc.gov.uk/our-work/tci-resilient-recovery-from-covid-19/

If you have any questions about this survey, or would like to be involved / sign up for updates, please email us at TCIcommunity@jncc.gov.uk

Date:	Surveyor name:
Survey number: SE	

TCI Socioeconomic & Environmental Impacts Survey – English

☐ **I am 16 years of age or older and I consent to taking part in this survey ***

PART 1. LIVELIHOOD IMPACTS

When we refer to 'livelihood' we mean a person's way of supporting themselves and their household.

1. Which of the following best describes your employment status? *(Tick all that apply)* *

☐ Employed - full time

☐ Employed - part time

☐ Self-employed (own business/trade) - full time

☐ Self-employed (own business/trade) - part time

☐ Casual worker

☐ Unemployed

☐ Retired

☐ In education or training

☐ Out of work due to long term sickness or disability

☐ Unpaid carer (e.g. children, relatives, etc.)

☐ Other (please specify):

If unemployed, retired, in education or training, unpaid carer or out of work due to long term sickness or disability, SKIP TO Q 23 (p 16).

2. What is the sector of your <u>current primary</u> occupation or livelihood? *

☐ Agriculture; plantations; other rural sectors

☐ Basic metal production

☐ Biomedical sciences

☐ Chemical industries

☐ Commerce

- [ ] Construction
- [ ] Childcare (paid childcare, excluding own caring responsibilities)
- [ ] Education
- [ ] Environmental consultancy
- [ ] Financial services; professional services
- [ ] Fisheries
- [ ] Food; drink; tobacco
- [ ] Fuel filling station and fuel resale
- [ ] General labourer
- [ ] Health services
- [ ] Hotels; tourism; catering
- [ ] Landlord
- [ ] Legal services
- [ ] Mining (sand extraction; other mining)
- [ ] Mechanical and electrical engineering
- [ ] Media; culture; graphical
- [ ] Oil and gas production; oil refining
- [ ] Pensioner
- [ ] Postal and telecommunications services
- [ ] Public service
- [ ] Real estate, land requisitions
- [ ] Retail
- [ ] Shipping; ports; inland waterways; maritime activities
- [ ] Textiles; clothing; leather; footwear
- [ ] Transport equipment manufacturing
- [ ] Utilities (water; electricity)
- [ ] Utilities (gas, fuel)
- [ ] Utilities (Renewables)
- [ ] Other (please specify below)

If "Other" please specify: *

3. Which of the following best describes your job role? *

☐ Higher grade professionals, administrators, and officials; managers in large industrial establishments; large proprietors

☐ Lower grade professionals, administrators and officials; higher grade technicians; managers in small industrial establishments; supervisors of non-manual employees

☐ Routine non-manual employees, higher grade (administration and commerce)

☐ Routine non-manual employees, lower grade (sales and services)

☐ Small proprietors, artisans and so on, with employees

☐ Small proprietors, artisans and so on, without employees

☐ Farmers and small holders; other self- employed workers in primary production

☐ Lower grade technicians; supervisors of manual workers

☐ Skilled manual workers

☐ Semi-skilled and unskilled manual workers (not in agriculture etc.)

☐ Agricultural workers and other workers in primary production

☐ Other or not sure (please describe below)

If "Other or not sure" please describe your job role in a few words: *

4. How was your <u>primary</u> occupation or livelihood affected by the Covid-19 pandemic in the <u>short term</u> (end March to end July 2020, during curfew and initial lockdowns)?
(tick all that apply) ***

☐ No significant changes to my occupation/livelihood

☐ I lost my job / was made unemployed

☐ I closed my business

☐ I moved my business online

☐ I started a new business

☐ I increased my customer base

☐ I stopped working altogether

☐ I worked fewer hours

☐ I worked a greater number of hours

☐ I worked fewer jobs than I did previously

- [ ] I worked a greater number of jobs than I did previously
- [ ] I changed my occupation/the type of work I do to a different occupation
- [ ] I started a new occupation/type of work in addition to my existing occupation
- [ ] I sought alternative financial support from outside employment (e.g. help from government, friends, family) to maintain income
- [ ] Other (please explain):

5. If you indicated changes to your occupation or livelihood in response to the covid-19 pandemic, did these represent short or long-term changes? *

- [ ] The changes to my occupation/livelihood were short term/temporary (short period of change during the initial phase of the pandemic when curfews and lockdowns were in place (end March to end July 2020), and have since returned to pre-pandemic levels
- [ ] The changes to my occupation/livelihood were long term/permanent (change continues with no current indication of returning to pre-pandemic levels)
- [ ] Unsure if changes to my occupation/livelihood are long or short term
- [ ] Not Applicable
- [ ] Other (please specify):

6. How has your <u>primary</u> occupation or livelihood been affected by the Covid-19 pandemic in the <u>longer term</u> (from end July 2020, when airports, seaports, beaches, schools and other businesses were re-opened, until now)?
*(tick all that apply) ***

- [ ] No significant changes to my occupation/livelihood
- [ ] I lost my job / was made unemployed
- [ ] I closed my business
- [ ] I moved my business online
- [ ] I started a new business
- [ ] I increased my customer base
- [ ] I stopped working altogether
- [ ] I worked fewer hours
- [ ] I worked a greater number of hours
- [ ] I worked fewer jobs than I did previously
- [ ] I worked a greater number of jobs than I did previously
- [ ] I changed my occupation/the type of work I do to a different occupation
- [ ] I started a new occupation/type of work in addition to my existing occupation

☐ I sought alternative financial support from outside employment (e.g. help from government, friends, family) to maintain income

☐ Other (please explain):
_____

7. Overall, how has Covid-19 impacted the sector of your current primary occupation or livelihood? *

☐ Substantial positive impact

☐ Positive impact

☐ No/marginal impact

☐ Negative impact

☐ Substantial negative impact

☐ Unsure

8. If you changed your primary occupation or livelihood due to the pandemic, what was the sector of your primary livelihood or occupation prior to the pandemic**?**
(If you did not change your primary occupation or livelihood, please select "Not Applicable").
***

☐ Agriculture; plantations; other rural sectors

☐ Basic metal production

☐ Biomedical sciences

☐ Chemical industries

☐ Commerce

☐ Construction

☐ Childcare (paid childcare, excluding own caring responsibilities)

☐ Education

☐ Environmental consultancy

☐ Financial services; professional services

☐ Fisheries

☐ Food; drink; tobacco

☐ Fuel filling station and fuel resale

☐ General labourer

☐ Health services

☐ Hotels; tourism; catering

- [ ] Landlord
- [ ] Legal services
- [ ] Mining (sand extraction; other mining)
- [ ] Mechanical and electrical engineering
- [ ] Media; culture; graphical
- [ ] Oil and gas production; oil refining
- [ ] Pensioner
- [ ] Postal and telecommunications services
- [ ] Public service
- [ ] Real estate, land requisitions
- [ ] Retail
- [ ] Shipping; ports; inland waterways; maritime activities
- [ ] Textiles; clothing; leather; footwear
- [ ] Transport equipment manufacturing
- [ ] Utilities (water; electricity)
- [ ] Utilities (gas, fuel)
- [ ] Utilities (Renewables)
- [ ] Not Applicable
- [ ] Other (please specify below)

If "Other" please specify: *

If you did not change your primary occupation due to the pandemic, SKIP TO Q 11.

9. Which of the following best describes your job role in your primary occupation or livelihood <u>prior to the pandemic</u>? *

- [ ] Higher grade professionals, administrators and officials; managers in large industrial establishments; large proprietors
- [ ] Lower grade professionals, administrators and officials; higher grade technicians; managers in small industrial establishments; supervisors of non-manual employees
- [ ] Routine non-manual employees, higher grade (administration and commerce)
- [ ] Routine non-manual employees, lower grade (sales and services)
- [ ] Small proprietors, artisans and so on, with employees
- [ ] Small proprietors, artisans and so on, without employees

- [ ] Farmers and small holders; other self- employed workers in primary production
- [ ] Lower grade technicians; supervisors of manual workers
- [ ] Skilled manual workers
- [ ] Semi-skilled and unskilled manual workers (not in agriculture etc.)
- [ ] Agricultural workers and other workers in primary production
- [ ] Not Applicable
- [ ] Other or not sure (please describe below)

If "Other or not sure" please describe your job role in a few words: *

10. Overall, how has Covid-19 impacted the sector of your <u>previous</u> primary occupation or livelihood? *

- [ ] Substantial positive impact
- [ ] Positive impact
- [ ] No/marginal impact
- [ ] Negative impact
- [ ] Substantial negative impact
- [ ] Unsure

11. Do you currently have a <u>secondary</u> livelihood or occupation? *

- [ ] Yes
- [ ] No

IF NO, SKIP TO Q 21

12. What is the sector of your current <u>secondary</u> occupation or livelihood? *

- [ ] Agriculture; plantations; other rural sectors
- [ ] Basic metal production
- [ ] Biomedical sciences
- [ ] Chemical industries
- [ ] Commerce
- [ ] Construction
- [ ] Childcare (paid childcare, excluding own caring responsibilities)

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- [ ] Education
- [ ] Environmental consultancy
- [ ] Financial services; professional services
- [ ] Fisheries
- [ ] Food; drink; tobacco
- [ ] Fuel filling station and fuel resale
- [ ] General labourer
- [ ] Health services
- [ ] Hotels; tourism; catering
- [ ] Landlord
- [ ] Legal services
- [ ] Mining (sand extraction; other mining)
- [ ] Mechanical and electrical engineering
- [ ] Media; culture; graphical
- [ ] Oil and gas production; oil refining
- [ ] Pensioner
- [ ] Postal and telecommunications services
- [ ] Public service
- [ ] Real estate, land requisitions
- [ ] Retail
- [ ] Shipping; ports; inland waterways; maritime activities
- [ ] Textiles; clothing; leather; footwear
- [ ] Transport equipment manufacturing
- [ ] Utilities (water; electricity)
- [ ] Utilities (gas, fuel)
- [ ] Utilities (Renewables)
- [ ] Other (please specify below)

If "Other" please specify: *

13. Which of the following best describes your job role (for your <u>secondary</u> occupation or livelihood)? *

☐ Higher grade professionals, administrators and officials; managers in large industrial establishments; large proprietors

☐ Lower grade professionals, administrators and officials; higher grade technicians; managers in small industrial establishments; supervisors of non-manual employees

☐ Routine non-manual employees, higher grade (administration and commerce)

☐ Routine non-manual employees, lower grade (sales and services)

☐ Small proprietors, artisans and so on, with employees

☐ Small proprietors, artisans and so on, without employees

☐ Farmers and small holders; other self- employed workers in primary production

☐ Lower grade technicians; supervisors of manual workers

☐ Skilled manual workers

☐ Semi-skilled and unskilled manual workers (not in agriculture etc.)

☐ Agricultural workers and other workers in primary production

☐ Other or not sure (please describe below)

If "Other or not sure" please describe your job role in a few words: *

14. How was your <u>secondary</u> occupation or livelihood affected by the Covid-19 pandemic in the <u>short term</u> (from end March to end July 2020, during curfew and initial lockdowns)?
(tick all that apply) *

☐ No significant changes to my occupation/livelihood

☐ I lost my job / was made unemployed

☐ I closed my business

☐ I moved my business online

☐ I started a new business

☐ I increased my customer base

☐ I stopped working altogether

☐ I worked fewer hours

☐ I worked a greater number of hours

☐ I worked fewer jobs than I did previously

☐ I worked a greater number of jobs than I did previously

☐ I changed my occupation/the type of work I do to a different occupation

- [ ] I started a new occupation/type of work in addition to my existing occupation
- [ ] I sought alternative financial support from outside employment (e.g. help from government, friends, family) to maintain income
- [ ] Other (please explain):

15. If you indicated changes to your <u>secondary</u> **occupation or livelihood in response to the covid-19 pandemic, did these represent short or long-term changes? ***

- [ ] The changes to my occupation/livelihood were short term/temporary (short period of change during the initial phase of the pandemic when curfews and lockdowns were in place (end March to end July 2020), and have since returned to pre-pandemic levels
- [ ] The changes to my occupation/livelihood were long term/permanent (change continues with no current indication of returning to pre-pandemic levels)
- [ ] Unsure if changes to my occupation/livelihood are long or short term
- [ ] Not Applicable
- [ ] Other (please specify):

16. How has your <u>secondary</u> **occupation or livelihood been affected by the Covid-19 pandemic in the** <u>longer term</u> **(from end July 2020, when airports, seaports, beaches, schools and other businesses were re-opened, until now)?**
(tick all that apply) *

- [ ] No significant changes to my occupation/livelihood
- [ ] I lost my job / was made unemployed
- [ ] I closed my business
- [ ] I moved my business online
- [ ] I started a new business
- [ ] I increased my customer base
- [ ] I stopped working altogether
- [ ] I worked fewer hours
- [ ] I worked a greater number of hours
- [ ] I worked fewer jobs than I did previously
- [ ] I worked a greater number of jobs than I did previously
- [ ] I changed my occupation/the type of work I do to a different occupation
- [ ] I started a new occupation/type of work in addition to my existing occupation
- [ ] I sought alternative financial support from outside employment (e.g. help from government, friends, family) to maintain income
- [ ] Other (please explain):

17. Overall, how has Covid-19 impacted the sector of your <u>secondary</u> occupation or livelihood? *

- ☐ Substantial positive impact
- ☐ Positive impact
- ☐ No/marginal impact
- ☐ Negative impact
- ☐ Substantial negative impact
- ☐ Unsure

18. If you changed your secondary occupation or livelihood due to the pandemic, what was the sector of your secondary **livelihood or occupation** <u>prior to the pandemic</u>**?**
(*If you did not change your secondary occupation or livelihood, please select "Not Applicable"*).

- ☐ Agriculture; plantations; other rural sectors
- ☐ Basic metal production
- ☐ Biomedical sciences
- ☐ Chemical industries
- ☐ Commerce
- ☐ Construction
- ☐ Childcare (paid childcare, excluding own caring responsibilities)
- ☐ Education
- ☐ Environmental consultancy
- ☐ Financial services; professional services
- ☐ Fisheries
- ☐ Food; drink; tobacco
- ☐ Fuel filling station and fuel resale
- ☐ General labourer
- ☐ Health services
- ☐ Hotels; tourism; catering
- ☐ Landlord
- ☐ Legal services
- ☐ Mining (sand extraction; other mining)

- [ ] Mechanical and electrical engineering
- [ ] Media; culture; graphical
- [ ] Oil and gas production; oil refining
- [ ] Pensioner
- [ ] Postal and telecommunications services
- [ ] Public service
- [ ] Real estate, land requisitions
- [ ] Retail
- [ ] Shipping; ports; inland waterways; maritime activities
- [ ] Textiles; clothing; leather; footwear
- [ ] Transport equipment manufacturing
- [ ] Utilities (water; electricity)
- [ ] Utilities (gas, fuel)
- [ ] Utilities (Renewables)
- [ ] Other (please specify below)
- [ ] Not Applicable

If "Other" please specify:

IF no previous secondary occupation, SKIP TO Q 21

19. Which of the following best describes your job role in your secondary occupation or livelihood <u>prior to the pandemic</u>?

- [ ] Higher grade professionals, administrators and officials; managers in large industrial establishments; large proprietors
- [ ] Lower grade professionals, administrators and officials; higher grade technicians; managers in small industrial establishments; supervisors of non-manual employees
- [ ] Routine non-manual employees, higher grade (administration and commerce)
- [ ] Routine non-manual employees, lower grade (sales and services)
- [ ] Small proprietors, artisans and so on, with employees
- [ ] Small proprietors, artisans and so on, without employees
- [ ] Farmers and small holders; other self- employed workers in primary production
- [ ] Lower grade technicians; supervisors of manual workers
- [ ] Skilled manual workers

- [ ] Semi-skilled and unskilled manual workers (not in agriculture etc.)
- [ ] Agricultural workers and other workers in primary production
- [ ] "Other" or "not sure" (please describe below)
- [ ] Not Applicable

If "Other" or "not sure" please describe your job role in a few words:

20. Overall, how has Covid-19 impacted the sector of your previous <u>secondary</u> occupation or livelihood?

- [ ] Substantial negative impact
- [ ] Negative impact
- [ ] No/marginal impact
- [ ] Positive impact
- [ ] Substantial positive impact
- [ ] Unsure

21. How have your earnings been affected by the Covid-19 the pandemic? *

- [ ] Decreased and remain lower than before the pandemic
- [ ] Decreased temporarily but returned to pre-pandemic levels
- [ ] No significant change
- [ ] Increased temporarily but returned to pre-pandemic levels
- [ ] Increased and remain higher than before the pandemic

22. How has Covid-19 impacted your <u>total household income</u>? *

☐ Substantial positive impact

☐ Positive impact

☐ No/marginal impact

☐ Negative impact

☐ Substantial negative impact

☐ Unsure

23. Overall, how has Covid-19 impacted your quality of life? *

☐ Substantial positive impact

☐ Positive impact

☐ No/marginal impact

☐ Negative impact

☐ Substantial negative impact

24. Do you want to add any comments about how Covid-19 has affected your livelihood?
If so, please provide them in the box below

PART 2. ENVIRONMENTAL IMPACTS

25. In your opinion, what kind of impact has the Covid-19 pandemic had on the environment (i.e. the natural world, including the land, water, air, plants, and animals) in the Turks and Caicos Islands overall? *

- [ ] Very positive
- [ ] Somewhat positive
- [ ] Both positive and negative
- [ ] Somewhat negative
- [ ] Very negative
- [ ] No impact
- [ ] I don't know/can't answer

26. Based on your experience, please describe any positive impacts the Covid-19 pandemic has had on the environment in the Turks and Caicos Islands. *Please list and specify locations if possible and appropriate (e.g. name of settlement, national park, beach, etc.)* *

27. What do you think could be done to sustain the positive impacts identified in the previous question? *

28. Based on your experience, please describe any negative impacts the Covid-19 pandemic has had on the environment in the Turks and Caicos Islands. *Please list and specify locations if possible and appropriate (e.g. name of settlement, national park, beach, etc.)* *

29. What do you think could be done to lessen the negative impacts identified in the previous question? *

30. Do you want to add any other comments about how Covid-19 has affected the environment in the Turks and Caicos Islands?

PART 3. OPPORTUNITY FOR SUSTAINABLE RECOVERY

The Covid-19 pandemic and associated economic crisis have highlighted the relationships between environmental health, our livelihoods and wellbeing. Economic recovery measures aligned with achieving long-term environmental improvements are being considered and prioritised in some countries. The aim is to restore the natural environment and reduce the impact we have on it, whilst building a more resilient economy and society.

This project will develop a locally led community hub to deliver training and skill development opportunities, aligned with creating a long-term sustainable recovery, to the people of the Turks and Caicos Islands. The following questions will help shape the types of opportunities that will be prioritised by the community hub to contribute towards 'building back better' in the Turks and Caicos Islands post pandemic, and we really appreciate your ideas.

By "sustainable recovery" we mean maintain and enhance livelihoods, protect the environment and build a strong, resilient and vibrant economy

31. Do you have any ideas for how your occupation / livelihood / sector could support a long-term sustainable recovery? Examples may include environmental management and protection, environmental education, entrepreneurialism in new sectors reducing environmental impacts, etc.
(*Please explain below*) *

32. How could your existing skill set be used, enhanced or diversified to support these ideas and opportunities?
(*Please explain below*) *

33. What new skills are required, or need development, through training opportunities to support a long-term sustainable social and economic recovery in the Turks and Caicos Islands?
(*Please explain below*) *

PART 4. DEMOGRAPHICS

We only have a few more questions which relate to demographics (age, gender, education etc). The answers to these questions will allow us to understand which sectors of society have been most affected by Covid-19. You can select "Prefer not to answer" on all questions if you do not want to provide this information.

We will not use these data to identify you - please see the Privacy Notice for more information on how we will use your data.

We really appreciate you taking part in this survey!

34. Gender? *

- ☐ Female
- ☐ Male
- ☐ Prefer not to answer
- ☐ Prefer to self-describe (please specify if you would like to):

35. What is your age? *

- ☐ 16-17
- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 and over
- ☐ Prefer not to answer

36. Domestic status? *

- ☐ Single
- ☐ Married and living with marital spouse
- ☐ Living with partner (unmarried, civil partnership)
- ☐ Married but living apart
- ☐ Civil partnership living apart

- [ ] Separated (incl. divorced)
- [ ] Widowed
- [ ] Prefer not to answer
- [ ] Other (please specify): _____

37. Do you have any dependants? *

- [ ] No
- [ ] Yes - children (under 18 years of age)
- [ ] Yes - adult dependants (e.g. elderly relatives, adults with disability, children over 18 years of age, etc.)
- [ ] Yes - other
- [ ] Prefer not to answer

We are asking for the following information to identify if people with disability have been differentially affected by the Covid-19 pandemic. If you are happy to answer this question please do so however if you do not wish to provide this information please select "Prefer not to answer" and skip to the next question.

38. Do you consider yourself to have a disability? *

- [ ] Yes
- [ ] No
- [ ] Prefer not to answer

39. Which electoral district do you live in? (optional)

- [ ] Grand Turk North
- [ ] Grand Turk South
- [ ] Middle and North Caicos
- [ ] Leeward, Providenciales
- [ ] The Bight, Providenciales
- [ ] Richmond Hill and Cheshire Hall, Providenciales
- [ ] Blue Hills, Providenciales
- [ ] Five Cays, Providenciales
- [ ] Wheeland, Providenciales
- [ ] Prefer not to answer

- [ ] Other (please specify): _____

40. Which locality are you from? (optional)

- [ ] Grand Turk, Great Salina
- [ ] Grand Turk, Back Salina
- [ ] Grand Turk, Breezy Brae
- [ ] Grand Turk, Cockburn Town & Hawks Nest
- [ ] Grand Turk, North Creek
- [ ] Grand Turk, Over Back
- [ ] Grand Turk, Palm Grove
- [ ] Grand Turk, The Ridge
- [ ] Grand Turk, Waterloo
- [ ] Grand Turk, West Road
- [ ] Salt Cay
- [ ] South Caicos
- [ ] Middle Caicos, Conch Bar (inc Dragon Cay community)
- [ ] Middle Caicos, Banbarra
- [ ] Middle Caicos, Lorimers
- [ ] North Caicos, Kew
- [ ] North Caicos, Sandy Point
- [ ] North Caicos, Whitby
- [ ] North Caicos, Major Hill
- [ ] North Caicos, Bottle Creek
- [ ] Parrot Cay
- [ ] Providenciales, The Bight
- [ ] Providenciales, Blue Hills
- [ ] Providenciales, Blue Mountains, Cherokee Rd., Thompson Crove
- [ ] Providenciales, Chalk Sound
- [ ] Providenciales, Discovery Bay, Cheshire Hall and Cooper Jack
- [ ] Providenciales, Downtown
- [ ] Providenciales, Five Cays

- [ ] Providenciales, Grace Bay
- [ ] Providenciales, Honda Road
- [ ] Providenciales, Juba
- [ ] Providenciales, Kew Town
- [ ] Providenciales, Leeward
- [ ] Providenciales, Long Bay
- [ ] Providenciales, Turtle Cove and Richmond Hill
- [ ] Providenciales, Wheeland
- [ ] Other (please specify below)
- [ ] Prefer not to say

If "Other" please specify:

41. Where do you live? (optional)

- [ ] Village or rural area
- [ ] City or town
- [ ] Other (please specify):

42. What is the highest level of education that you have completed? *

- [ ] No formal education
- [ ] Primary (elementary school)
- [ ] Secondary (high school)
- [ ] Tertiary (associates/ college)
- [ ] University – Bachelor's degree
- [ ] University – Master's degree or higher
- [ ] Prefer not to answer

43. What was the broad field of study of your highest academic qualification? (optional)

- [ ] Agriculture, forestry, fisheries and veterinary

- ☐ Arts and humanities
- ☐ Business, administration and law
- ☐ Education
- ☐ Engineering, manufacturing and construction
- ☐ Health and welfare
- ☐ Information and communication technologies
- ☐ Natural sciences, mathematics and statistics
- ☐ Services
- ☐ Social science, journalism and information
- ☐ Not Applicable
- ☐ Prefer not to answer
- ☐ Other (please specify):

---

44. Please could you indicate any other technical, vocational or professional training that you have completed? (optional)

- ☐ Early childhood development
- ☐ Electrical installation
- ☐ Plumbing
- ☐ Computer repairs
- ☐ Motor vehicle engine systems
- ☐ Customer service
- ☐ Commercial food preparation
- ☐ Not Applicable
- ☐ Prefer not to answer
- ☐ Other (please specify):

---

45. How do you feel your income compares with the rest of the country?
(The average monthly salary of an individual in the Turks and Caicos Islands is around $1,490 USD per month) *

- ☐ Well above average income

- [ ] Above average income
- [ ] Average income
- [ ] Below average income
- [ ] Well below average income
- [ ] Prefer not to answer

We define financial wellbeing as the extent to which individuals are satisfied with their standard of living and are able to achieve a certain level of financial independence and security.

46. Based on your personal economic situation, how satisfied are you with your current state of financial wellbeing? *

- [ ] Very satisfied
- [ ] Satisfied
- [ ] Neither satisfied not dissatisfied
- [ ] Dissatisfied
- [ ] Very dissatisfied
- [ ] Prefer not to answer

We are asking for the following information to identify if certain nationalities have been differentially affected by the Covid-19 pandemic. If you are happy to answer this question, please do so however if you do not wish to provide this information please select "Prefer not to answer".

47. What is your nationality? *

- [ ] TCI
- [ ] Dominican
- [ ] Haitian
- [ ] Bahamian
- [ ] Jamaican
- [ ] American
- [ ] Filipino
- [ ] Prefer not to answer
- [ ] Other/prefer to self-identify (please specify):

Thank you for completing this survey!

Appendix 2. Semi-structured Interview Guide

RESEMBID Covid-19 Resilience - Key Informant Interviews

Semi-structured Interview Guide

These first three Qs are getting at impacts of covid19 on society and the environment

1. Which members of society in TCI do you think have been most impacted by Covid-19?

    a. How have these impacts been seen/felt? (*Follow up Q*)

2. Which business sectors do you think have been most impacted by Covid-19?

    a. How have these impacts been seen/felt? (*Follow up Q*)

3. What impacts of Covid-19 on the environment in TCI have you observed?

Q4&5 explore ideas for sustainable recovery in TCI and more generally

4. How can TCI make sure it is economically and environmentally resilient in the future?

    a. Are there any sectors which require more specific action? (Follow up Q)

5. Do you know of any examples, in TCI or wider, of projects or innovation that have been successful in supporting economic and environmental resilience? Can you tell us about them?

Q6/7 is looking for specific skill gaps and development opportunities

6. What skills and/or development opportunities are needed to improve sustainable livelihood opportunities in TCI?

7. What about in terms of maintaining, protecting and improving the environment - what skills and/or development opportunities are needed?

Q8 is more about reducing impacts/understanding risks

8. Do you think there are any sectors which are negatively impacting or degrading the natural environment, and if so, how do we go about reducing that?

    a. Are there any risks that need to be considered and barriers that need to be overcome? (Follow up question)

Q9/10 – broad finishing questions, allow anything extra to come up

9. What is your vision for the future in TCI?

10. Are there any lessons we can we learn from the Covid-19 pandemic so far when thinking about a sustainable/resilient future?

Appendix 3. Open question responses: livelihood impacts of Covid-19

Table A1. Respondents comments to open question on how the Covid-19 pandemic affected their livelihoods (*N*=45). Minimal editing has been carried out, and only in relation to obvious spelling errors and improving clarity.

Negative impacts
I can only guess that many homeowners suddenly had the time to take on home improvement projects and/or interior refreshes. So versus hiring an interior designer, many took it upon themselves during the pandemic. I believe this has led to a current lull in my work.
It would appear TCI is experiencing a construction sector boom so demand for design work I would think would grow in the coming year.
I am employed at a casino in Grace Bay, the casino closed March 20th, 2020, (what I can remember,) and did not reopen untill October 30th, 2021. The best way to describe this is being devastated to living paycheck to paycheck, but still owe everyone.
Basically has put the business at a standstill
Worked in construction on guest houses the homeowners moved away due to the fact that they did not take the vaccine and stop building therefore many were left jobless
Lost lots of business because people lost jobs and didn't have money to buy fish
it was hard. had no money, thanks to family and friends for providing for me and my family
Lost of job because employers closed their business
Less hours due to the lower amount of guest
Job closed [so] no money for food parent self or children
Lots of people lost their job so the couldn't support my business
My products grew and because of the lockdown I was unable to harvest results in losing a lot of crops
Had a paycut for several months due to the cut in work hours and also rotation to allow for others to put in tume
My family and I got Covid-19 twice and we filled out all the forms with their needed documentation and received no help from insurance
Had to relocate
During lockdown was unable to get help. Because people couldn't come out in the initial stages
My family and I got Covid-19 twice and we filled out all the forms with their needed documentation and received no help from insurance
Cost of food has risen
More expensive cause you to but more things and salary remain the same

Negative impacts Continued

With COVID-19 sparked a lot of crime, notably murder this is especially concerning the community of blue Hills. That recorded of the highest rate of murder in 2020 and this was a frightening issue and I I want to relocate For my safety, security and comfort.

Terrible

It is hard land lord still asking fee for the rent not enough food to eat.

Covid 19 is a decease from hell and I wish I had never seen it, it felt like i was watching world War3 but the difference was i was living in it

I am part of a charity that depends on fundraisers to survive. All of those events had to be cancelled for 2 years. Exceedingly long lines (especially for seniors many of whom required physical assistance to stand in line) to buy essential goods many of which were unavailable. Loss of loved ones and friends and fear of getting sick caused huge anxiety and made it difficult to continue daily tasks necessary to go forward.

During the time of lockdown till December 2020. My employer not giving full salary until Jan 2021.

During that time I have family to support back home and it is hard not to give them enough. As the whole world is affected by pandemic plus I don't have chance to take my vacation until now airline is cancelling flights and tickets are very high.

[lost] everything, Closed business, Laid off staff

It was hard been a fisherman and couldn't support my family. I am still trying to make ends meet.

Lost a love one. It was hard to work and make money

My children were unable to send things for me because they worked less hours or not at all.

They could not visit as often because country was close down

Positive and negative
While Pandemic has brought negative impact in my personal life, I saw an opportunity to opened a business and grow it. I saw a silver lining in the midst of the pandemic.
Covid was a very bad thing but it forced people to make changes and modernize how they operate businesses.
Covid have open up my eyes and mind because it was a world issue, we had to come together whiles the world was on a stand still. It affected my income but it gave me knowledge.
It give me knowledge on how to teach my students from ONLINE it was very New and challenging to all but it was do able
Covid has not affected my livelihhood but it added so much more knowledgeable things about the world we have yet to discover. it was a blessing and a curse but nothing we can't work together and built a better tci. stronger together.
More quality family time but kids suffered from boredom
Positive impacts
My livelihood overall positively impacted by covid as clients asked for more services whilst locked down, and I had more time to devote to business development remotely as I could not travel, which produced good returns on time invested.
As a nurse COVID 19 have open up my eyes to the world at hand and make me want to learn more and dig deeper into my Profession. Since COVID 19 I have enroll in Ashford online college.
Its acutually [brought] more time with family
Limited or no impact
COVID has only affected my willingness to travel. It has not affected my household
Many of the behaviours being promoted during COVID were already part of my regular routine. So, COVID did not have a major impact on my personal livelihood, except for temporarily working much longer hours and remotely rather than in the office.
Miscellaneous
Change from artisan carpentry to groceries sales
Pandemic, should be no effect if there's no corrupt people in the goverment...
I had assistance from churches and person's in the community
Got food from some of [the] churches which was a great help

Appendix 4: Result Table - Positive impacts of Covid-19 on the environment and ways to sustain impacts

Table A2. A. Impacts identified in response to the question: *"Based on your experience, please describe any positive impacts the Covid-19 pandemic has had on the environment in the Turks and Caicos Islands"* (*N*=101, 155 responses coded, 32 removed*). B. Ways to sustain impacts identified in response to the question: *"What do you think could be done to sustain the positive impacts identified in the previous question"* (*N*=85, 108 'mentions' coded, 48 responses removed*). Responses were coded into subcategories and grouped into categories with direct quotes included for context. Minimal editing has been carried out, and only in relation to obvious spelling errors, redacting identifying information and improving clarity.

Responses that relate to the environment

A. Positive impacts of Covid-19 for the environment (*N*=101)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Cleaner environment **A (46.5%, 47)**	Less pollution from litter/garbage (14) Cleaner environment: streets, beaches, tourist areas (11) Less noise pollution / quieter (6) Less pollution generally (6) Less air pollution / cleaner air (5) Less water contamination / increased water quality (3) Increased natural beauty (2)	*Littering and garbage accumulation decreased substantially and noise pollution from heavy equipment and vehicular traffic was almost non-existent.* *All human pollution virtually stopped for lockdown; no planes, cars, noise, etc.* *The beaches mainly regained its pristine water and natural beauty especially the species underwater due to lesser or close to no water pollution from the charter boats and similar vessels.*

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Environmental Recovery **A (36.6%, 37)**	The environment (nature/ habitats/ecosystems) had chance to rest and recover (12) Fisheries recovery / decreased fishing / increased size of marine life / increased catch size (10) Marine life / coral reef recovery (6) More growth of trees and plants (6) Increased visibility/activity of marine life (2) More birds flying (1)	*Well, like rest of the world TCI came to a halt. This gave nature time to rest and briefly recovery from the stress of daily human activity, especially given the amount of stress we place on our marine resources like the reefs, where we do a number of boats tours and marine activities.* *Fish, conch, and lobster stocks slightly recovered from previously being overfished* *I am a keen scuba diver, and it seems to me that the absence of tourists has helped the recovery of our reef system, and certainly (in my entirely and unreliable anecdotal experience!) led to larger marine life being more visible .* *Reefs became populated by marine life previously forced away by the deluge of snorkelers and divers on dive sites.* *South Caicos beach was quiet. it give the fish conch and lobster more time to grow* *People stayed in their houses which allow the trees, the beach, fishes in the water to grow and less garbage on the road*
Less human activity putting pressure on the environment **A (18.8%, 19)**	Less pressure from residents and tourists (11) Fewer vehicles (4) Fewer marine activities so less impact: boats, cruise, charter vessels (3) Lower use of water, energy, and resources (1)	*Elimination of population pressure and tourist as well as resident activities gave the water and land ecosystems breathing room to recover.* *Cruise shipping was halted. Environment benefited.* *Kew - the boats were not moving as much thus lack of impact to the environment* *Less use of water energy* *People were not out and about to use the resources*

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Personal Action A (8.9%, 9)	People had more time for, or made more of an effort to, clean and care for nature (6) More people gardening / planting / farming (3)	*When we were able to have exercise hours, many people in the community joined in this effort [TCI Rubbish runners]. The roads and beaches … in leeward were the cleanest… I had ever seen them towards the end of lockdown. The very day the construction resumed, the litter returned.* *People spend more time caring for their animals and plants [Whitby].* *Many persons started gardening. I think this was a positive impact on the environment.* *There were many farms started.*
Miscellaneous response A (6.9%, 7)	General positive impact (2) More visitors to TCI beaches and public places (post lockdown) (4) More open-mindedness (1)	*Persons frequent the beaches* *Temporary shutdown leading to reopening with increased demand by TCI visitors.* *It open up your mind to new ideas.*
Negative or null impact A (13.9%, 14)	Negative impact or no impact / change / positive impact (14)	-

Responses that do not relate to the environment

A. Positive impacts of Covid-19 for the environment (*N*=101)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Positive impacts on livelihoods **A (21.8%, 22)**	More time available to spend with family (6) New business / better job opportunities (6) People taking better care of their health, including diet, exercise, cleanliness (6) People came together globally in a shared cause (2) Government provided assistance to residents (1) Respect for others space (1)	*The positive thing about the pandemic. During the time I can see that people is taking care of their health. People exercise. Walking running. And family bonding.* *COVID 19 gave families more time together.* *Found new ways to interact with each other.* *Some person became entrepreneurs.* *Because of the pandemic many persons have started their own business as a way to support themselves.* *Covid have made one positive impact in grand Turk , the residences of the island has learned to respect each other's space.*

Responses that relate to the environment

B. Ways to sustain the positive impacts (*N*=85)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Cleaner environment **B (27.1%, 23)**	Maintain the cleanliness and order of the environment (10) Apply additional or stronger laws and legislation for environmental protection (5) Improved waste management and recycling (4) Educate/raise awareness of the environment, its value, human impacts on it, and how to take care of it (3) Enforce existing laws and regulations (including fines) (1) No vendors on beaches (1)	*Give people jobs to keep the environment clean.* *Legislation. TCI needs new laws to protect and preserve and enforcement of current environmental and welfare laws. Enforcement of fines for littering, for illegal fishing and dumping, exploitation, abuse in the national park, for overdevelopment, etc. We have banned plastic bags but Styrofoam is everywhere. Infrastructure needs to support this growth. Waste management and recycling need very serious consideration.* *Garbage pickup more often. Cleaning of the streets.* *Keeping the environment clean by not throwing garbage in the streets.* *Encourage people to clean up after themselves.* *Clean up campaign at least once a week, month, etc.* *More knowledge on how to take care of the environment.* *More regulations must be implemented to avoid water pollution and abusive treatment of our environment.* *Have more controlled laws regarding recycling and over-fishing. For example, impose fines.* *Set policies and regulations to ensure specific procedures are followed that would protect and maintain the good health of the environment.* *Develop programmes that would provide mandatory training for staff that would verify their understanding and competency in enforcing policies and regulations.*

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Environmental Recovery **B (23.5%, 20)**	Enforce existing laws and regulations (including fines) (4)	*ENFORCE the laws we already have to protect our National Parks and indigenous native plant species.*
	Have temporary no go zones in national parks or rotate the use of highly visited natural areas (3)	*Include temporary no go zones* *Rotation of use of the natural areas, to promote recovery, and increase abundance.*
	Improved government action and involvement in the environment (3)	*Please implement moratoriums (rotating?) on the different reef locations that are highly trafficked by tourists.* *More help from the government.*
	Educate/raise awareness of the environment, its value, human impacts on it, and how to take care of it (3)	*Government involvement* *Community Outreach* *To help people be more knowledgeable about the environment and for a person to take part in activities in order to keep their environment safe and clean*
	Provide activities for people to get involved with to support the environment (2)	*Well maybe quantify those impacts. People like specifics and if we can show them where small changes in their behaviours can have a positive impact, then maybe they will stick to those changes long term.*
	Environmental monitoring (2)	*Monitor size and maturity of seafood caught for sale and spread awareness to residents that keeping a pristine environment is healthy for everyone.*
	Extend national parks and reserves (1)	
	People to treat the earth kindly (1)	
	Less pollution (1)	

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Less human activity putting pressure on the environment **B (21.2%, 18)**	Educate/raise awareness of the environment, its value, human impacts on it, and how to take care of it (5) Encourage more sustainable tourism development, activities, and tourist behaviour (4) Restrict / cap on development (2) Evaluate the carrying capacity of the environment (2) Keep some Covid-19 measures in place that benefitted the environment (2) Include environmental expertise into decision making by the planning board (1) Transport: Use of electric cars and encourage bike use (1) More help in the community (1)	*Educate children about the value of the natural environment before it is torn down and covered in concrete* *Increase in public education and holding event organizers accountable when venues are not properly cleaned-up.* *Regarding tourist behaviour and those accommodating them they can be encouraged to be more environmentally conscious in their activities. For example to reduce waste items like plastics they can consider more green alternatives like agave straws and wooden takeaway utensils instead of plastic or refillable bottles.* *Thinking more sustainably about how we do various tourism-related activities.* *Place the environment ahead of the philosophy 'development at all costs'. It is easy to look like other developed Caribbean countries who are now trying to bring back their natural environment. TCI could be one of the few countries with a high standard of living because we limited development to high end travellers, eco adventures and preservation of our environment.* *Put a cap on development that sees the need to bring in more people at the expense of the environment and quality of life for residents.* *Evaluate the carrying capacity of beaches and limit development accordingly.* *Undertake capacity study on shipping calls and number of vessels undertaking sea tours.* *Create a stronger presence in the decisions of the planning board of highly qualified marine and terrestrial experts.* *Use of electric cars would be helpful in a clean environment or encourage people to use bike.* *More help in the community.*

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Personal Action **B (9.4%, 8)**	Encourage yard gardening/farming (2) More support for residents/community (3) More environment jobs (1) Provide activities for people to get involved with to support the environment (1) Transport: Use of electric cars and encourage bike use (1)	*Encourage to plant more fruit bearing plants and vegetables and clean up yard.* *We should be encouraged to continue personal yard farming.* *Provide stipends for purchasing items needed to maintain gardens, Free rent and water, more help in the community, areas for food collection.* *Community help, areas for food collection.* *Create more Jobs in the area.* *Make things available for people to do.*
Miscellaneous response **B (8.2%, 7)**	Funding generally (1) Restructuring of development (2) Areas for food collection (1) Better policing of legal business (1) More beach activities and water sports (1) Help one another (1)	*Restructuring development areas.* Improve service infrastructure. As an example give priority to new airport and improved tourist services and activity options.
Negative or null impact **B (15.3%,13)**	Negative impact or no impact / change / positive impact (13)	-

Responses that do not relate to the environment

B. Ways to sustain the positive impacts (*N*=85)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Positive impacts on livelihoods **B (22.3%, 19)**	Take care of yourself (4) More jobs (3) Develop local talent and skills / provide jobs programmes (3) More financial assistance / support for residents and new businesses (3) Apply lessons from Covid-19 (2) Spend more time with family (1) Stay positive (1) Increased salary (1) 5-day work week (1)	*People need to prioritize their health more and spend more time with family.* Develop local talent. *Job programs, trade school will help to build a work force that respect what each other does.* *Education programmes that can be followed online, on the television or through the radio about COVID 19 and other sickness.* *People in all kinds of businesses needed to figure out how to hold meetings fully virtually. So we should keep this up and practice more of what we learn during the Pandemic and put it in our everyday life.*

*The 'number of mentions' add up to more than the total number of respondents (N) as some responses coded to multiple subcategories. Some responses were removed from the analysis if they did not answer the question ('N/A', 'Don't know', irrelevant), could not be understood, or because the response was applicable to a different question and coded there instead. Removed responses are not included the total number of respondents (N).

** Percentages are calculated from the total number of respondents (N) rather than the total number of mentions.

Appendix 5: Result Table - Negative impacts of Covid-19 on the environment and ways to lessen impacts

Table A3. A. Impacts identified by respondents in response to the question: "*Based on your experience, please describe any negative impacts the Covid-19 pandemic has had on the environment in the Turks and Caicos Islands*". (*N*=101, 114 responses coded, 32 removed*). B. Ways to lessen impacts identified in response to the question: "*What do you think could be done to lessen the negative impacts identified in the previous question?*" (*N*=88, 100 'mentions' coded, 45 responses removed*). Responses were coded into subcategories and grouped into categories with direct quotes included for context. Minimal editing has been carried out, and only in relation to obvious spelling errors, redacting identifying information and improving clarity.

Responses that relate to the environment

A. Negative impacts of Covid-19 for the environment (*N*=101)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Poor maintenance / cleanliness of the environment **A (22.8%, 23)**	Environment was neglected as people were not allowed to check/maintain it (9) More litter / streets not clean (5) Increased tourism / resident pressure post lockdown creating litter (4) Increased use and poor disposal of PPE (3) More household waste (2)	*Bushes and trees were not properly maintained because of lockdown.* *Bottle creek the roads were left unattended. Everything was unkept.* *Areas were left dirty because people couldn't go out and clean.* *No persons are available to check beaches.* *The parks were negatively impacted, and the beaches for the reason: tourism was completely closed, which is the main source of income for Turk Caicos islands.* *The aftermath of the "igloo festival" was trash in every direction, littering the ocean floor, even human faeces smeared on the sunset beach villas walls.* *The dramatic increase in the use of disposable PPEs really placed a strain on our local landfills and saw more medical-related litter in the bushes and streets (like old face masks).* *For a short time the environment was improved by having less people around but now it is busy again and there is a need to do more cleanup in all areas where visitors go.* *A lot of people began overcrowding due to lack of before leading to more pollution.*

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Negative impact on biodiversity A (5.9%, 6)	More seaweed / seagrasses on the beach (3) Poaching in protected areas (1) Increased threat to conch (1) Sale of real estate / development of natural areas (1)	*With seaweed washing up, there were mosquitoes in the blue hills as well as pests* *Beach was polluted with sea grass and debris washing up on shore* *On the beach the seaweed was a lot and had a foul smell* *I see the environment suffering a great deal for the sake of entertainment and the growing tourism sector... Conch is on the verge of extinction... Record sales were made [during COVID], much of which was undeveloped land... TCI gov has essentially given up on protecting the environment, especially on ... Providenciales.*
Miscellaneous Responses A (0.0%, 0)	-	-
Positive or null impact A (34.7%, 35)	No negative impact / only a positive impact (35)	-

Responses that do not relate to the environment

A. Negative impacts of Covid-19 for the environment (*N*=101)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Negative impact on livelihoods **A (49.5%, 50)**	Job creation (11) Ways to reduce the spread of Covid-19 (10) Government support for people with low income / communities / industries (6) Government involvement / programmes (2) Pay rise / reduce cost of necessities (2) Sustainable jobs programmes (1) Education on managing spending and budgeting (1) Include local people in job development (1) Improved system for receiving food from other islands (1) More options for travel (air and sea) (1) Community outreach (1) Support a new approach to security (1)	*Create more jobs for persons and have the country open to everyone.* *More farming and local business owners.* *Have a community outreach and help persons in need.* *Both power and water bills were too high which could have decreased as well as the supermarkets.* *Coupon or stamps from government for people with low income.* *On the Island of North Caicos the Government should assist persons in farming and fishing Industry to get back up in operating.* *Job programs, workshops, sustainable jobs experience like building a container port in the TCI because the trade industry did not fall due to covid it increases, so it can be use here as a backbone in case the pandemic happen again.* *Need more education on how to manage themselves on spending / budgeting* *Make sure belongers are a part of development which creates jobs.* *It should have been a better system to get food and personal items from other islands.* *A new approach to security... which can make our environment better.*

Responses that relate to the environment

B. Ways to lessen the negative impacts (*N*=88)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Poor maintenance / cleanliness of the environment **B (33.0%, 29)**	Better waste management (landfill and recycling) (8) More clean-ups (allow people out to clean) (6) Monitor / maintain the environment (4) Increased law enforcement / fines (4) Sustainable / Recyclable PPE (2) Beach parties stopped (1) Job creation (1) Curfew in specific areas (1) Implement new technology (1) Hold event organisers accountable for uncleanliness (1)	*I guess recycling has a role to play here, and buying more environmentally sustainable PPEs would greatly help if available. We, also need to enforce littering laws and better manage our landfills.* *Keep TCI clean campaign. More garbage receptacles for public use. Better and more visible recycling services. Need to do more clean-up in all areas where visitors go.* *Implementation of new technologies, techniques and strategies within the country.* *Very little to no recycling is being done. There are ways for medical waste to be treated and recycled as well.* *If the government involved the community to clean the areas or locations that need to be clean.* *Accountability of local businesses to abide by the laws and enforcement of illegal practices.* *Stiff penalties* *Always maintain vegetation growth.* *Assign people to certain locations to inspect beaches (but observing protocols).* *Hire beach wardens to monitor the beach more frequently.* *Curfew in specific areas or places.* *Holding event organizers accountable when venues are not properly cleaned-up.*

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Negative impact on biodiversity **B (6.8%, 6)**	Using seaweed in health products (1) Less pressure on the environment (1) Increased law enforcement / fines (1) Management of Conch (1) Replace staff at the planning department for cohesive development (1)	*Putting it [seaweed] into products that health products skin care products, seaweed as it is good for minerals that are used in various products.* *Increased enforcement.* *Conch export should be banned and a conch farm or sanctuary implemented immediately.* *Fire and replace at the least the management level employees of the planning department, and source new staff that have a vision for cohesive development and are not corrupt.*
Miscellaneous Responses **B (15.9%, 14)**	Preparedness (4) More information / awareness / education / knowledge of the environment (6) Remove C19 policies / lessened curfew (2) More research / survey people (1) Planting more trees (1)	*Prepare now for the next possible pandemic, so that we have better environmental management strategies to tackle these problems.* *More awareness and advanced high technological preparedness.* *More knowledge of the environment to persons.* *The survey is a great start. Be informative. Be inquisitive. Use Google and do Research.* *More survey to understand the people better. Educate oneself and be equipped for a future life threaten outcome.*
Positive or null impact **B (14.8%, 13)**	No/minimal negative impact identified (8) No way to lessen the negative impact (5)	-

Responses that do not relate to the environment

B. Ways to lessen the negative impacts (*N*=88)

Category (Percent** and number of mentions, n)	Subcategory (number of mentions, n)	Quotes
Negative impact on livelihoods **B (43.2%, 38)**	Job creation (11) Ways to reduce the spread of Covid-19 (10) Government support for people with low income / communities / industries (6) Government involvement / programmes (2) Pay rise / reduce cost of necessities (2) Sustainable jobs programmes (1) Education on managing spending and budgeting (1) Include local people in job development (1) Improved system for receiving food from other islands (1) More options for travel (air and sea) (1) Community outreach (1) Support a new approach to security (1)	*Create more jobs for persons and have the country open to everyone.* *More farming and local business owners.* *Have a community outreach and help persons in need.* *Both power and water bills were too high which could have decreased as well as the supermarkets.* *Coupon or stamps from government for people with low income.* *On the Island of North Caicos the Government should assist persons in farming and fishing Industry to get back up in operating.* *Job programs, workshops, sustainable jobs experience like building a container port in the TCI because the trade industry did not fall due to covid it increases, so it can be use here as a backbone in case the pandemic happen again.* *Need more education on how to manage themselves on spending / budgeting* *Make sure belongers are a part of development which creates jobs.* *It should have been a better system to get food and personal items from other islands.* *A new approach to security... which can make our environment better.*

*The 'number of mentions' add up to more than the total number of respondents (N) as some responses coded to multiple subcategories. Some responses were removed from the analysis if they did not answer the question ('N/A', 'Don't know', irrelevant), could not be understood, or because the response was applicable to a different question and coded there instead. Removed responses are not included the total number of respondents (N).

** Percentages are calculated from the total number of respondents (N) rather than the total number of mentions.

Appendix 6. Open question responses: environmental impacts of Covid-19

Table A4. Impacts identified in response to the question: "*Do you want to add any other comments about how Covid-19 has affected the environment in the Turks and Caicos Islands?*" (*N*=16, 71 responses removed*). Responses were categorised and direct quotes included for context. Minimal editing has been carried out, and only in relation to obvious spelling errors, redacting identifying information and improving clarity.

Category (Number of mentions, n)	Quotes
Positive experiences (4)	*Loved the curfew.*
	The world needed that time when we were in our houses to rest and grow and for us to spend time with our loved ones. I enjoyed it in that part; more family time, animals and plants growing.
	Bird life increased.
	Environment was cared for.
Negative experiences (5)	*Crime... murder.*
	Covid was a brutal lesson to our life and environment, it had our island / environment in a stand still no freight was coming in and no freight was going out.
	It has affected a lot of family.
	Persons given tickets for breaking curfews and couldn't even afford to pay. Was at the dock to catch fish to feed my family. But got a ticket instead.
	Prices went up. Salary stayed the same.
Growth and Development (3)	*As a small but successful regional economy TCI has seen massive immigration, driven by the needs of a growing economy. This is atypical of the region and needs careful management as services have struggled to keep up.**
	Covid 19 has meant a great deal of growth for TCI. High net worth individuals investing in residences and developments. There are positives to this of course but the negatives are surfacing. Increase in violent crime, lack of affordable housing, stresses on infrastructure like road traffic and waste management which will become huge problems if not addressed.
	It was hoped by many that the return of peacefulness, birds, fish etc would have a positive effect on those bent on concreting over everything and allowing rampant development by developers who care nothing about the culture, people or history of these islands.

Category (Number of mentions, n)	Quotes
Suggested solutions (5)	*Need more monetary help to bring business back.*
	Give nature a chance to be affected less be pollution.
	I think they need to give out more jobs.
	We need more medical staff.
	* In my view significant budgetary resources need to be deployed in a range of public services (police, traffic management, road repairs, public health, immigration enforcement, sewage , building control etc). As a consequence Government needs to raise funds through taxation through a property tax.

* Responses were removed from the actual response number (*N*) if they did not answer the question (e.g., 'No', 'N/A', 'Yes', 'Don't know', irrelevant).

Appendix 7: Result Table – Skills opportunities for supporting sustainable recovery

Table A5. Skills opportunities identified in response to the question: "*What new skills are required, or need development, through training opportunities to support a long-term sustainable social and economic recovery in the Turks and Caicos Islands?*". Responses were coded into subcategories and grouped into categories with direct quotes included for context. Minimal editing has been carried out, and only in relation to obvious spelling errors, redacting identifying information and improving clarity.

Skills opportunities with links to environmental / resilient recovery

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Agriculture / gardens (17)	*Farming (general) / growing food* (7) Garden [gardening] / planting trees (2) Chicken coops / harvesting own eggs (1) Growing vegetables (1) Agro-processing training (1) Agronomic science study (1) Hydroponics (1) Food preservation (1) Agriculture related commerce (1) Knowledge and use of herbal products (1)	*We need more farms, chicken coops. Learning to farm basic household needs like onions and peppers can help. Harvesting your own eggs would be a great way to sustain.* *Provide land and grow to feed the nation.* *Some agricultural knowledge is needed and livestock.* *Agronomic science study needs to be done. Some locals training to study our environment.* *Invest more in farming and fishing industry.* *Knowing how to preserve.* *Maybe have a competition can have a garden where they can't plant trees and try grow their own fruits and vegetables and plant trees also around the island to make it look beautiful by nature.*

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Environment / environment-al education (9)	Environmental protection / preservation (4) Environment knowledge (1) Schools / young people Development of environmental/sustainability curriculum (1) Business Sustainability training (1) Boat/ Tour operators: education and enforcement (1)	*How to protect the environment.* *Knowledge about keeping the environment safe.* *A better way of preserving the natural habitat.* *More environmental office and some workshops.* *Having persons aware of what is going on in the environment.* *Development of an Environmental/Sustainability curriculum for all levels educational levels. Teaching children from young can help them develop lifelong behaviours.* *Teaching business how they can be sustainable e.g. Not buying more then they need, sharing documents electronically rather than printing etc.* *A major issue I see is education for boat/tour operators to ensure our reefs and wildlife are unharmed. I see so many boats operating [un]safely around reefs and wildlife. Enforcement around licensing would also need to keep pace.*
Recycling / waste (5) (links to environmental education)	Recycling education / training (4)	*Dumping ground should incorporate recycling. Learning what can be recycled and not having to dump everything.* *Going green. Reuse, and recycle.* *Environmental cleanliness.*
Science, technology, engineering, and mathematics (STEM) (5)	*Skills in STEM fields / technology* (general) (3) Electrical engineering (1) Solar panels (1)	*I firmly believe that we need to move more towards a knowledge-based economy where we make money with our minds and not our hands so much. So, I guess skills in STEM fields would greatly help in this regard.* *Anything that might help in the future especially the new technology programs for all trades.*
Fishing (5)	Aquaculture (1) *Fishing (general)* (4)	-

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Technical and Vocational Training (5)	*Trade school (3) [vocational / technical school]* Technical training school – various skills (1)	*Training through apprenticeship programs should be mandatory for all development projects. Develop a pathway for students on scholarships to return home to respectful paying jobs. Ensure affordable housing for them to look forward to a long-term future and raise families. Expand youth activities to expose them to potential careers and include these careers in the community college and trade school. Currently marine biology, environmental law, agriculture and animal husbandry programs are non-existent.* *Technical training school for persons to teach them various skills.* *Hands on skills to train.*

Skills opportunities with less clear links to environmental / resilient recovery

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Risk and disaster management (8) (*links with health, disease education*)	*Risk management / risk assessment (general) (2)* Disaster management (1) Population safety measures (1) Security (1)	*Innovation and creativity in times of crises.* *Continue to guide us on safety.* *Get ready to better care for yourself if it happens again.* *Teaching persons to deal with situations.* *We need to be able to be licensed security officers… we need to be able to be trained with weapons. We need to be able to receive training, military militarized training. We need CCTV training we need to receive cyber security training.*

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Health, disease and education (7)	Health programmes (2) Education about disease (3) Medical training (1)	*Anticipate health programs to plan for these things.* *Government should implement a health policy to immunize all children with free medical care. Immunization has to be complete and to be given free to all newborn and children.* *Vulnerable [population] needs to be educated about communicable disease.* *Learn more about diseases.* *Teaching Educators how to be more on board with a child that fells sick in school. Teaching Educator the Basic steps.* *Not too much of a New Skill in my option but more Medical Training. Send Turks and Caicos Islanders of to do Emergency Medical Courses.*
Management / business skills (9)	*Management / business skills* (general) (1) Administration and managerial skills (1) New business training (2) Business continuity plans (1) Accounting (1) Financial management (1) Trust admin (1) International placements / overseas experience (1)	*Persons especially need to learn how to develop business continuity plans, so that they can keep thriving in the face of any future challenges.* *International placements and overseas experience (really essential to enable TC Islanders to acquire the social and business skills to replace expat workers).*

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Information Technology (IT) (6)	IT support, maintenance, consulting services (1) IT (server farms, web design / programming, data storage / protection etc) (1) Editing (copy editing, video editing, photo editing etc) (1) Computer skills (1) Digital banking incl. bill payments (1) Online teaching (1)	*We need to diversify the country's economic portfolio. Our dependence on tourism as the primary driver of our GDP leaves us incredibly vulnerable whenever something disrupts that industry. Sectors that would have demand throughout a number of disruptors would be ideal. These include IT roles (server farms, web design/programming, data storage/protection, etc.) but these would need strengthened infrastructure both in terms of the cost of electricity and the quality and cost of internet. Another option could include editing. Copy editing, video editing, photo editing, etc. These are skills that are in high demand with the continued rise of social media content as well as new media outlets such as streaming platforms and the like. Provided we have people trained in this, we can fulfil that role on an international level. This could also apply to the recently discussed idea of making the country more appealing to the film industry.* *By attracting major production companies, we can create an entirely new industry that caters to both traditional tradesmen (carpenters, electricians, plumbers, hair and makeup) and technical tradesmen (engineers, videographers, editors, designers) while simultaneously bolstering the local economy (restaurants, hotels, rentals, excursions, travel) and highlighting the natural beauty (thereby pushing for the conservation of said beauty) of these islands.*

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Education (miscellaneous) (5)	*Education* (general) (5)	*Free and compulsory education for all children under the age of 16. Regardless of status.*
		Education on the economic importance of tourism since it is the number one revenue earner for the TCI. Training opportunities in the sector can be provided in partnership with the Ministry of Education and Ministry responsible for Marine Affairs as well.
		Improve continuing education programs for residents and offer seminars open to visitors.
		Proper education and career counsel for our youth. During covid I became aware of my own children's struggles with certain school subjects and realized how very fortunate of a position we were in that I could facilitate their learning. That we had devices to even have online learning in the first place. I listened to Dr Carlton mills speak on the current reading level of high school graduates in TCI and it was disturbing, eye opening. Not nearly enough emphasis and support is given to public education. Beyond that there should be career counselling and internship opportunities. There should be invitations to professionals in various fields to inspire our youth.
		More educated individuals that will possess a positive environment where we can have less crimes or violence within the TCI.
Personal and soft skills (7)	Self-development / personal skills	*Self-development is essential and is key one can only help dey self.*
	Soft skills (1)	*Self-training everyone had to look out for they self.*
	Work etiquette (1)	*Self-skills.*
	Social skills (1)	*Our young people need their work etiquettes to be better.*
	Saving (1)	*How to save money.*

Category (Number of mentions, n)	Subcategory (Number of mentions, n)	Quotes
Miscellaneous (12)	Sustainable funding e.g. seed funding (1)	-
	Boat building (1)	
	Construction / building (1)	
	Wig making (1)	
	Customer service (1)	
	Mechanic (1)	
	Seamstress (1)	
	Hairdresser (1)	
	Plumbing (1)	
	Consultants (1)	
	Counsellor (1)	
	Zoning organization and terrain surveyors (1)	

Appendix 8: Result Table – How sector and current skill sets can support sustainable recovery

Table A6. a) Ideas on how occupation / sector can support sustainable recovery as identified by survey respondents in response to the question: "*Do you have any ideas for how your occupation / livelihood / sector could support a long-term sustainable recovery?*" *Examples may include environmental management and protection, environmental education, entrepreneurialism in new sectors reducing environmental impacts, etc.* b) Ideas on how current skill sets can be used as identified by survey respondents in response to the question: "*How could your existing skill set be used, enhanced or diversified to support these ideas and opportunities?*" Sorted by primary livelihood sector identified in the survey and direct quotes included for context. Minimal editing has been carried out, and only in relation to obvious spelling errors, redacting identifying information and improving clarity.

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Agriculture; plantations; other rural sectors	*Building Air BNB to create jobs for locals*	*By teaching some of the younger students my trade.*
Construction	*Can do home improvements; can work on local homes; once received contacts can make a difference.* *Entrepreneurialism in new sector.* *Gathering, visiting more trades events.* *I am a construction worker. I could help if asked.* *I can form a company and supply the whole island.*	*Being open for a new technology upgrade.* *Could help to build areas where persons can put garbage in also to recycle.* *I can cook very well.*

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Education	*Cleaning sites regularly.* *Educate on all levels.* *Encourage persons to learn from what happened in the event it happens again.* *I can be a part of the team that helps to educate persons on all levels* *I can educate individuals on preservation methods to reduce pollution of the environment. Prioritize health and education as result in how to care for yourself. Education campaign on what to do.* *Public awareness and education.* *We can look at expanding our levels of entrepreneurship as tourism is our main industry and was hit hardest leaving a lot of people suffering.*	*By going out and being a part of the movement help to educate persons.* *Educating the people.* *I can be used to deliver seminar or short courses on sustainability, especially in Tourism.* *I can teach in my classes and persons I get in contact with.* *Organizing and brainstorming.* *Public health awareness and empowerment.* *Volunteer myself to help educate parents teachers at home.* *Volunteer to be a part of teaching mandate; Teach my students; Church groups join other groups to help.*
Environmental consultancy	*Promote training opportunities in basic skill sets, such as bookkeeping, marketing, and value added.*	*Scheduled dialogue with groups with similar goals to discuss supply and distribution chains, and how to enhance them at a local level.*

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Financial services; professional services	*Education of the population.* *I work with a number of food companies and I feel that sustainable packaging (especially reducing our tolerance for plastic & plastic water bottles) should continue to be implemented. We are headed in the right direction but there is still too much plastic and garbage making its way into our ocean(s).* *Online Banking. Do all you banking online without going into a physical branch. Less lines in the bank. Less paper* *Yes! My sector has the potential to expand and provide new well-paid jobs, hence the inception of TCI Finance, a promotional and marketing agency designed to attract new entrants in the financial services sector. The sector has a very low environmental impact and is a well-established method of increasing the number of highly laid professional jobs in the community.* *yes, by extending refinancing loans to customers so that they don't ruin their credits and lose their homes.*	*By assisting persons with re-financing their credits.* *Paid consultant.* *Planning and strategic guidance.* *Pushing TCI Finance to be effective; raising funds from the private sector to give resources to TCI Finance; acting as an ambassador and promoter of TCI as a financial services jurisdiction.* *Zoom Training.*
Fisheries	*I can fish on a larger scale.* *Recycling is needed.* *Supply fish to hotels Restaurant families.* *Trade schools and container ports.*	*I can be a part of feeding the country by supplying fish.* *I can help with the clean-up of the beaches and waters.* *Keep the island clean.* *Once trained I can assist with the recycling and hopefully be paid for doing it as well.* *Will put the islands in a more sustainable position to help the people that live here.* *Work more hours and provide more fish for persons.*

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Food; drink; tobacco	*My business feed persons.* *They can put procedures in place that can be used for any pandemic era.*	*Could help with recycling of plastics and cans.* *School kids can come in on work experience.*
General labourer	*I do petty contracting so cleaning up of the island was essential to a healthy community continue keeping the islands clean.*	*Could help with the cleaning up of the island and keeping it safe and keep hazardous and harmful liquids from the waters.* *It is being used still today because I bought the Alpha pack and up to today, I still do deep cleaning for business, schools, churches, etc..*
Health services	*Health awareness...educate the people on how to prevent the spread of virus at an early stage.* *Help with hygiene and keeping person healthy.* *Yes, but we have to first be educated. Beach cleaning campaigns and it gives the children a day out to play and work at the same time.* *Yes, I am willing to teach others what was taught to me.*	*Get more persons involved.* *Information dissemination...thru social media and radio.* *Only thing I can do is lend a helping hand.*

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Hotels; tourism; catering	*Agriculture.* *Bring more tourist in the island.* *Continue using biodegradable food containers, utensils and bags. Maybe not the paper bags as they take up more material to make them the plastic biodegradable ones. Bins on the roads so that people can throw out their trash responsibly. More information about plants, animals and their environment.* *Entrepreneurialism should increase.* *keep garbage off the beach.* *More stimulus not just for the Turks Islanders but for all the residents including the work permit holders.*	*As a parent I speak about this with my kids a lot maybe get more parents to do with their kids also schools.* *Help to clean.* *I could help with the clean up.* *I will take care the tourist.* *Introduce more islanders.* *Need a job first.* *Only by the increase in tourism.* *Plants.* *The job position where we can help in ensuring that the right person with the right skills higher for the right job.*
Landlord	*Continue provide housing for people.* *Well, I am a water seller so I'll do my best to help and cut down prices. And for my tenants I'll do my ever best to make them as comfortable as me if we should meet a World Crisis like COVID again. COVID 19 was more about giving a helping hand more than anything else because we all needed help.*	-
Legal services	*Support and fund private educational programs on environmental protection.* *We can continue to work from home reducing traffic and fuel. Less emissions, less pollution and littering.*	*I don't see how my job can assist. We can recycle paper to reduce waste.* *Writing information for visitors.*
Mechanical and electrical engineering	*Educating locals on the preservation of the environment. And also assisting environmentally friendly projects in the TCI will surely promote long term recovery.* *Occupation can assist by keeping emissions low carbon to keep air clean.*	*More knowledge about the environment and financial support will be ideal for these ideas.* *To ensure engine units are running the most efficient they can bto reduce carbon emissions.*

Media; culture; graphical	In the marketing sector, we could work toward promoting existing regulations, guidelines, etc. regarding environmental protections and sustainability.	To disseminate communications regarding sustainable recovery.
	It's important to place robust limits on what actions can be taken by incompetent government employees and officials. Much of the damage done to the economy in the Turks and Caicos was caused by ill-advised and unnecessary policies enacted by both elected and unelected persons in government.	
	To move things in a productive direction, TCI gov should work on becoming less of a roadblock to progress. Every interaction with the government, be it business or personal, is tedious and wasteful of time. Don't start new initiatives, rather fix the current dysfunction.	
	Many potential employees require a police certificate, or public service license, or some other token of bureaucracy to be productive, which often takes months to obtain, unless the fixer middleman is used, who is then magically able produce the required government document in a matter of days. This is blatant and shameful corruption that is ignored by all persons in government.	
	Nepotism and favouritism will of course be difficult to combat in an environment such as the TCI, but that doesn't mean that an attempt shouldn't be made. Government offices and departments that are chronically dysfunctional need management changes. For decades the traffic department has been unable to keep license plates and vehicle registration stickers in stock. The wait times for police certificates continues to be far too long. The DECR refuses to take any action in obvious and major environmental infractions, where it's primarily their duty to enforce the law. If the TCI government insists on protecting clowns and charlatans, TCI gov will be a crime circus.	

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Public service	*Currently working on programs to better the waste management process within the country focusing on environmental sustainability.* *Environmental Education.* *I think that my specific area of the public service would be best able to support public awareness and public education campaigns. This would help every other sector by making the public more aware and educated when it comes to challenges and possible solutions.* *Make the agriculture business licensing process much easier so that local production of food can be increased.*	*Try and take my ideas to a higher table.* *A background in the environmental field and interpersonal skills allows me to clearly dissemination knowledge regarding environmental sustainability so that individuals at all levels can understand the importance of making environmentally sound decisions.* *I work in communication, so my specific skill set could be used to help design, communicate, and monitor and evaluate the public awareness and education campaigns.* *This is a policy level change.*
Real estate, land requisitions	*Ensuring people that buy these properties are regulated to develop them in ways that don't hurt the environment.*	*Selling land to people who can maintain the preservation of the properties.*
Retail	*Encourage community-based groups that would accept a participatory role in protecting and ensuring the environment's health. Organizing and facilitating regular workshops and meetings to inform residents of the benefits of a healthy environment, explaining how a well-maintained and enhanced environment could boost sustainable economics in the community.*	*As a coordinator / facilitator.*

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Utilities (gas, fuel)	*We need more trained medical staff. We had one environmental Staff during covid opening back up making sure the people follow Protocol. need more officers, this survey thing that you are doing continue doing more research and data collecting my occupation in this moment is in hotel industry and my industry can help support long term sustainable recovery they should give a cash donation to this foundation to help put you'll ideas to the for front.*	-
Other: Design	*I'm taking an online course on nature-based solutions specifically to brainstorm on this. I've tried to promote more sustainable shopping with my clientele, second-hand purchases but there isn't much opportunity for this on island, probably because retail rent and commercial real estate is so high. We need manufacturing industries for recycled goods; for example, crushed glass cullet to make road aggregate. So absolutely, entrepreneurialism in waste management. Conservation, very strict enforcement of planning and development. Development agreements which hold developers accountable for sustainable and infrastructure upgrades.*	-
Other: Engineering, design and consultancy	*Environmental education. As for me, I am in the engineering design and that could be merged in our construction company too. Being educated about the environment in the island could help us maintain the beauty of the island. Especially when designing structures and roads in the island.*	*I would like to implement the use of limestone sand and rocks to for lighter absorption of the heat. This would help the temperature of the roads to lower.*
Other: Maintenance	*As a maintenance man I could help with assist in cleaning the roads and streets of South Caicos.*	*To clean the streets and the rolls of Salt Cakers which will keep the environment clean and plant more trees.*
Other: Office administration	*Educate the Public with more info.*	-

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Other: Sales - car dealership	*Be more inclusive - meet community leaders - churches, civic groups and conduct dialogs.*	*I can join the cause actively by being there during meetings and re-echoing the message to my circle.*
Other: Aviation and Transportation	*Mainly to protect the environment as we all know that tourism is the only livelihood in the islands, it is impossible to grow crops and etc due to lack of topsoil and inadequate rain. Locals must get their children to finish school and get experience somewhere else so they can build a better future for the next generations.* *Educate persons more about protecting the environment.*	*By getting involved with environmental groups and organizations that support environmental conservation.*
Other: Security	-	*Training and education is somewhat a requirement, and with my expertise as I can going forward, I will be brought up to par with the latest trends in Security I will be brought up to standard and in accordance with the world's leading agents in the security industry, not just on a local scale, but on a global scale, which should, bring Turks and Caicos back to its regular state of homage peace quality.*

Primary livelihood sector	a. Ideas for how occupation / sector may support sustainable recovery (quote)	b. Ideas for how existing skillset could be used, enhanced or diversified to support these ideas (quote)
Miscellaneous (no primary occupation sector selected)	*By bring the COVID 19 classes into the school that would be great.* *By getting the younger generation involved with the ongoing world - education is key.* *Especially with climate change educate the entire country on the importance of resources such as mangroves and reefs which protect us from storms. Manage Our fisheries to maximize opportunities for local fishermen and conserve stocks. Perhaps restrict exports since local consumption has grown exponentially. Raise the prices and pay the fishermen more.* *Restrict development until waste management, sewerage, and transportation problems have been addressed. No more industrial, commercial development in residential zoned areas. No more changing zoning to the detriment of communities. Get rid of illegal housing. ENFORCE the Laws already on the books.* *Important to teach all levels of education the importance of environmental management.* *Kew- going in the community how to self-manage and finance.* *With more tourists, bigger impact on island with increased revenue.*	*Start providing free food for the less fortunate in our community of Grand Turk.* *Small projects to persons who were financially impacted by covid related situations.* *Being a volunteer to help people in need. I am a bartender so I can't say how that can be of much help.* *Better vehicle maintenance.* *Helping to teach in schools.* *I have a Bachelor in Early Childhood Education so using me as an Educator will bring my skill set into good use.* *Contributing within the community (Food supply, etc).* *Until the decision-makers in the country change the mindset from rampant development and catering to foreign developers no one no matter their skill set will make a difference. Anyone developing this country should be required to reside here. All employers should be responsible for housing their employees. Planning regulations and zoning should be strictly enforced. The importance of the environment to tourism and the wellbeing of the residents should be a part of every school curriculum.*

Appendix 9: Survey representation in relation to TCI statistics

Table A7. Comparison of key survey data variables in relation to TCI statistics.

Present survey data	TCI statistics	Representation
Gender: Male 48.9%, female: 45.9% See Table 2	In 2022, 51% of the TCI population were male and 49% female, from a total population of 47,720 people (Source: www.gov.tc/stats/statistics/social/5-population).	Good
Age: 18% of respondents between the ages of 18 and 34, 57% between the ages of 35 and 54, and 23% were 55 years or over. The modal age group in our study was 45-54 years. See Figure 1	In 2022, 40% of the TCI population were aged 35 to 54, and 16% were aged 55 and over. The modal age group in 2022 was 35-44. (Source: https://www.gov.tc/stats/statistics/social/5-population).	Reasonable – given that the present survey did not include anyone under the age of 18. Therefore, slightly older population represented as expected.
Disability: Disability 6% No disability 87% See Table 3	Unknown	Unknown
Living/domestic status: 51% living with a partner 44% living alone See Table 4	Unknown	Unknown
Dependents: 62% had dependents See Table 5	Unknown	Unknown
Island population: See table A8 (Appendix 10)	See table A8 (Appendix 10)	Substantially underrepresented for Providenciales; overrepresented for Middle & North Caicos

Present survey data	TCI statistics	Representation
Education Highest completed: 11% primary school; 31% secondary school 17% tertiary/college; 35% University degree See table 8	Unknown	Unknown, but suspected overrepresentation of highly educated
Nationality 92% TCI; 8% Filipino; 8 Haitian; 5% Jamaican; 3% Dominican; 2% Canadian; 2% American; 2% Bahamian; 5% other See table 11	According to the 2012 census data, 38.9% of the population were TCI, 34.7% were from Haiti with smaller percentages (<5%) from Dominican Republic, USA, Bahamas, Canada and 'Other' (Source: https://www.gov.tc/stats/statistics/social/5-population).	Probably under representation of Haitian nationality
Employment 62% employed (full or part time); 18% self-employed; 8% unemployed See table 12	An unemployment rate of 8% is reported for 2022 according to the TCI Statistics department, 2021 Indicators. Available at: https://www.gov.tc/stats/	Reasonable
Sectors of employment 12% hotels, tourism & catering; 11% education; 8% construction; 7% public service; 6% fisheries; 5% health services; 5% food, drink & tobacco See table 13	According to the TCI National Skills Audit Survey 2016, 31% of employment was in the accommodation and food sector, followed by construction (8%), wholesale and retail trade; repair of motor vehicles and motorcycles (11%), administrative and support services (4%), education (4%), manufacturing (3%) and financial and insurance activities (4%). Source: Turks and Caicos National Skills Audit Final Report. Ministry of Border Control & Employment Services, May 2017	Acceptable
Job role / level 27% higher grade employment; 15% lower grade professionals etc; 11% skilled manual workers; 11% routine non-manual (sale & services); 11% routine non manual (admin & commerce) See table 14	Unknown	Unknown, but possible over-representation of higher-level job roles

Appendix 10: Survey representation – TCI islands

Table A8. Comparison of survey reach in relation to minimum survey target identified in sampling strategy (Table 1), across TCI islands. Survey data were collected according to electoral district, for example Salt Cay is included with Grand Turk, and Middle Caicos and North Caicos are combined, at the electoral district level.

Island	2022 population estimate	1% of pop.	Min survey target	Responses received (by electoral district)	Representation
Salt cay	*60-80*	*1*	*7*	*Included with electoral district Grand Turk*	*-*
Grand Turk	~5,000	50	50	13	Under-represented
South Caicos	1,655	17	33	19	Under-represented
Middle Caicos	~100	1	10	*Included with electoral district Middle & North Caicos*	*-*
North Caicos	1,300-1,500	14	28	43 (Middle & North)	Over-represented
Providenciales	~38,000	380	380	45	**Substantially under-represented**
Total population	**45,703**	**463**	**514**	**120 (of 133)**	-

Appendix 11: Skill development ideas

Table A9. Skill categories, the 'number of mentions' (n) a subcategory received from the questionnaire responses (a) and the key informant interview responses (b), and a summary of the skill development ideas proposed by respondents for sustainable recovery.

Skills Category	Number of Mentions (n) a. Question-naire	Number of Mentions (n) b. Interview	Summary of skills development ideas
Agriculture and gardens	17	14	• Backyard gardening and farming generally • Hydroponics, composting, mulching, efficient water management techniques, rainwater harvest, sustainable pesticide use • Agriculture commerce, market creation/access, farmers association • Small scale livestock farming / poultry coops • Food preservation and agro-processing training
Business management	9	9	• Business management skills: administration, logistics, record keeping, accounting and finances, reporting, monitoring, and evaluation • Skills to diversify business: product awareness, niche market creation, marketing, business continuity plans • New business training
Environmental education	9	7	• Knowledge of the environment, human impact, and preservation • Sustainability education for business development • Environmental/sustainability curriculum for schools • Environment education for tour operators

Skills Category	Number of Mentions (n) a. Question-naire	Number of Mentions (n) b. Interview	Summary of skills development ideas
Miscellaneous	12	4	• Artisanal/handmade crafts • Skills in cooking, maintenance, hair and beauty, boat building, customer service, seamstress, mechanic, construction, plumbing, counsellor
Fishing	5	5	• Aquaculture • Fisheries diversification e.g. recreational fishing • Sustainable business skills training with fishers (MSME)
Waste and recycling	5	4	• Education and training in recycling • Upcycling and producing products from recycled materials
STEM	5	3	• Skills in STEM and technology • Electric public transportation and solar panels
Personal and soft skills	7	1	• Leadership skills and strategic planning • Self-development, personal /soft / social skills • Work etiquette
Risk management	8	0	• Risk / disaster management • Risk assessment (general) • Security
Health and disease	7	1	• Medical training • Health programmes • Education about disease

Skills Category	Number of Mentions (n) a. Question- naire	Number of Mentions (n) b. Interview	Summary of skills development ideas
Information Technology	6	1	- IT / computer skills training for businesses (digital banking) - Web design, programming, data storage and protection - IT support, maintenance, consulting services, server farms - Editing (copy editing, video editing, photo editing etc)
Vocational training	5	2	- Trade schools (carpentry, plumbing, electrics etc) - TVET programme
Education	5	2	- Education generally