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# G-CREWS KAP

Midterm Grenada 2023

May 20, 2023

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## **GIZ KAP MIDTERM STUDY**

The survey was administered during the period February 13 to March 30, 2023, utilizing the multi-modal approach of 20 field surveyors who went into their communities, distribution via SMS messaging sent to a total of 20,000 subscribers on the island and social media which was seen by 33,848 persons on Facebook, 6,528 persons on Instagram and shared multiple times on Facebook, Instagram, and WhatsApp. The social media distribution of the survey elicited approximately 1,612 post engagements with over 180 comments. A total of 10,884 persons accessed the survey within the period, however only 848 persons completed the survey in its entirety.

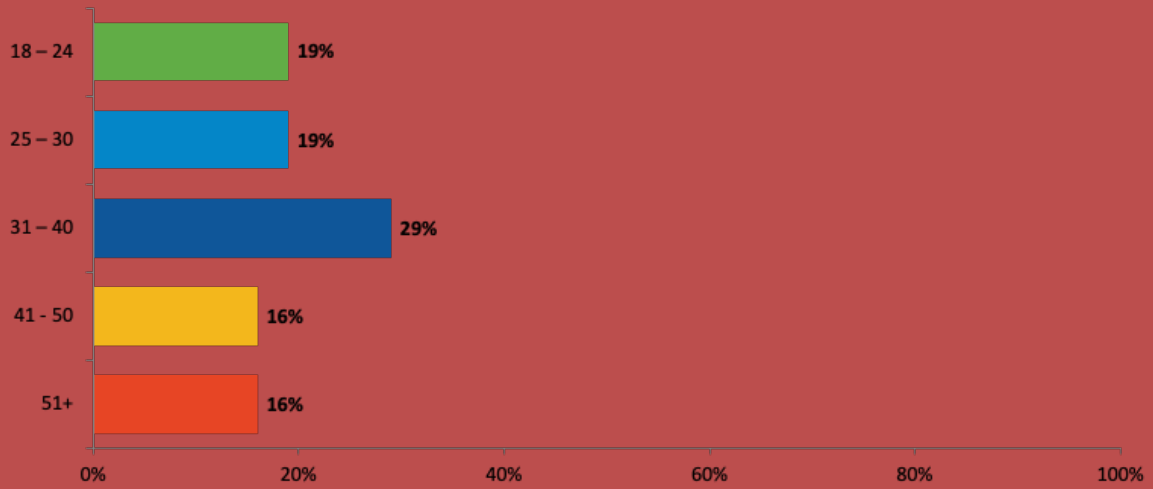
The aggregate population of Grenada being 111,454 as per 2020 estimates with 65.7% of the population being between the ages of 15 and 64 and 8.9% being over the age of 65. At the 95% confidence level and 5% confidence interval the net number of responses will need to be between 381 to 500 from an approximate population of 40,000 to 111,454 persons. Therefore, the 848 responses from this survey accurately represents the views of the population in 2023.

The usable and completed responses of 848 falls within the 99% confidence level and is at the 4.41% confidence interval. This gives a margin of error of 4.41% in representing the opinions and viewpoints of the overall population of 111,454 persons.

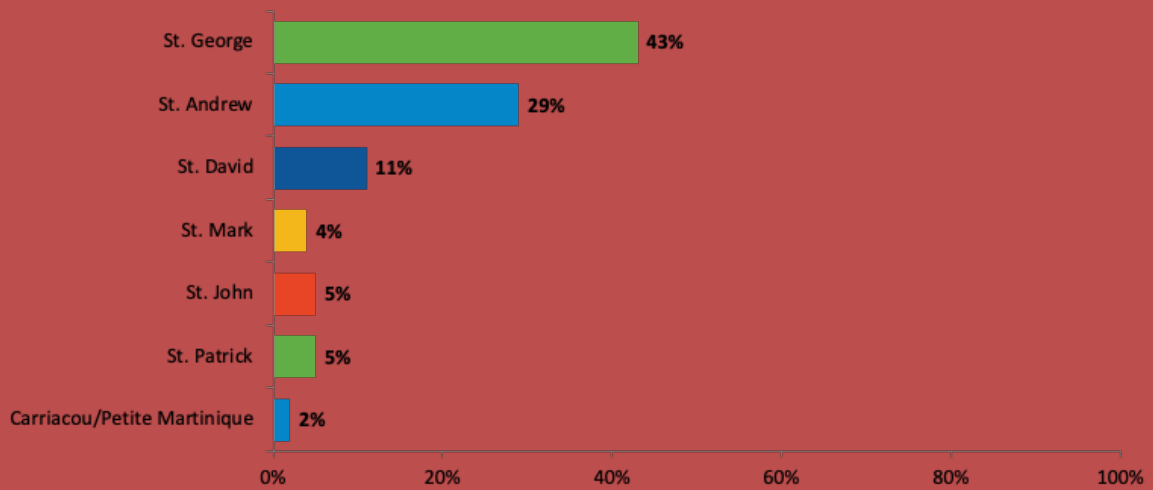
The response rate based on the number of persons who accessed the survey via all means is 7.8%. The respondents ages ranged from 18 to over 51 years of age, and covered all education levels, all income levels, all parishes inclusive of Carriacou, and Petite Martinique, and all household sizes from single to multiple persons within the household. The respondents also came from the tourism (11%), agriculture (7%), transportation sectors (2%) as well as entrepreneurs (10%), civil servants (15%), professionals (12%), education (10%), customer service/financial/retail (19%), utilities/skilled work persons (5%), the creative sectors (3%) and the unemployed (10%). The majority had NAWASA as their primary source of water, with 5% having a spring or well or rain harvesting as their primary source of water supply while 11% purchased bottled water. The respondents however were largely female at a rate of 69%.

Research has shown that climate change poses a severe threat to Grenada's water supply because the small island developing states (SIDS) relies on surface water sources and rainwater catchment. Water is a scarce resource in Grenada and climate change has already begun to aggravate the problem with an increasing average temperature and more erratic rainfall.

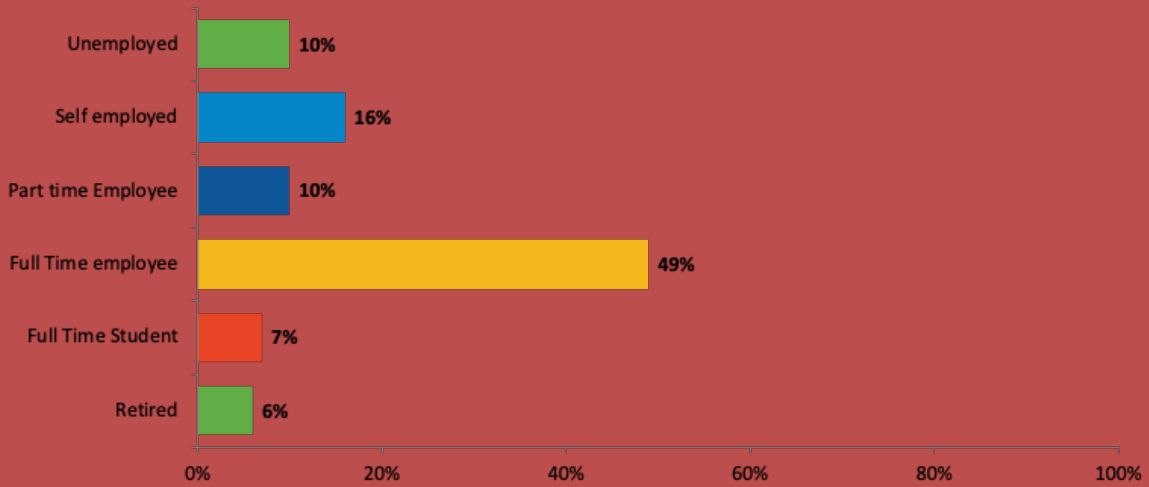
Therefore, it is mission critical to have increased sensitization of the fact that Grenada faces the possibility of increased strain on the island water physical infrastructure, due to the two main climate risks and vulnerabilities of Grenada: freshwater availability and disaster preparedness. This understanding of where the population sits on the views of climate related issues will allow for addressing of said issues in the near and medium term.



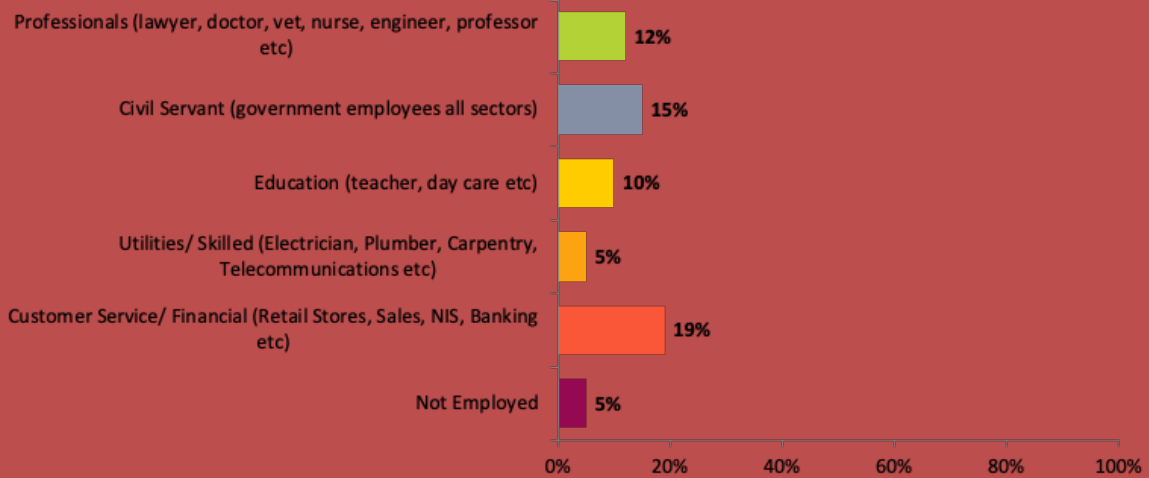
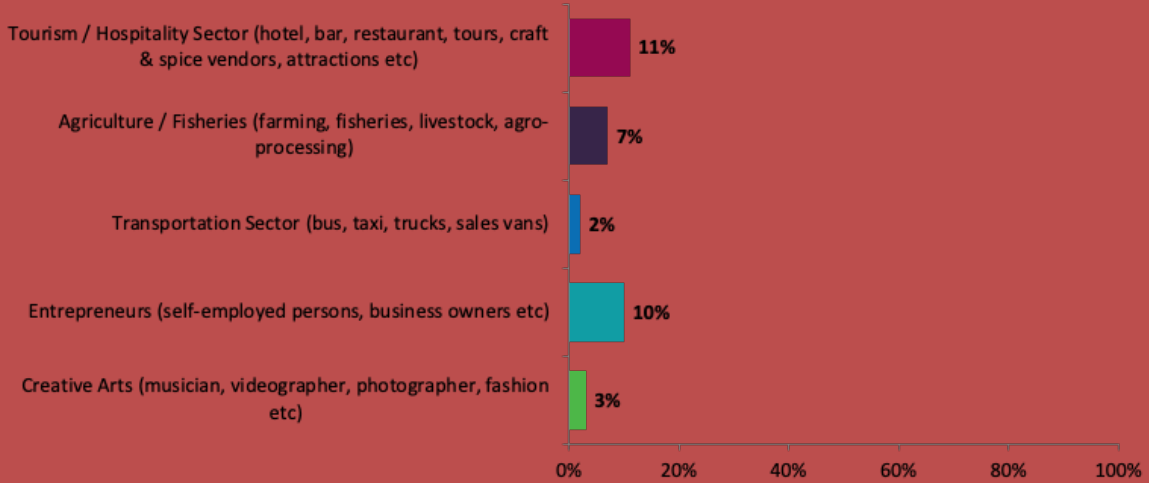
Age Ranges



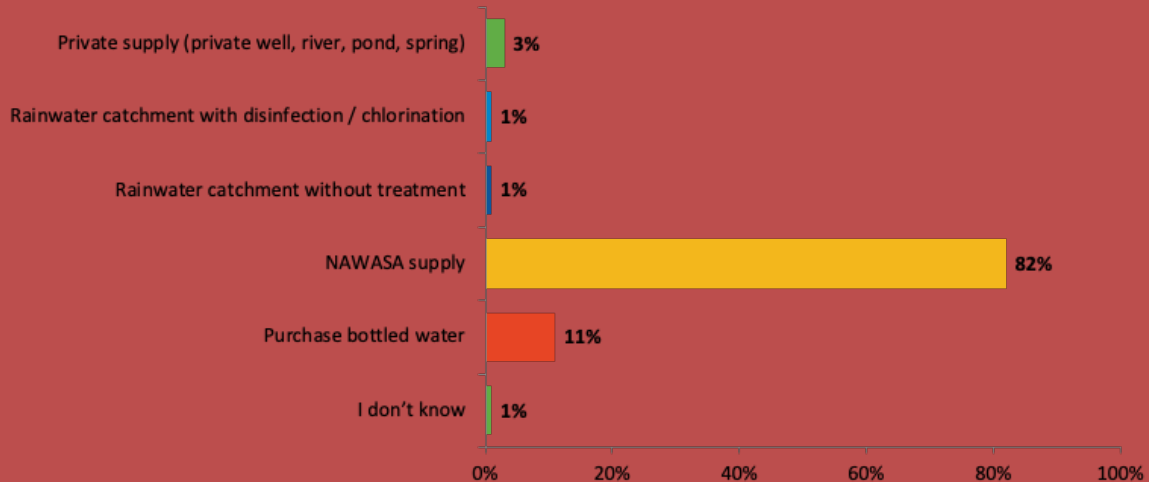
Parish locations



### Employment Status



### Employment Type



Drinking Water Source

## CHALLENGES

In the initial baseline one of the major challenges faced with the 5,892 persons approached via the various channels were the variety of conspiracy theories that dominated the Grenadian space at the time. A conspiracy theory is an explanation of an event or situation that invokes a conspiracy, typically one involving an illegal or harmful act carried out by government or other powerful actors. Conspiracy theories often feature covert plans and unexplained motivations.

Some examples of conspiracy theories surrounding freshwater supply and climate change include:

- The claim that climate change is a hoax perpetrated by scientists and governments to control the population. This theory is often based on the belief that there is no scientific consensus on climate change, and that the data has been manipulated to support the theory.
- The claim that there is a global conspiracy to control the world's water supply. This theory is often based on the belief that there is a limited amount of freshwater on Earth, and that powerful groups are trying to hoard it for themselves.
- The claim that climate change is not caused by human activity, but by natural factors such as solar activity. This theory is often based on the belief that the Earth's climate has changed many times in the past, and that there is no evidence that human activity is the main cause of the current warming trend.

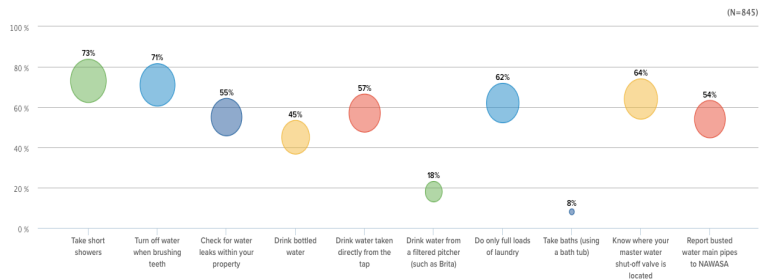
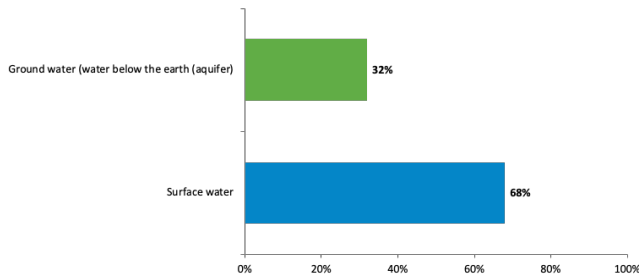
Conspiracy theories can be harmful because they can lead people to believe that there is nothing they can do to address climate change. They can also make it more difficult to act on climate change, as people may be reluctant to support policies that they believe are part of a larger conspiracy.

In the midterm survey – the investigators were able to cast a wider net – interview more persons overall and as a result the pervasiveness of the conspiracy theories appeared to be lower. Note with the greater number interviewed (10,884 persons) it does not mean that the conspiracy theories in the Grenadian space is lower today than before. Some challenges remained like that of several persons in some parishes (St. Andrews, St. Marks, St. John, and St. Patrick) claiming to have the best water and therefore no problems and felt there was no need to complete the survey – the investigators were able to convince these persons to do the survey increasing the time spent with these individuals. Still there are persons not understanding the link between climate change and the water in the pipes (not in my backyard syndrome). Then there were the respondents from Carriacou stating that their situation is not adequately addressed yet again. The field investigators went into the parish communities including Carriacou/PM daily during the period, augmenting the on-the-ground approach with calls to follow-up if persons were unable or unwilling to do it person. This was further augmented by the sharing of the survey link via WhatsApp so persons can complete in the comfort of own home.

When approached persons indicated that while they are being told of water shortages when at the same time, they are still seeing excessive rainfall well into the dry season. Some adding that the NAWASA water supply seems to get shut off during those periods of heavy rainfall as opposed to the periods of no rain. Additionally, persons noted a perceived increase in instances of ‘brown’ or ‘cocoa tea’ water in their pipes, which drives some to consume more bottled water.

Others stated that Grenadians should be aware that the seasons have changed its timing (start and end times) – dry and rain season and persons need to adjust. Some still stated that they do not trust the water supply as it damages their eyesight over time given the amount of ‘chemicals’ placed in the water supply. Yet another example of the conspiracy theories that circulate in Grenada. And some stated that they do not want to assist in the climate change agenda in any form and will not participate.

The source of information being the various social media platforms that they participate in. The prevalence of this problem is highlighted in the data where conversations with other people accounted for 49% of persons getting any information on environmental issues. However, when combining the 6 options of information sources that involve Facebook - over 90% of the population get information by that medium of social media. Given the statements from persons summarized above ‘fact-checking’ is still not done. Therefore, for the facts to penetrate – the facts may have to be communicated via social media and augmented by the traditional media.

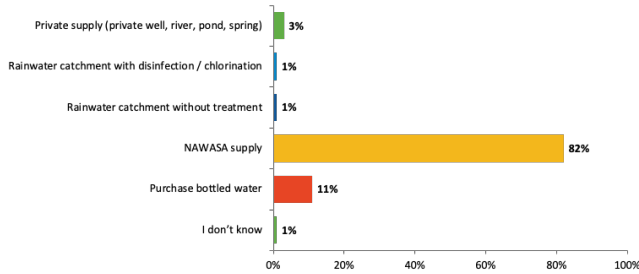


### GENERAL CONDITIONS

When asked about knowing the source of their drinking water supply – 62% responded as to knowing the source and then indicating that surface water accounts for most of the drinking water supply 68%.

### DRINKING WATER SUPPLY

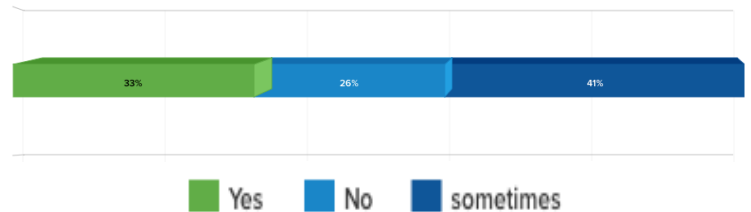
For the most part persons depended on NAWASA for their water supply.



Also as indicated on the right is the fact that 33% is satisfied with the NAWASA drinking water from a safety perspective while 26% is not and 41% believing that the NAWASA water is only safe sometimes.

### EVERYDAY LIFE ACTIVITIES

The above captioned chart highlights the activities the population engages in their current daily activities. Notably taking short showers and turning off the water while brushing teeth along with doing full loads of laundry and drinking water from the tap as well as checking water leaks in addition to knowing where the main water shut off value is located; all occur at a rate over 50%. However, it should be noted that turning off water while brushing teeth decreased from the baseline study moving from 79% to 71%. Reporting of leaking water mains now occur at a rate of 54%, which is an improvement over the previous baseline of 44%.

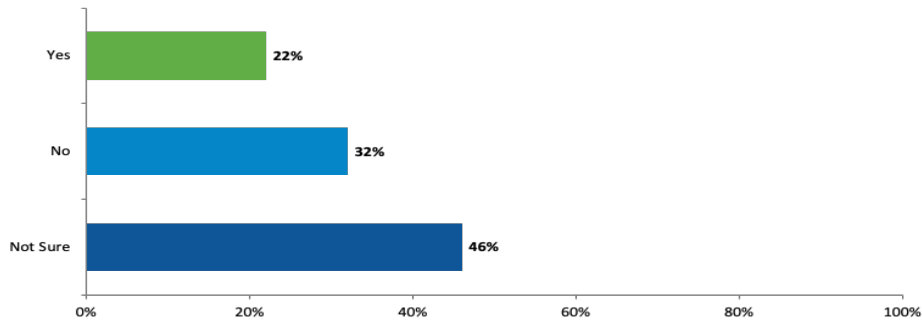


Do you feel that your home tap drinking water is safe to drink?

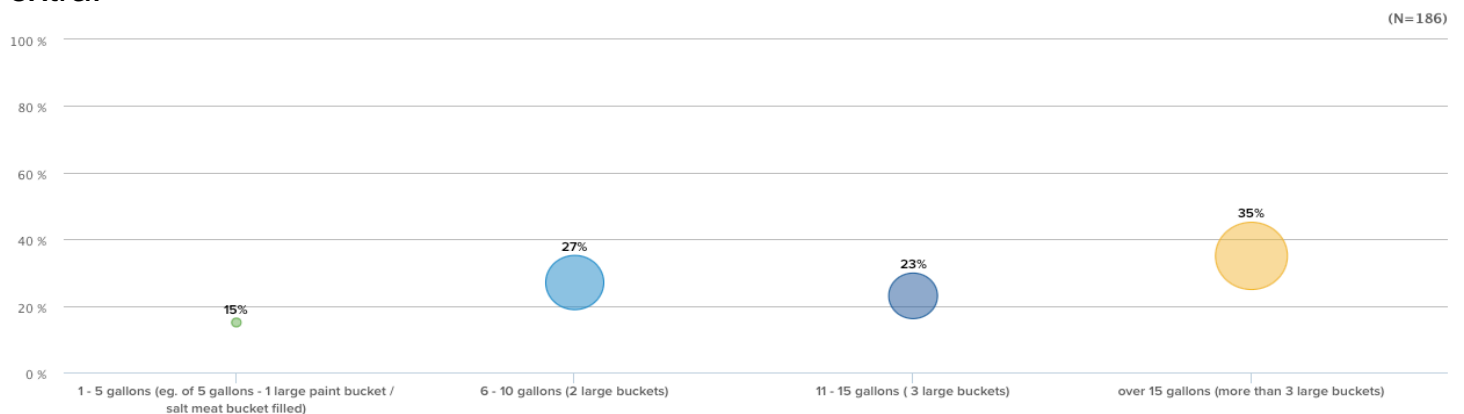


## DRY SEASON HABITS

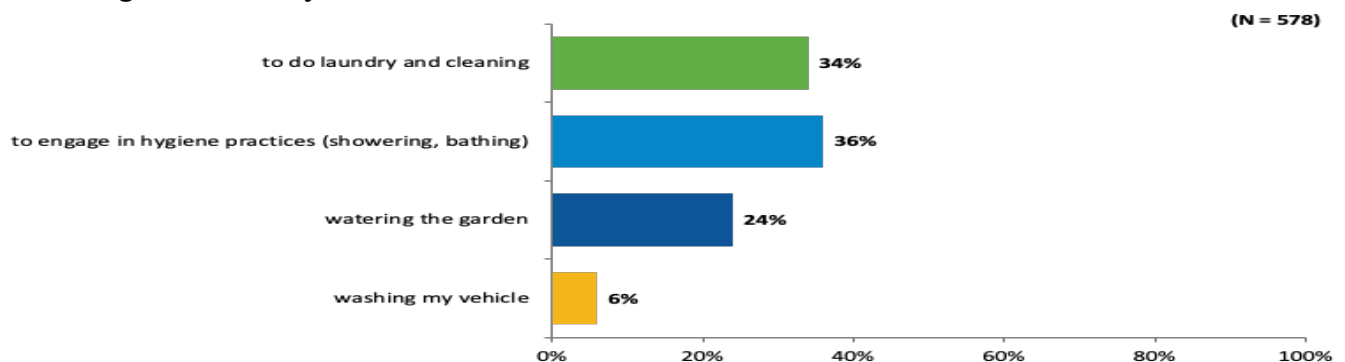
The survey respondents were asked if they were aware of using more water in the dry season versus the rainy season. 46% were not sure if their usage pattern changed during the dry season versus the rainy season, while only 22% claimed to have used more than usual during the dry season, with 32% stating that their usage is constant.

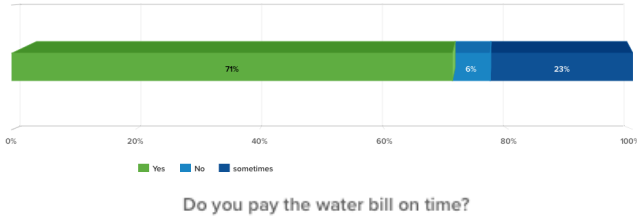


The amount of extra water usage in gallons showed that 35% of those using more in the dry season used over 15 gallons extra while only 15% used between 1 to 5 gallons extra.



The extra usage of water in the dry season is dominated by hygiene practices 34% followed by laundry/cleaning 34%, watering the garden 24% and washing the vehicles 6%. This group of respondents also included those persons who were unsure of extra water usage in the dry season.



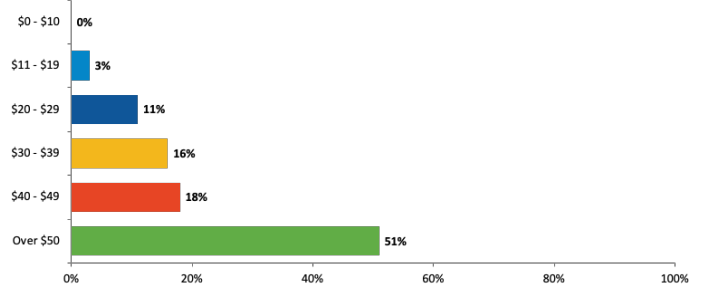


### NAWASA AND BILLS

The majority 71% self-report that they do in fact pay their bills on time, a drop of 10% from the baseline. The percentage reporting not paying bills on time increased to 6% from 4% in the baseline study. A similar increase is seen in the pay bills on time sometimes which moved from 16% to 23%.

### METERING

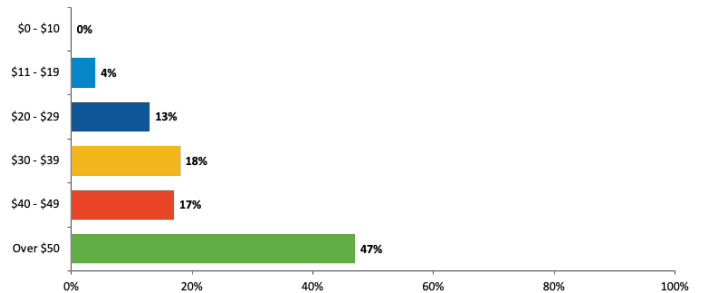
Persons were asked if they had any clue as to how much they pay for water in the dry season versus the rainy season. 55% indicated that they knew how much their dry season bill was, while 49% reported knowing the amount paid in the rainy season. The amounts paid are indicated in the following charts. This also indicates the perception of usage of water as well as the availability of water during the two periods. In one period – the dry season being almost hyper aware and not having the same care or attention in the rain season.



### DRY SEASON WATER BILLS

The above shows that that 51% of the respondents pay over \$50 monthly for water. While 48% pay below \$49 monthly.

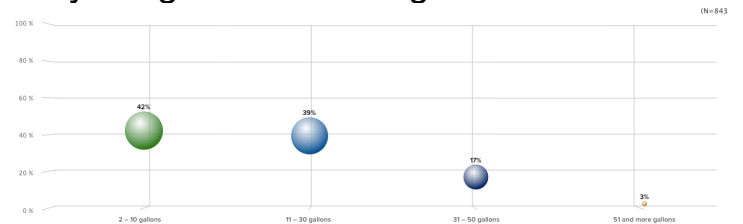
### RAINY SEASON WATER BILLS



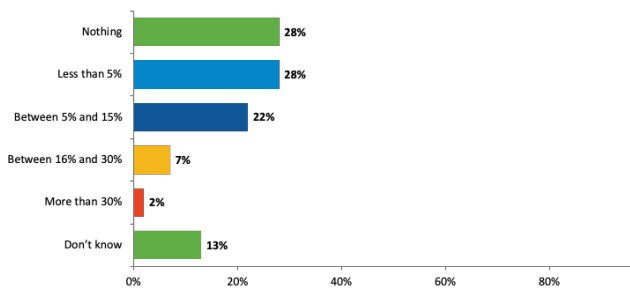
In the rainy season only 47% indicate that they pay over \$50 a month. Leaving 52% paying under \$49 a month.

### AVERAGE USAGE

When given an indicator like - a 5-min shower consuming 5 gallons which is equal to a filled large paint bucket or Salt Meat bucket (2 items found in almost every household), with the vast majority claimed daily usage of under 30 gallons.



While 17% claiming to use 31-50 gallons per day with only 3% using over 50 gallons per day.

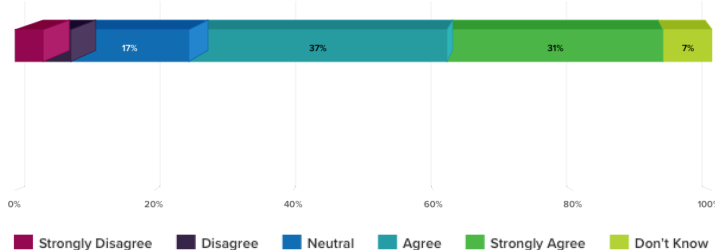
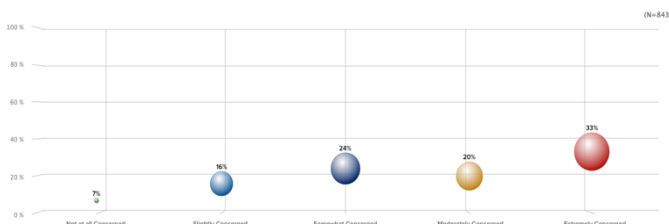


## WILLINGNESS TO PAY FOR IMPROVED TAP WATER

When asked about improving quality at a cost to the consumer, there is a shift from the baseline which had 48% unwilling to pay moving down to 28%. A price increase between 5% and 15% is viewed favorably by 22% of the respondents compared to the baseline of 11%. 28% of persons would be willing to see a less than 5% increase in the bill – marginal increase over baseline.

## FUTURE AVAILABILITY OF WATER

Interestingly 33% are extremely concerned about the future availability of water. The 60% that are ranging from slightly to moderately concerned is the group that may need the most attention to shift attitudes as they are likely the ones to not be concerned during the rainy season. While only 7% are not at all concerned.

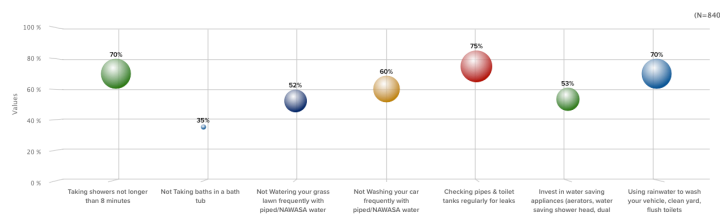


Do you think that climate change has an impact on the water supply currently?

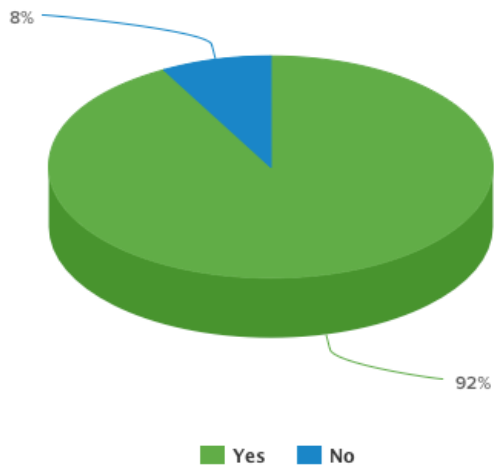
## CLIMATE CHANGE IMPACT ON WATER

A cumulative 8% of respondents do not believe that climate change has an impact on the water supply. 17% of the respondents are neutral on the issue may need data and evidence to move in one direction or the other. While 68% of the respondents share the belief that climate change has an impact on the water supply; there remains a need for the educative link to be made between climate change and the water supply to convince the 17% who are neutral and the 7% who do not know if there is a link.

## ACTIONS TO CONSERVE WATER



75% of the respondents are willing to check for leaks within their household – this may be because of the correlation to their water bill. 70% of the respondents are willing to take shorter showers, use rainwater to wash vehicles, flush toilets and clean the yard. While 60% are willing to minimize washing cars with piped water as an action to conserve water. 53% were willing to invest in water saving appliances, while 52% were willing to reduce the frequency of watering grass lawns.



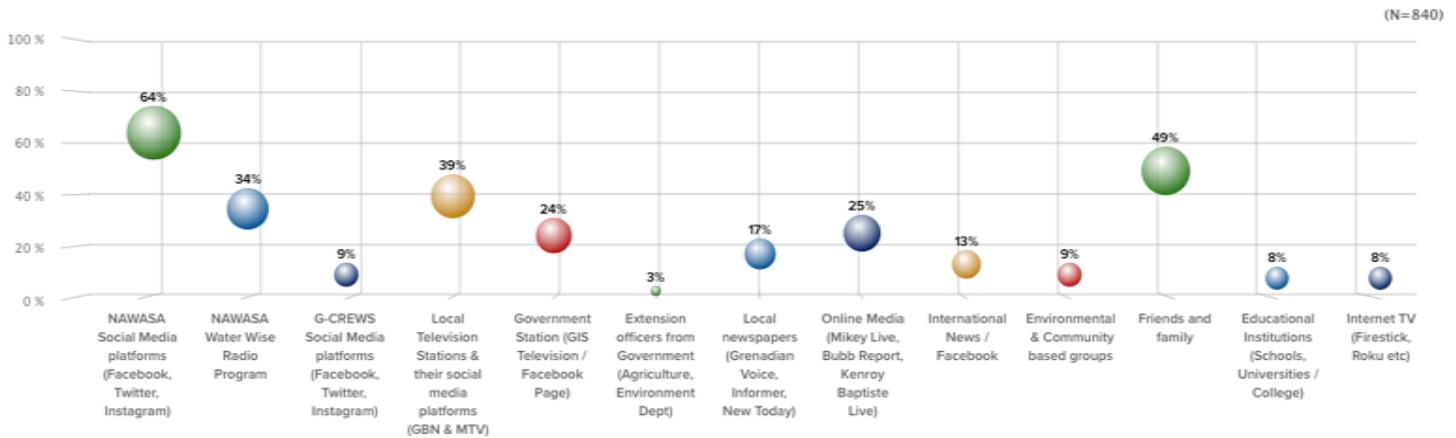
### WATER RESOURCES MANAGEMENT UNIT CREATION

The population generally recognizes the need for the creation of a Water Resources Management Unit. In the verbal feedback shared with the investigators the views expressed were largely in line with the question as asked – oversee the water quality regulation, pollution control and water services regulation. The verbal feedback expressed the need to ensure that quality is maintained by the bottled water producers as well as NAWASA as the only provider of piped drinking water. In the social media feedback, there were several comments about their perception of pollution levels in the rivers and streams in the past vs now. Persons expressed disgust over the perceived amount of trash in the rivers and the lack of perceived monitoring of the problem. These perceptions were gleaned within the 180 comments.



### WILLING TO PAY BASIC MONTHLY FEE

While 92% of the population sees the need to have a Water Resources Management Unit – at present only 56% is willing to pay a basic monthly fee to assist in the sustainability of the unit. In the verbal feedback a significant amount of the 44% who are not willing to pay - had questions about the transparency of said unit, how it will be run, what will it have domain over; basically, asking the investigators for information that is currently unknown. Support for the creation of the unit increased from the baseline year which showed support at 88% so it is promising that over 50% is willing to pay for it at this time.



### INFORMATION SOURCES

The population information sources as it relates to water issues is largely NAWASA social media platforms at 64% followed closely by Friends and family (49%) and local television (39%) inclusive of their social media. Other information sources that register over 20% are NAWASA water wise radio (34%), local online media- Mikey live etc. (25%), and the Government media - GIS (24%).

### MIDTERM VS BASELINE

In the baseline year NAWASA social media registered at 40% - so there has been a massive uptick in the use of social media to engage the population with 64% getting information from NAWASA social media. The Water Wise radio program demonstrated a downward movement representative of the population shift to on demand media – moving from 41% to 34%. The reliance on friends and family increased from the baseline year moving from 45% to 49%. Local television (GBN & MTV) moved downward from 52% to 39% as the source of water resources information.

### INFLUENTIAL VOICES

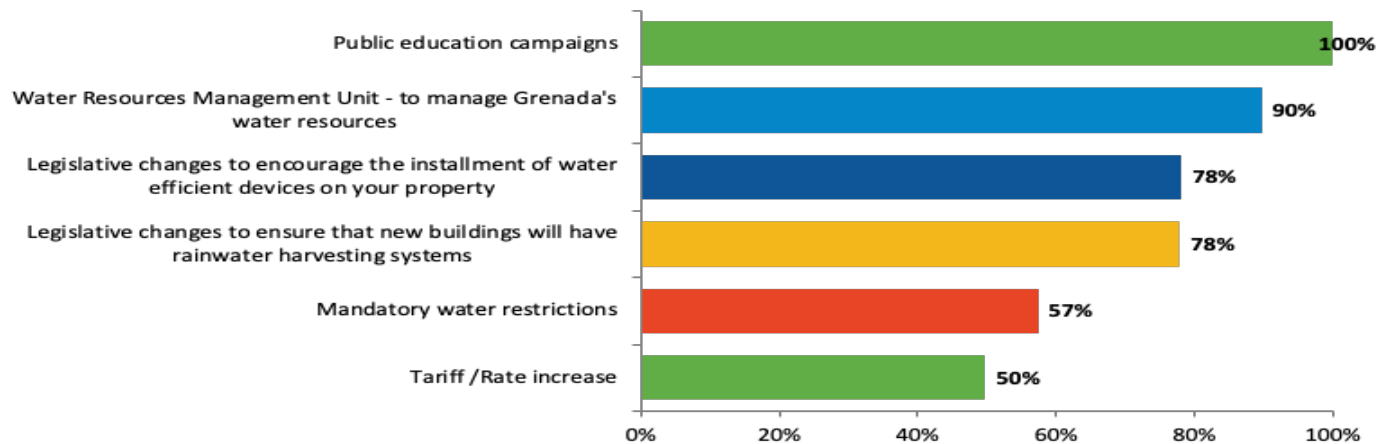
The reliance on government media inclusive of social media has grown from 16% to 24%. The new G-CREWS social media sits at 9% highlighting the need to follow the trend set by GIS and the local media in having at least one to three posts per day to be prominent in the feeds of the population.

### SOCIAL VS TRADITIONAL

One remarkable point to highlight is the fact that this population is heavily reliant on social media for sources of information. Social media outpacing the traditional sources at a rate of six to one. Social media reliance outstrips the educational institutions which only account for 8% which is a drop from the baseline when 11% got their information from educational institutions. Given the ease with which social media can be manipulated this can be dangerous when it comes to the spread of misleading information. The role of the educational institutions along with government media, G-CREWS and NAWASA is paramount in ensuring that the information that is shared is accurate. These bodies need to be source of the information rather than the subject on the social media platforms.

## PUBLIC SUPPORT FOR GOVERNMENT INITIATIVES

The need for public education is evident by the results when respondents were asked to rank in order of importance the initiatives presented (ranking from most important 1 to not important 6). The creation of the Water Resources Management Unit ranked as second. Surprisingly the population is in support of legislative changes in existing buildings (installment of water efficient devices) and new buildings (rainwater harvesting systems integrated) both holding 3<sup>rd</sup> place rank. Mandatory water restrictions were preferred over a tariff/rate increase.



### HOW IS THE RANKING CALCULATED

Rankings are determined by calculating a weighted score for each answer option.

Assigned weighted scores are determined by the number of answer options to be ranked. In this case there are six answer options to be ranked, so when an answer option is selected as Rank 1, it would receive a weighted score of 6; while an answer option selected as Rank 6 would be given a weighted score of 1.



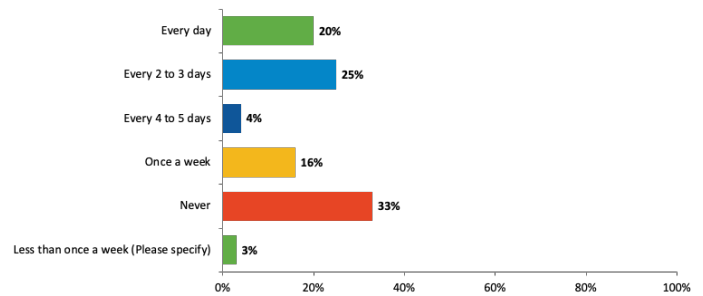
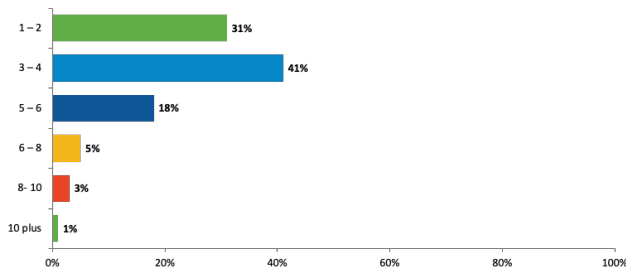
### HOW IS THE RANKING CALCULATED...

Answer option weighted scores are then multiplied by the count for each rank and then totaled. The answer option with the highest total weighted score would be Rank 1, the second highest weighted score would be Rank 2 and so on.



### HOW IS THE RANKING CALCULATED...

Relative weighted scores are calculated using an answer option's weighted score and dividing it by the highest weighted score (rank 1). The relative weight score is a measure of preference for each answer option based on a 100-point scale.

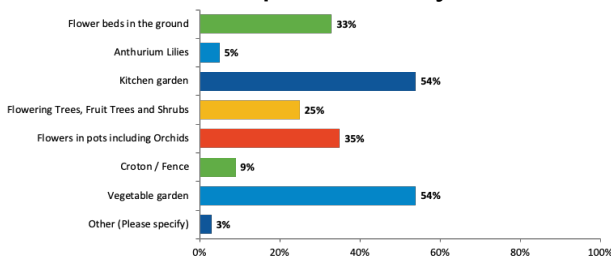


## HOMEOWNERS

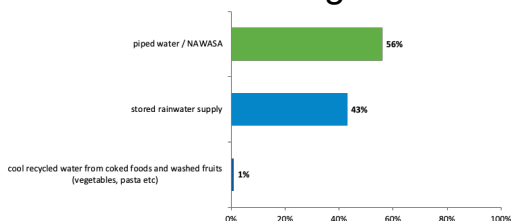
The average home houses 3 to 4 persons (41% of homes) followed by the homes with 1 to 2 persons (31% of homes). Homes with 5 to 6 persons account for 18% and homes with 8 to 10 persons account for 3%.

## PLANTS IN YARD

Edible plants either in the form of a vegetable garden or kitchen garden jointly hold the first place at 54%. This is followed by potted plants at 35% and flower beds in the ground at 25%. Fruit Trees/Shrubs/flowering trees are in 25% of the respondents' yards.

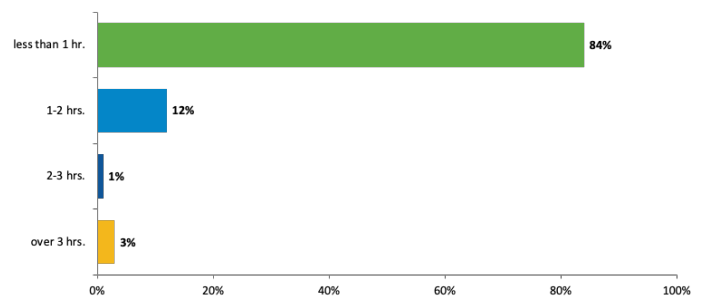


The majority watered their yard with piped NAWASA water (56%). A metric that needs addressing to gain more users of recycled water and harvested rainwater for watering use.



## DRY SEASON WATERING

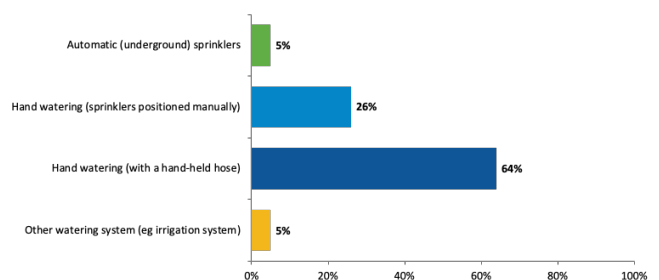
The reported dry season watering of plants in the yard showed that 20% water every day. While the 33% that never water their plants in the dry season, there are those in the middle ground that opt for every 2 to 3 days to once a week. This should be examined in conjunction with use of NAWASA versus harvested rainwater.

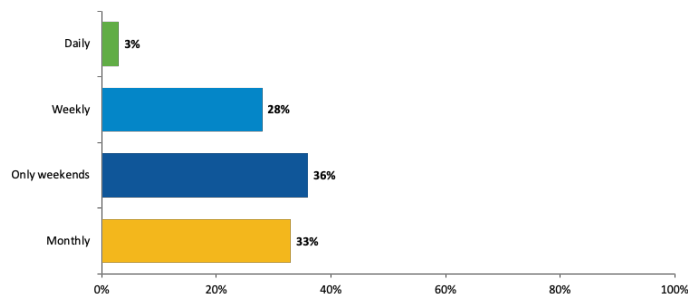
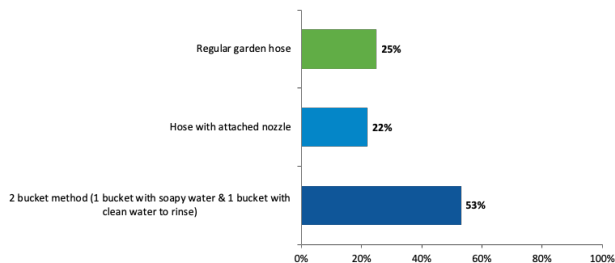


Only 3% watered their plants for over 3 hours at a time down from the baseline of 5%, with 84% doing it for less than 1 hour – up from the baseline of 81%.

## WATERING SYSTEMS

Virtually unchanged from the baseline – with the water hose holding the top spot however, the use of sprinklers increased from 19% to 26%.



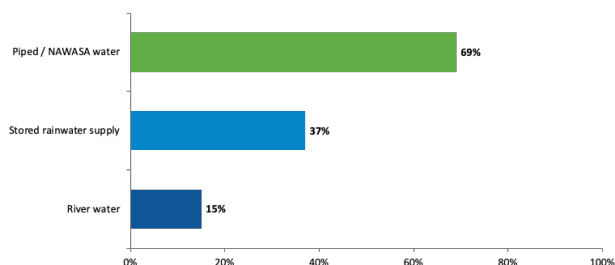


### CAR WASHING

25% of persons use a regular garden hose for washing their vehicles, while 22% attach a nozzle to the hose. Refreshingly 53% of persons use a two-bucket method to wash their vehicles currently.

### CAR WASHING WATER TYPE

The vast majority (69%) still use NAWASA water for car washing irrespective of the method (2-bucket, regular hose vs nozzle hose). Shockingly there is 15% who utilize the river water for this purpose – which links back to social media comments stating concern over the state of the rivers. Emphasis should be placed on increased usage of stored rainwater.

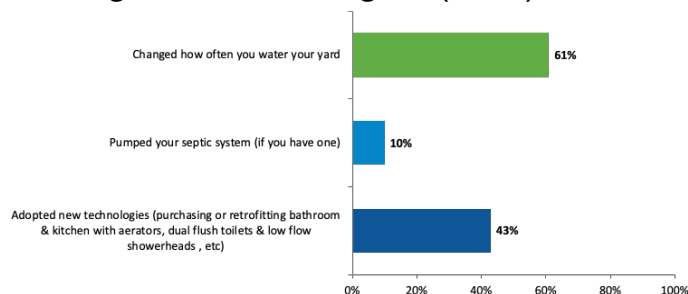


### CAR WASHING AT HOME

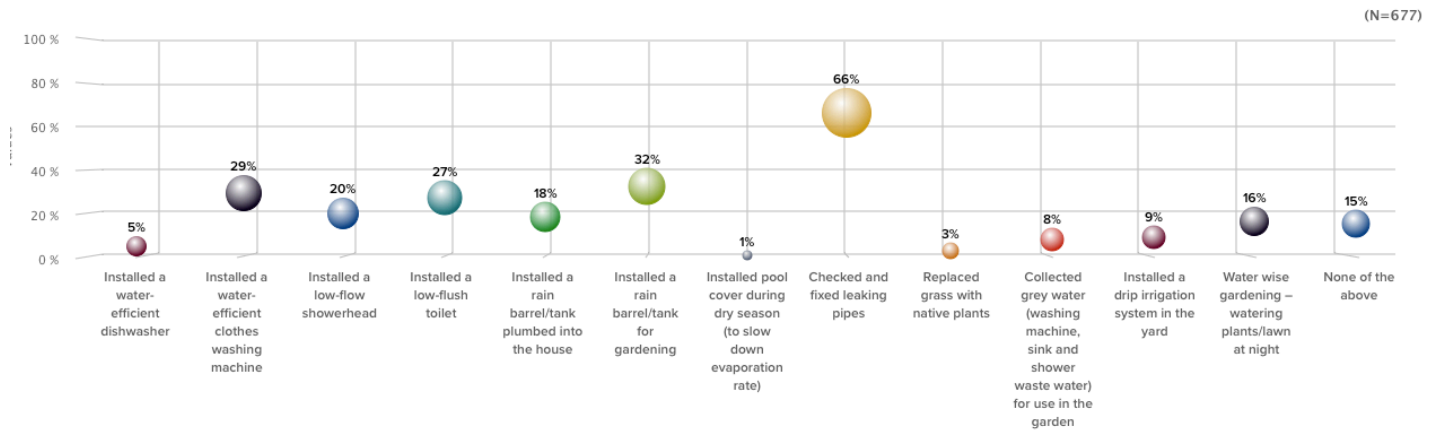
Examining the baseline, the percent of the population engaged in monthly car washing decreased from 40% to 33%. Now 36% wash on weekends compared to 27% from the baseline. Weekly moved from 32% to a current 28%. Daily washing increased from the baseline of 1%. Again, these movements need to be taken into consideration with the source of water for the activity, which means that there should be a push to move away from the piped water and river water for this activity.

### CHANGES TO CONSERVE WATER

The respondents showed efforts to conserve water by doing the following in their individual environments – Changing how often the yard is watered (61%) and installing new technologies (43%).







### HOMEOWNER CHANGES

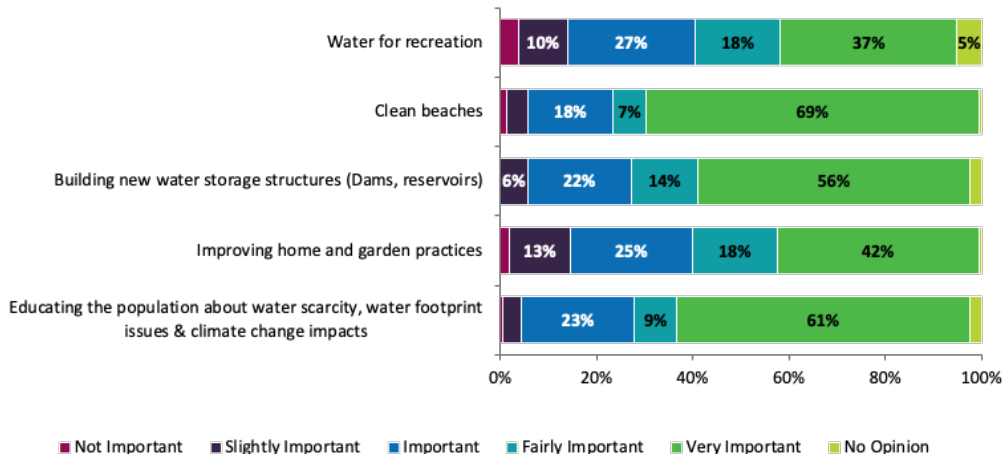
When asked what actions have been taken within the last two years to conserve water usage around the home – the most popular action which can be tied back to minimizing the cost of the bill is that of checking and fixing leaking pipes (66%). This is higher than the baseline year which reported 64%.

### BASELINE VS CURRENT

Compared to the baseline - there is an increase in the installation of water efficient dishwashers with a jump from 3% to 5%. The water efficient washing machine dropped from 38% to 29%, the same trend is evident with the low flow showerhead (dropping from 23% to 20%); low flush toilet (dropping from 32% to 27%). This warrants an investigation into the cost of these devices over the time period – has it increased, remained the same or decreased to isolate if the change was simply economics or attitudinal.

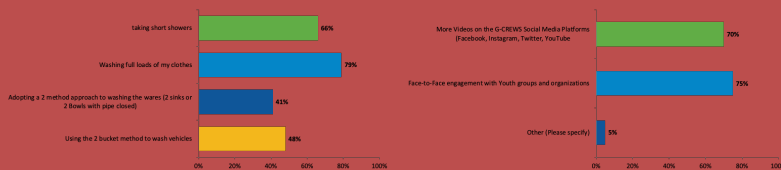
### HOMEOWNER THEN & NOW

Encouraging was the fact that rain harvesting was implemented by 22% for household use and 27% for gardening in the baseline study and now household use is at 18% while gardening showed a significant increase to 32%. The 2% who installed pools covers leaves room for education on evaporation of water from open pools in the baseline year and more so now as this has now dropped to 1%. Grey water collection decreased from the baseline of 12% to 8% - as did all the desired metrics with respect to gardening – like grey water collection dropping from 12% to 8% and water wise gardening dropping from 17% to 16%.



## THE YOUTH BASELINE VS CURRENT

The youth attitudes towards the various aspects of environmental issues ranging from water for recreation, clean beaches, new dams & reservoirs, improving home & garden, and educating the population all rank as important to very important at above 80%. This remains unchanged from the baseline.



### WATER CONSERVATION PRACTICES

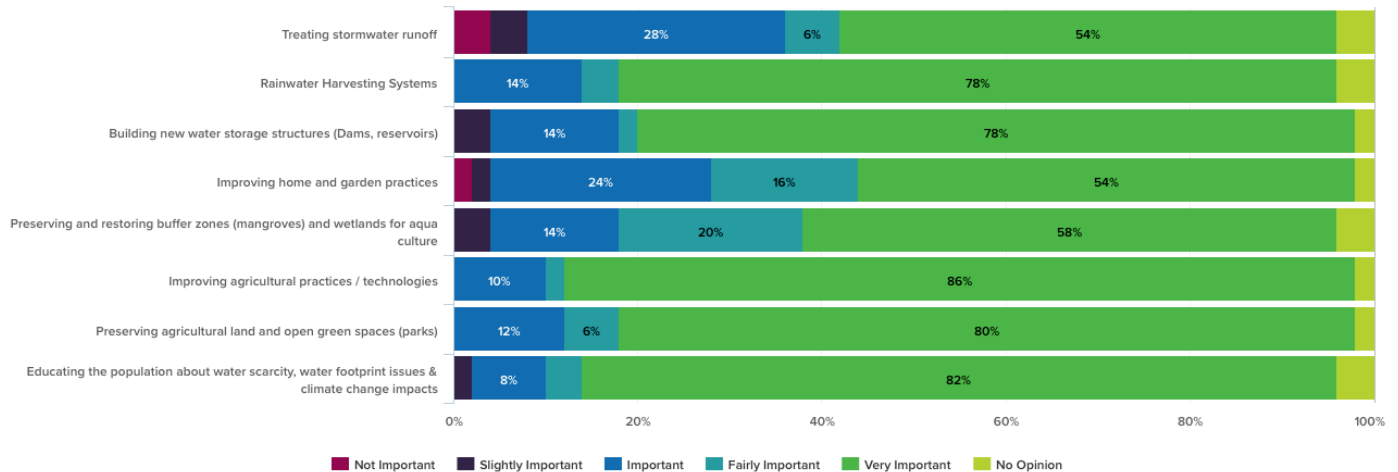
When asked what measures this group is willing to undertake - Washing full loads of laundry is paramount at 79% while taking short showers comes in second at 66%. Less than 50% are willing to employ the 2 bucket or 2 sink/bowl methods in the washing of cars and dishes respectively.

### LEARNING WATER CONSERVATION

The group indicated that the preferred media for learning is hands on and face to face at 75%, followed by sharable social media video and informational posts at 70%

### TRACKING

While there are some contradictions inherent in the youth reporting, it will be important to track the attitudes over time, to see which direction the attitudes move, especially with respect to the social media versus face-to-face engagement and home practices.



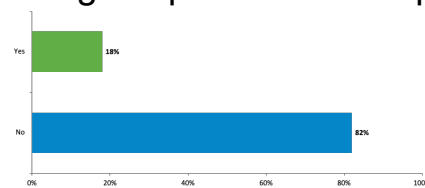
### THE FARMERS BASELINE DATA

The farmers are engaged in farming on ¼ acre lots to one acre lots with that cumulative total being 47% of the farmers. 21% of the farmers utilize lots larger than one acre, with only 1% being between 5 to 10 acres. But noteworthy is the fact that 32% are unsure of their lot size, which makes water planning difficult. A registry of farm data – size and type – will prove useful for national water planning and regulation.

### IMPORTANT ISSUES FOR FARMERS

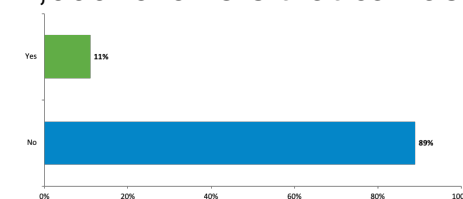
Within the baseline it was noted that 35% rely on rainfall, 22% on rainwater harvesting and 25% on rivers for the irrigation of their plots. In tracking the important water issues to the farmer – it can be noted from the above data that – there is an overwhelming interest in improving agricultural practices /technologies followed closely by preserving agricultural land. A concern expressed verbally was that housing developments seem to take precedent over agricultural development.

Given the food security type farming and smaller farms identified in the baseline, along with the irrigation systems of choice 55% is the water hose, followed by the rain barrel, rain and rivers – it is not surprising that educating the population about water scarcity, water footprint issues and climate change impacts is also top issue.

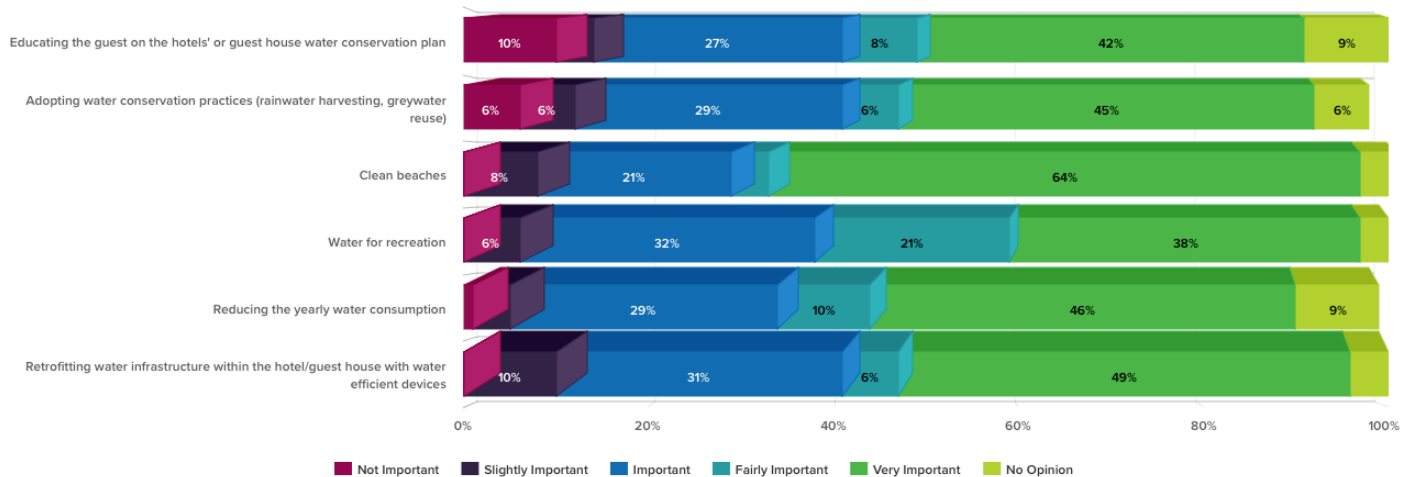


### G-CREWS CHALLENGE FUND

The awareness of the G-CREWS Challenge fund is at 18% (34% female/66% male), showcasing the need for more awareness campaigns that target farmers. The many WhatsApp farming groups and the Ministry of Agriculture Facebook page that currently has over 12,000 followers that can assist.



Of those who are aware 11% are engaged with the fund with one person stating that they are in the process currently.

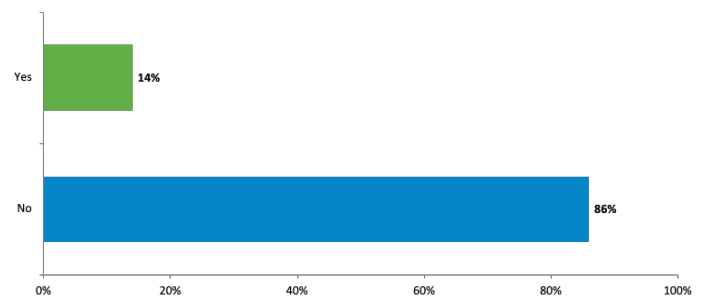


### ABOUT TOURISM

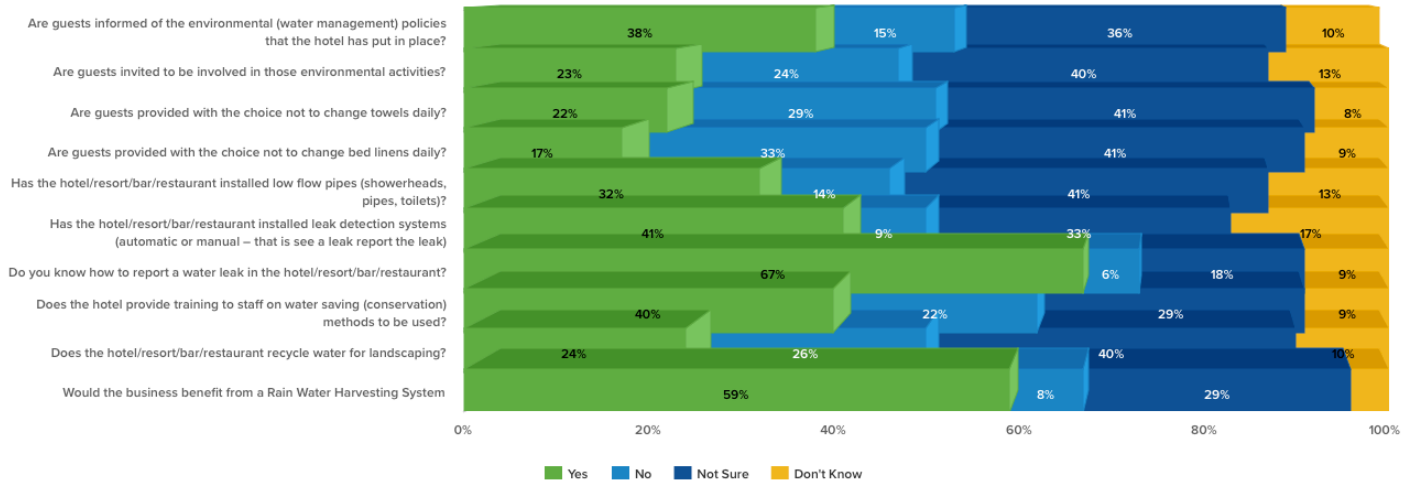
The tourism sector workers were asked a series of questions regarding the practices within the industry. These questions determine if a serious effort is made within the sector to address the conservation of water. Like previous groups the attitudes indicate an overall positive importance of the various aspects of the environment however, given the importance of the water/marine environment to the tourism product it was surprising to see that 20% did not think that the clean water for shellfish fishing and reef fishing is important in the baseline study. This metric moved towards the positive at present with clean beaches ranking high on importance for the players in the tourism sector. Given the heavy usage of water in the sector it is not at all surprising to see that conservation practices and retrofitting the water infrastructure with the hotels. However, the alarming metric now is that 10% do not believe that the hotel guests should be educated on the water conservation plan.

### G-CREWS CHALLENGE FUND TOURISM

The current awareness of the fund administered via the Grenada Development Bank is 14%. This metric needs addressing via campaigns with the Tourism Authority and the representative bodies that cover the tourism related entities of guest houses, hotels, resorts, restaurants, bars, and recreational providers both large and small. Within the population that is aware of the fund – 36% are male and 64% are female.



**Note:** The data gathered on the agricultural/tourism sectors are a random sample - each unit in the population had an equal chance of being selected. The sample while representative of the overall population really should be a targeted sample – from a list furnished by G-CREWS – which will give better insight into the experiences of the two sectors.



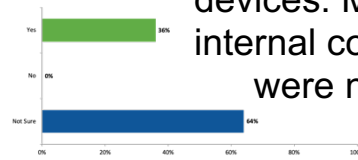
### ABOUT TOURISM PRACTICES

The direct measures of the practices within in the baseline study showed an alarming result of respondents that report they ‘do not know’ (above 30%) or ‘not sure’ (above 20%) if the entity practices these actions which has now decreased.

Notable positive changes from the baseline year include informing guests of water conservation policies moving from 35% to 38%; the installation of leak detection and leak reporting systems moving from 28% to 41% and 63% to 67% respectively. Training the staff on water saving methods moving from 30% to 40%. All the other metrics saw a negative trend. In most cases moving downward by 20 points or more. Case in point the choice of changing bed linens and towels went from 53% to 17% and 48% to 22% respectively. Highlighting a need more training within the sector and better communication between management and line staff, otherwise the industry can be called out for greenwashing.

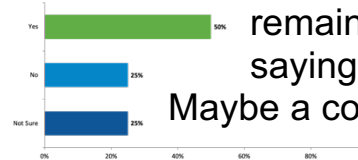
### FUNDED INSTALLATION

36% of the sector have accessed some type of funding to install water efficient devices. Most likely a quirk of internal communications 64% were not sure maybe indicative of line staff.



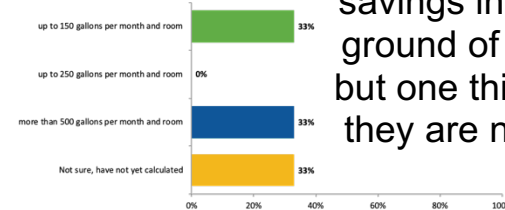
### BENEFITS OF CHANGES

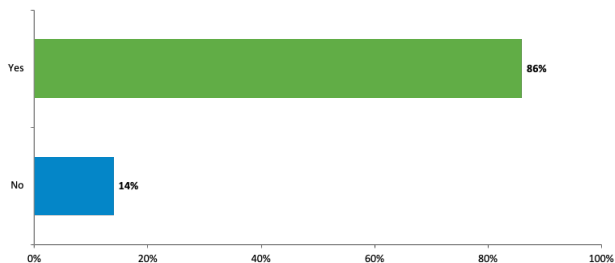
While persons are aware of the installed water efficient devices only 50% can clearly see the benefits while the remaining half are either saying no or not sure. Maybe a communication quirk with the sector.



### WATER SAVINGS

The perceived gallons of water saved each month and room ranges from 150 gallons to 500 gallons with no one reporting savings in the middle ground of 250 gallons but one third stating they are not sure.



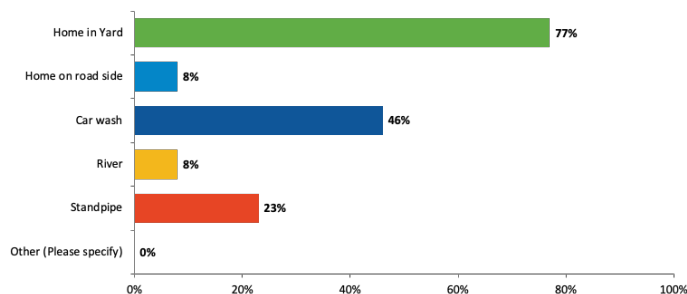
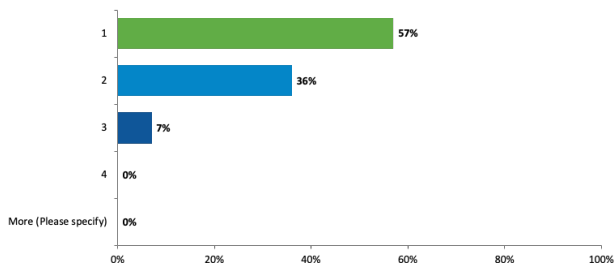


### ABOUT TRANSPORTATION

Within the transportation sector the baseline attitudes were overwhelmingly positive – with new dams and reservoirs being of the utmost importance in the baseline at 100%. So, it is not surprising that within the current study that 86% of the transportation sector use a hose to wash down their vehicles in their driveways as indicated above – reflective of the ease of use of the piped water and its linkage to dams (the source of piped water).

### OWNERSHIP

Compared to the baseline where 60% own one vehicle to ply their trade, 40% own 2 vehicles and 20% own over 4 vehicles. Vehicle ownership over 4 vehicles have dropped to zero. Owning 3 vehicles moved from zero to 7%. Ownership of one and two vehicles have dropped slightly. Note that the distinction was not made between ownership and operating on behalf of the owner.

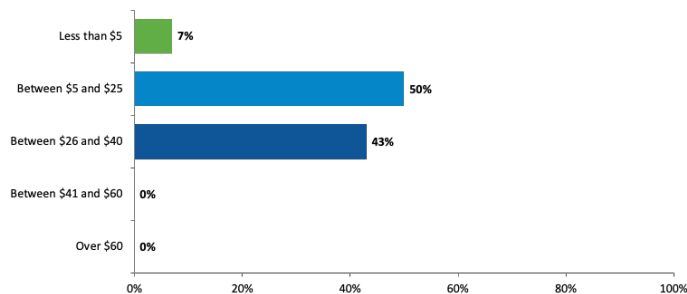


### WHERE VEHICLES ARE WASHED

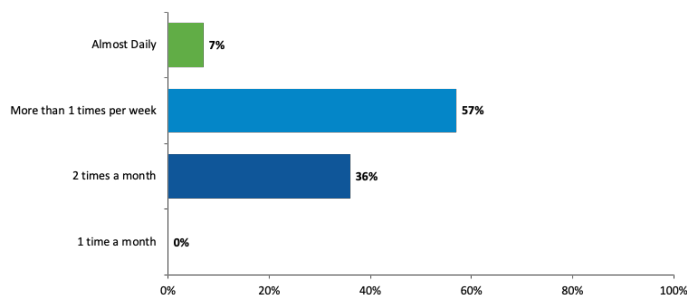
Compared to the baseline year those using a carwash increased from 40% to 46%. This leaves room for growth formal car washes which can use less water at high pressure to wash the vehicles. The alarming point here is the increase in the use of the Rivers and the Public Standpipes to wash vehicles.

### COST OF WASHING VEHICLES

In the baseline 20% paid between \$41 and \$60, now no one does. The \$5-\$25 rate moved from 40% to 50% and there was a drop in those paying \$26 to \$40 moving from 60% to 43%.



20% wash vehicles daily in the baseline now down to 7% and 40% more once per week.



# Conclusion



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## CONCLUSIONS

There were some notable surprises during the data collection process that will need to be addressed on multiple levels as the initiative progresses through the objectives as outlined by the terms of reference:

**Objective #1:** To determine the level of society's knowledge of climate change impacts. Compared to the baseline the number of conspiracy theories that the population believes in seems to be lower. The awareness proposals via the Water Awareness Education at multiple levels using multiple media should address this in a very subtle manner without the need for a direct attack – See Awareness Proposals.

**Objective #2:** To determine the level of change in behavior as a spinoff of awareness programs developed and outreach initiatives undertaken. In this regard the programs must continue to address the levels of misinformation and highlight with real examples from the local context to drive home the points.

**Objective #3:** To determine the future steps that need to be examined in further promoting climate change and its impact on water and the environment. A multi-media campaign is needed to address the local circumstances in the context of the wider world. The hopeful results show that the persons who were willing to engage with the investigators had an overall positive attitude towards the issues at hand.

**Objective #4:** To determine the level of a positive paradigm shift about freshwater availability and disaster preparedness. For the persons who are already on board with changes needed, the key will be to engage with the social influencers on island and make them the promoters of the climate resilience messages. This is using the fact that persons in the population are more willing to listen to others to change their mind rather than the official voices. So, a level of coaching and placing persons on a public platform will help propel the message to the population. The coaching starts in the schools, extends to the community via the churches and local community groups.

**Objective #5:** To determine the level of a positive paradigm shift in climate resilient water users. Again, here since social media and conversations with persons in society can effect change – give the voice and the platform to persons with the right message in the language that can be understood by the population. In some instances, this person



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can be a cartoon character 'Rayne Drop' – See Awareness Proposals. In other instances, these persons can be the community's children and youth.

**Objective #6:** To determine the level of a positive paradigm shift in climate resilient water supply system and governance. The voice needs to be managed but the voice must be persons that the population will listen to on the platforms they already listen to. These persons must become the promoters of change initiatives to help drive down the influence of the climate change detractors. These persons can be the community leaders, pastors, priests, and teachers via the children.

**Lessons Learnt:**

*The questionnaire* – while the guidelines and objectives given ultimately determined the number and types of questions asked in the baseline. After the baseline implementation of the survey and the feedback from the respondents who completed it in its entirety and those who dropped out part of the way – the number objectives and guidelines for the midterm was trimmed down to a smaller number. The trimming of the survey to a shorter version did help in boosting the response rate and completion rate. Having established the baseline – the crucial next step was to determine which aspects need to be tracked over time. In this midterm survey certain elements were tracked beyond the baseline. So therefore, there are several questions that were dropped from the survey. The simplicity of the language was addressed - as a case in point - the visual of the paint bucket or salt meat bucket to demonstrate the quantity of water being asked about. The field investigators had to explain several questions to the respondents in the baseline. So therefore, the survey questions were pitched at a much lower level for the sake of comprehension in the midterm.

Additionally, random sampling led to lower than desired response rates to the very targeted questions about the Challenge Funds for both the Tourism and Agricultural sectors – therefore to adequately target these two sectors – it may be prudent to work with a list of persons provided by the G-CREWS team to gather information on their experiences with the Fund. This result is also true of the hyper-targeted question about persons taking advantage of the Challenge Fund. The list can be in the form of email addresses with the identifying markers of names removed – so that the next survey can be sent directly to those email addresses to gather intelligence on the experiences with the Challenge Fund and the outcomes. This will augment the random sampling that takes the

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pulse of the entire population – which will invariably show the results of the basic awareness campaigns as well as spark some awareness about the Challenge Fund existence.

*The field deployment* – social distancing and Covid-19 hampered the more concrete face-to-face measures to engage with the respondents in the baseline study. In the midterm study, the 20 field investigators were able to freely move about the various communities and sit down with the respondents to complete the survey. The use of social media and the SMS messaging gave the highest levels of viewership of the survey, however given the number that dropped out while taking the survey highlights two things, 1. The time of day when shown on social media feed and 2. Lack of understanding that the survey could be saved to continue and finish later. In hindsight that is a fact that will need to be stated in the introduction to the survey. Because given the interest from the SMS and social media 10,884 persons starting the survey, it may be safe to assume that if those two factors were addressed the response rate would be higher.



**TARGETS**

The future targets will be to get a higher engagement from the population, the 2023 engagement was significantly higher than before. There is still the need to share the population responses with the population so that persons can know that X percent of persons in their community sees pollution as a problem or water quantity is seen as a problem by X percent of persons in their community. This may propel some level of self-policing and effect change in the long run. Boost the profiles of persons who have effected changes in their homes, businesses, and lifestyles along with the benefits they have derived. Make these persons the promoters of changes helping to drive the passives and detractors of climate change to see the benefits to self and nation.

**CHALLENGES**

While the strong beliefs in the many conspiracy theories that are floating around social media and the internet have diminished somewhat – the fact that the population is so reliant on social media invokes caution in messaging.

There remains the need to be addressed by using local experts to dispel some of the myths – maybe a few scientific experiments to demonstrate what is real and fake – in the style of Bill Nye the science guy – in plain English using things easily accessible to the population. Demonstrations of best practices and the effects of these practices on the local environment. These need to be shared on the same platforms of social media used by the population.

**FUTURE SURVEY**

The language still needs to be simpler as persons had some level of difficulty understanding and needed the field investigators to translate some questions into simpler English. These requests were less frequent than during the baseline study.

The linkages were clearer for several persons – so the education campaigns will have to continue address the linkage between our actions, water resources and climate change. This was evident within the social media comments about the rivers and pollution and in the field with the investigators being told that housing developments take precedent over agricultural and even some resort development over the preservation of coastlines.