



G-CREWS KAP

Baseline Grenada 2021

April 20, 2021

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GIZ KAP BASELINE STUDY

The survey was administered during the period March 11 to April 15, 2021 utilizing the multi-modal approach of 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 10,343 persons on Facebook alone and shared multiple times on Facebook and WhatsApp. A total of 5,892 persons accessed the survey within the period, however only 430 persons completed the survey in its entirety, while a total 445 submitted usable responses.

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 for the net number of responses will need to be between 381 to 500 from an approximate population of 40,000 to 111,454 persons.

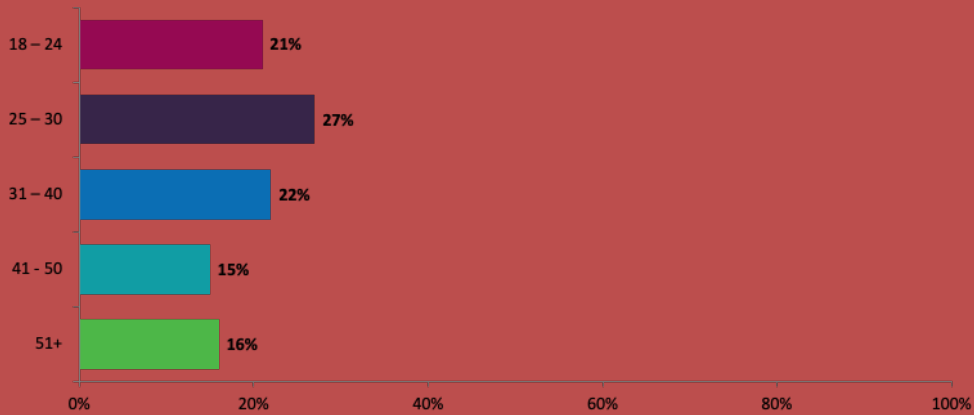
The usable and completed responses of 445 falls within the 95% confidence level and is at the 4.64% confidence interval. This gives a margin of error of 4.64% in representing the opinions and viewpoints of the overall population of 111,454 persons.

For example, if using a confidence interval of 4 and 47% percent of the sample picks an answer one can be "sure" that if one had asked the question of the entire relevant population between 43% (47-4) and 51% (47+4) would have picked that answer. The confidence level tells how sure one can be. It is expressed as a percentage and represents how often the true percentage of the population who would pick an answer lies within the confidence interval. The 95% confidence level means one can be 95% certain. When one puts the confidence level and the confidence interval together, one can say that one is 95% sure that the true percentage of the population is between 43% and 51%. So that being explained the final sample answering the survey falls within the acceptable range for the data to be representative of the population of Grenada.

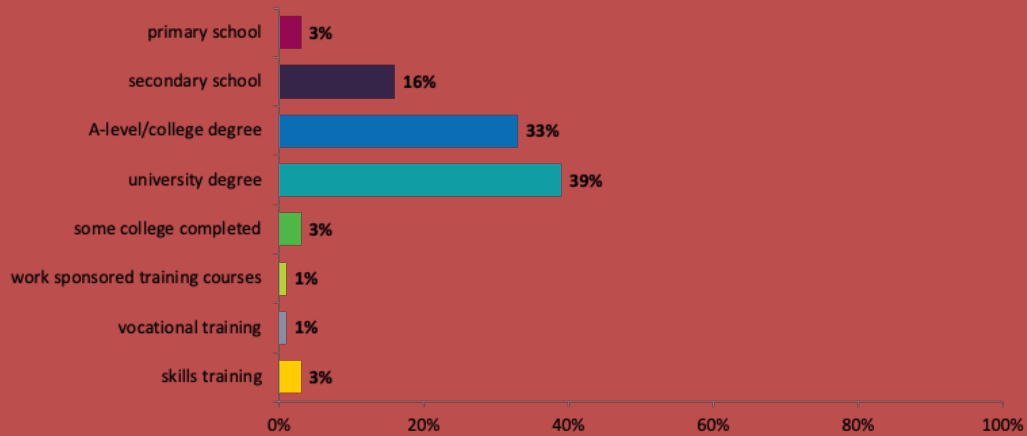
The response rate based on the number of persons who accessed the survey is 7.5%, while the response rate based on the number of persons who was contacted via all means is 2.2%. The respondents ages ranged from 18 to over 51 years of age, and covered all education levels, all income levels, all parishes 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 (13%), agriculture (5%), and transportation sectors (2%) as well as all other sectors (80%). The majority had NAWASA as their primary source of water, with 18% having a spring or well or rain harvesting as their primary source of water supply. The respondents however were largely female at a rate of 66%.

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.

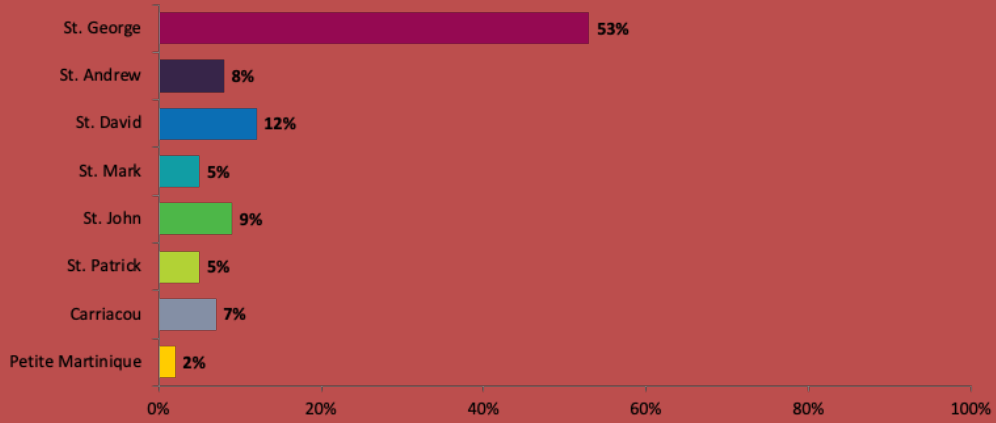
Therefore, it is mission critical that there is complete understanding of the fact that Grenada faces the possibility of decreasing population goodwill due to increased strain on the island water physical infrastructure, due to the two main climate risks and vulnerabilities of Grenada: freshwater availability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



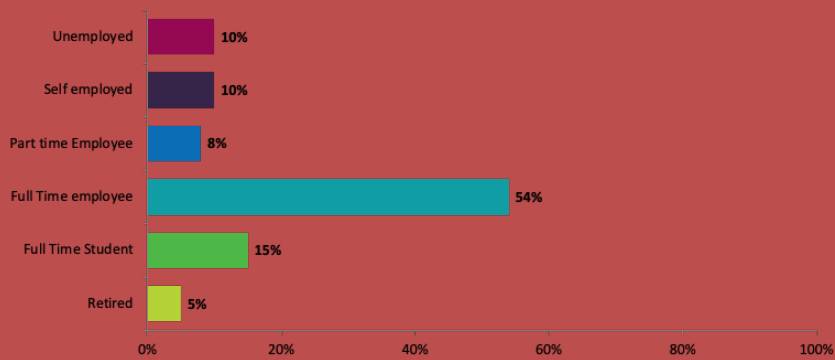
Age Ranges



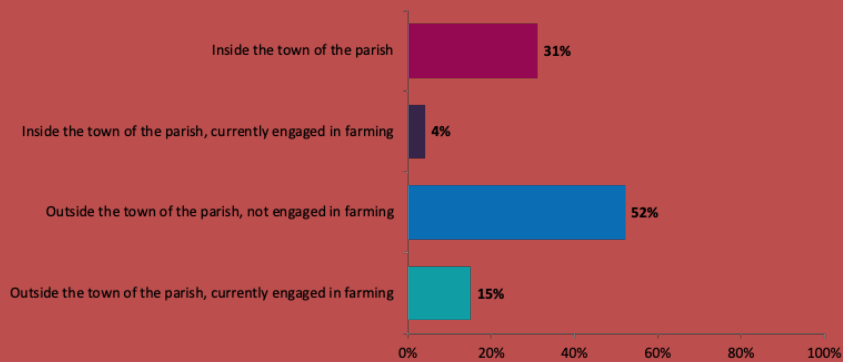
Education Levels



Parish locations



Employment Status



Where persons live and engaged in Farming

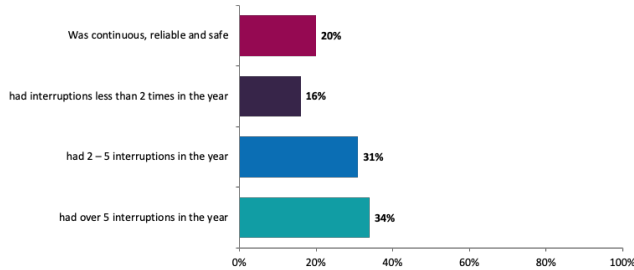
CHALLENGES

One of the major challenges faced with the 5,892 persons approached via the various channels be it in person or via telephone is the variety of conspiracy theories that dominate the Grenadian space. Other challenges revolve around the length of the survey, the time to commit to answering the questions, not understanding the link between climate change and the water in the pipes (not in my backyard syndrome), several persons in some parishes (St. Andrews, St. Marks, St. John and St. Patricks) claiming to have the best water and therefore no problems and no need to complete. Then there were the respondents from Carriacou stating that their situation is not adequately addressed. 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 the persons can complete in the comfort of own home.

When approached persons indicated to the team members that good water equals good health and whoever controls the water is king and therefore will not fill out a survey about water unless they know who wants to control Grenada water supply. Others wanted to know what water has to do with climate change saying that we humans met water here and it's a gift from God and God will assure clean water. Others were convinced that persons were trying to contaminate the water supply as this was the reason for poor health in African countries and there is some power (some stated its Bill Gates/ America/The Europeans/The Chinese) conspiring to put something in the water supply.

Others stated that the Grenadians should not trust anyone wanting to know about the water supply. Some stated that NAWASA is trying to put a cap on our water supply and hence the reason we are asking questions about water usage. Some also stated that they have seen videos where Bill Gates has converted 'pup' (sic) into drinking water and the plans to send this water to developing countries – so the water appears clean to the naked eye but is very dangerous. Some still sated that they do not trust the water supply as it damages our eyesight over time given the amount of chemicals placed in the water supply. And most stated that they do not want to assist in the climate change agenda in any form and will not participate.

These persons source of information is the social media platforms that they participate in. The prevalence of this problem is highlighted in the data where conversations with other people accounted for 44% of persons changing their minds on any environmental issue. When combining the 6 options of information sources that involve Facebook over 90% of the population gets information by that medium. Given the statements from persons summarized above fact checking is not done.

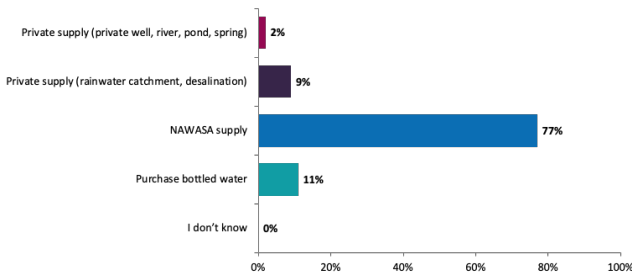


GENERAL CONDITIONS

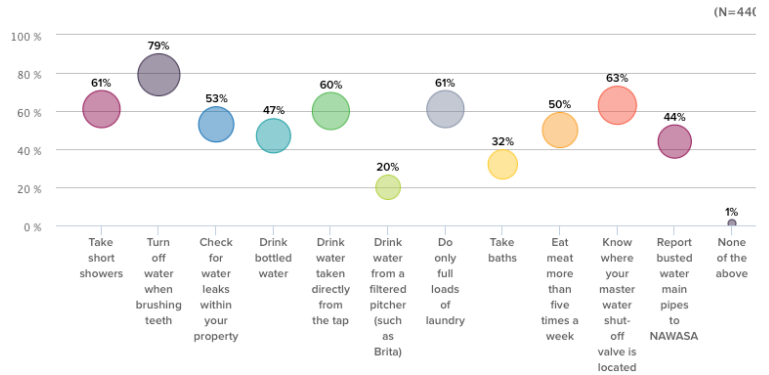
When asked about the water supply in the last year, the survey population indicated that 34% had over 5 interruptions while only 20% had a continuous uninterrupted supply of water.

DRINKING WATER SUPPLY

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

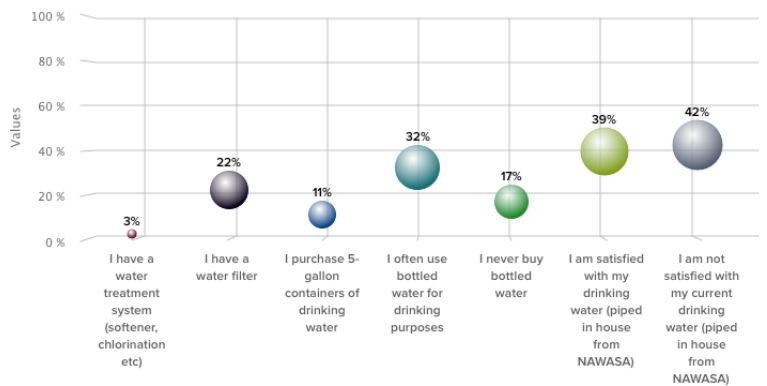


Also as indicated on the right 39% is satisfied with the NAWASA drinking water while 32% will buy bottled water with 11% buying the 5-gallon containers and 22% using a water filter. 42% is dissatisfied with NAWASA piped water to their house.



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%. Which is a good baseline starting point for a population facing vulnerabilities. Reporting of leaking water mains occur at a rate below 50%, which will result in significant water wastage.



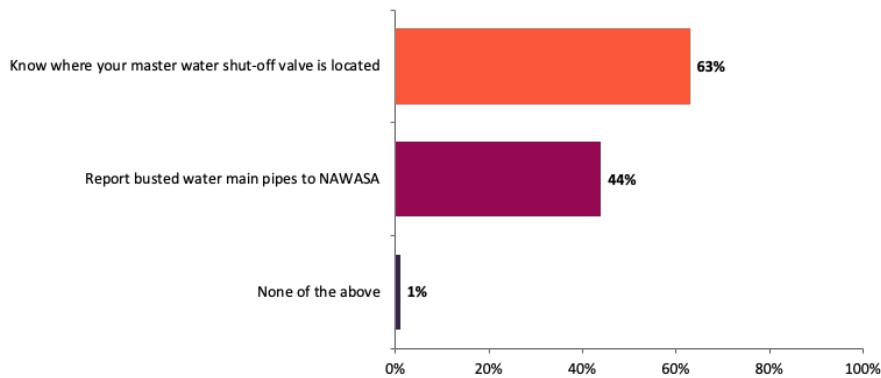
WATER LEAK REPORTING SOMETIMES

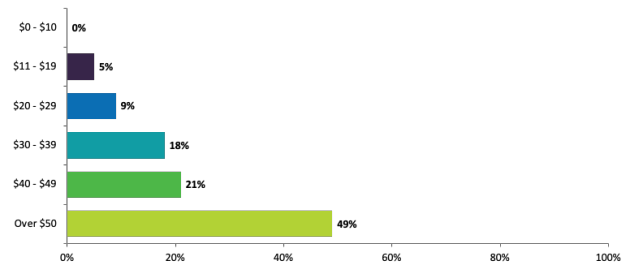
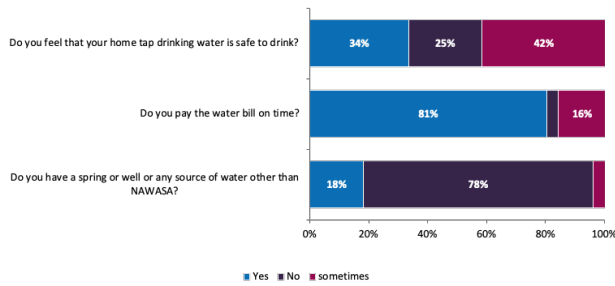
The open feedback regarding the reasons why persons report leaks sometimes revolve around certain issues. For some persons its seen as a hassle to report the leak to NAWASA, needed an option on website to report, needed the use of an app to report, needed a direct leak report line.

Others think that NAWASA needs to have more patrols, needed to have system only for leak reporting, quicker responses to leaks, dedicated WhatsApp as most persons do not have a land line anymore, Facebook, Facebook Messenger, Twitter, and all social media platforms dedicated to leak reporting, free cell call hotline, just answer the phone, reward persons for reporting the leaks, subcontractors in communities to aid faster responses and reduce wastage or field agents in each community.

Within the current call-in system - too many transfers of calls when trying to report leak during working hours, speed of response needs to be increased. At least one person reported that there needs to be a modern system to detect when there is a leak on the main pipes and consequently report to headquarters. Deductions needed on bills for leak reporters – looking for an incentive to report the leak that is outside on the water mains.

GPS mapping within the social media platforms or free cell call to NAWASA so that the location of the water main can be easily navigated by the responding team. Have a short code like GRENLEC to report like 237. And finally, some persons reported that they have no idea how to report a leak or if there was a mechanism for reporting.





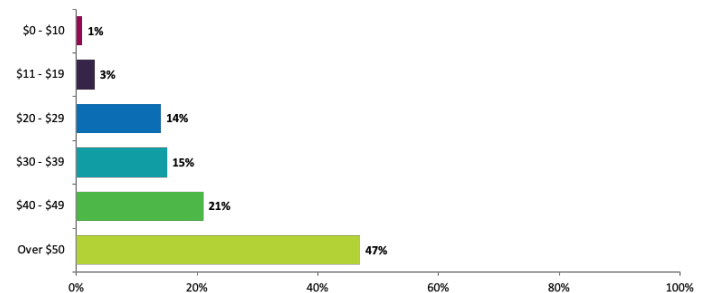
NAWASA AND BILLS

The issue of safety concerns shows that 42% of the public have trust issues regarding the tap water provided by NAWASA, while 34% feel it is safe to consume. A small group 18% have a source of water outside of the NAWASA network – which ranges from wells, springs, and rainwater harvesting. The majority 81% self-report that they do in fact pay their bills on time.

DRY SEASON WATER BILLS

The above shows that that 49% of the respondents pay over \$50 on a monthly basis for water. While 53% pay below \$49 monthly.

RAINY SEASON WATER BILLS



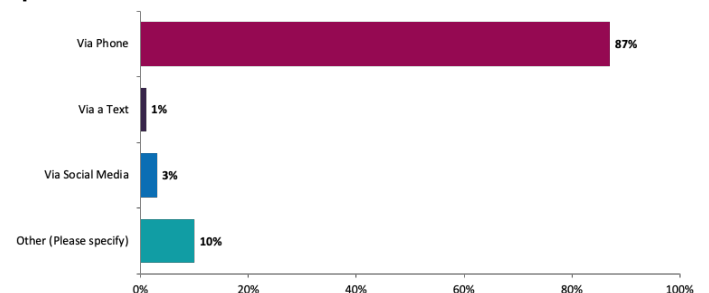
METERING

93% of the respondents reported having a meter. Persons were asked if they had any clue as to how much they pay for water in the dry season versus the rainy season. 54% indicated that they knew how much their dry season was, while 50% reported knowing the amount paid in the rainy season. The amounts paid are indicated in the following charts.

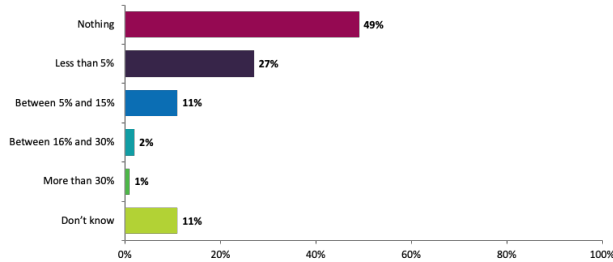
In the rainy season only 47% indicate that they pay over \$50 a month. Leaving 54% paying under \$49 a month.

LEAK REPORTING

51% of person indicated that they have reported leaks while only 2% claim to do so sometimes and 48% definitely do not report leaks when it is noticed.



Most leaks are reported by phone 87%, while 10% employed the means of personal connections or visiting offices.

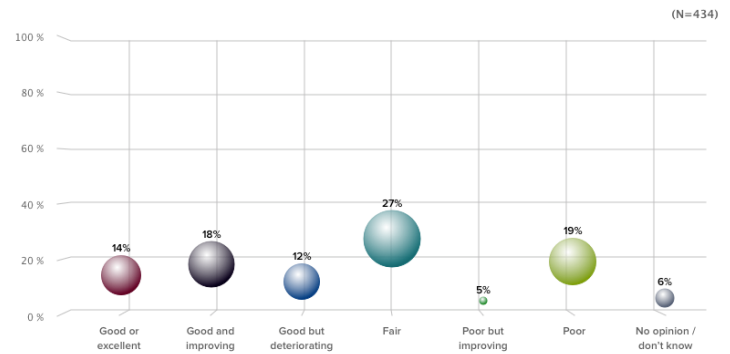
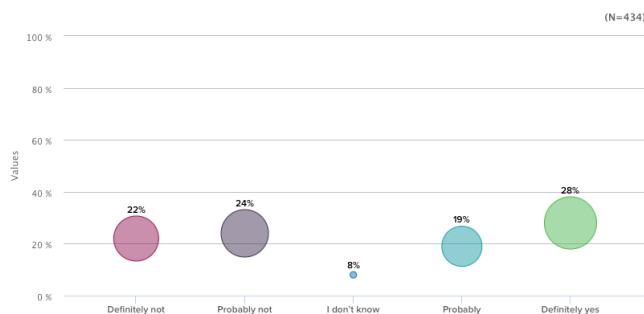


WILLINGNESS TO PAY FOR IMPROVED TAP WATER

When asked about improving quality at cost to the consumer, the answer is that there is an unwillingness to anything extra for improvements at a rate of 48%. 27% of persons would be willing to see a less than 5% increase in the bill.

QUANTITY OF WATER AS A PROBLEM

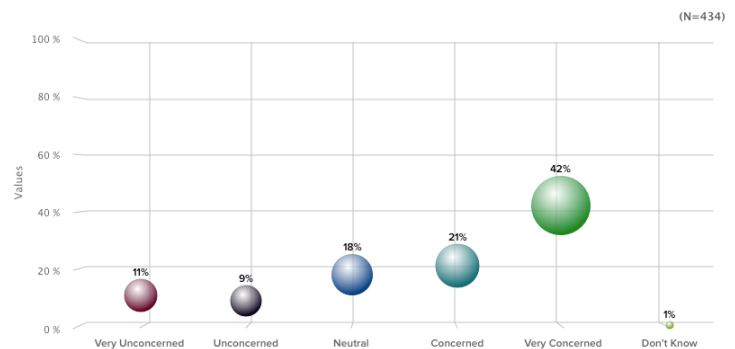
Interestingly 28% see having enough water as a problem in their area. While a cumulative 46% says no problems with quantity of water.



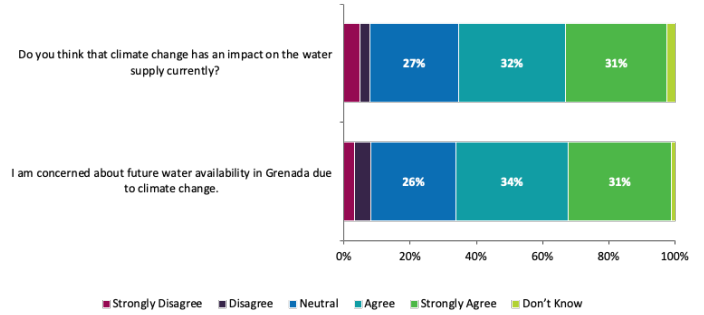
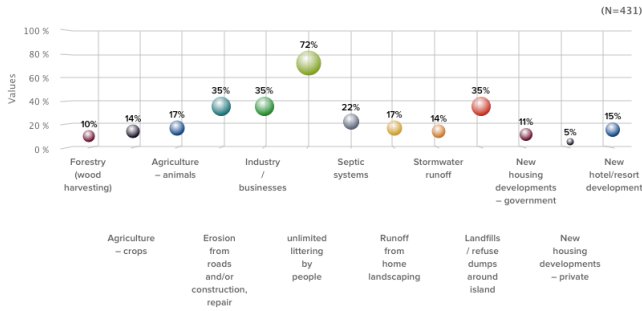
QUALITY OF WATER PROVIDED

A cumulative of 24% regards the water quality as poor and poor but improving. While a cumulative of 44% sees the quality as good or excellent, improving, or good but deteriorating.

CONCERNED ABOUT QUALITY OF WATER



The majority 63% a cumulative of the concerned to very concerned outnumber the persons who are unconcerned about piped water quality at a cumulative 38%. This has Public Health implications for the nation, as water quality is linked to public health in a nation, as 38% can be seen as too high.

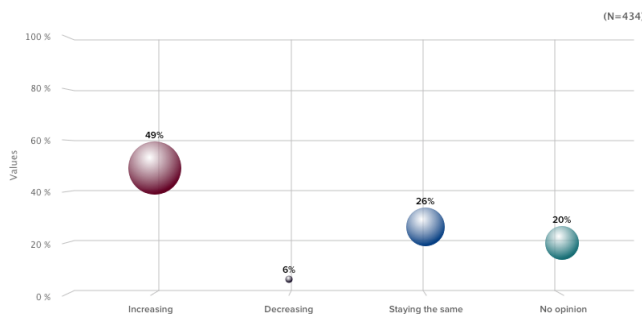


POLLUTION ROOT CAUSES

The population generally recognizes littering by other persons as the main cause of pollution as it exists around the island. Tied in second place is that of erosion from roads and construction, industry & business, and the dump (landfill).

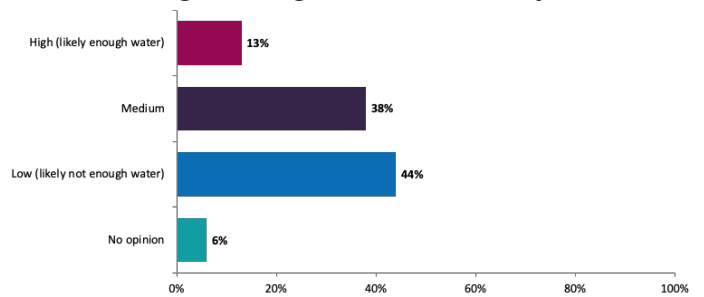
DROUGHT

A sum total of 64% of persons indicated that they know where their drinking water come from 49% of persons believe that the threat of drought is increasing.

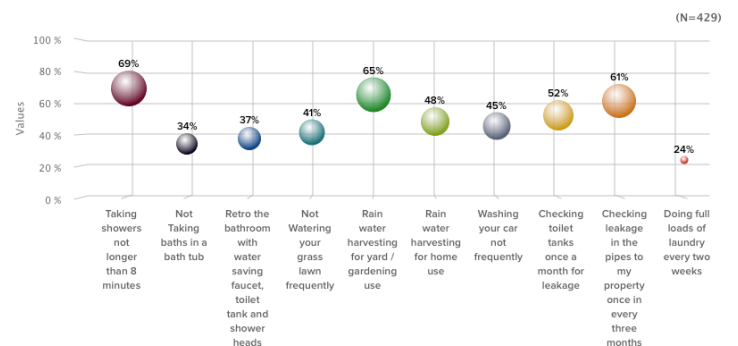


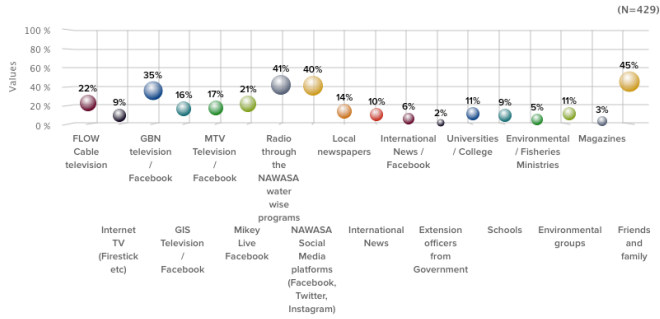
REFLECTIONS ON WATER SUPPLY

63% believe that climate change has a current impact on the water supply today. 65% is concerned about the future water supply as result. While 44% believe that in 10 years their area will not have enough water; this is response to the question about having enough water in 10 years.



In terms of what people are willing to do to conserve water to mitigate the fear of not having enough water. Short showers, rain water harvesting and leak checking rank the highest in things to be done.



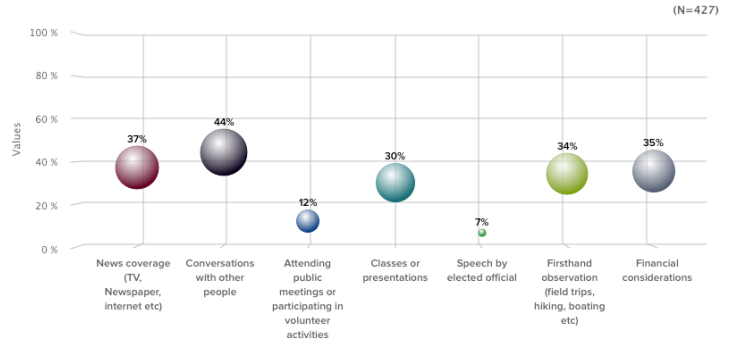
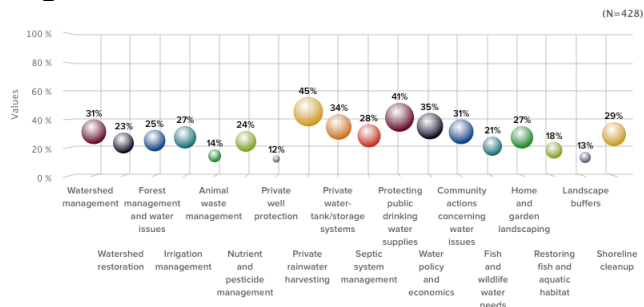


INFORMATION SOURCES

The population information sources as it relates to water issues is largely friends and family at 45% followed closely by NAWASA water wise radio (41%) and social media platforms (40%) as well as GBN inclusive of their social media (34%)

LEARNING

The population is interested in learning more especially about rainwater harvesting 45%, protecting the public water supply 41%. Overall interesting in each area is above 10% which garners well for future development on the island. A planned phased approach to addressing each of the topic areas can be built into the public education campaign, given the high interest levels.

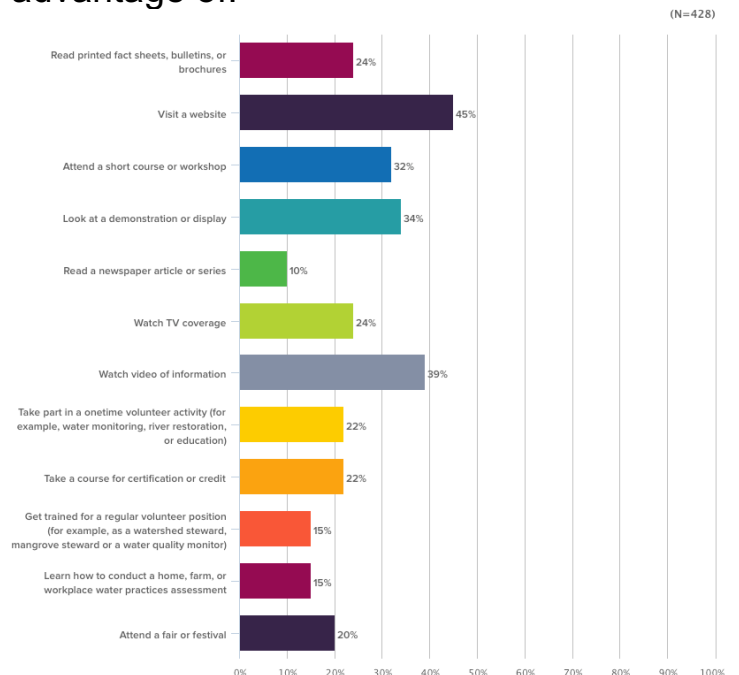


INFLUENTIAL VOICES

The power of others in influencing persons thinking on environmental issues is displayed at 44% which overpowers the influence of classes/presentations at 30% and news coverage at 37% and even firsthand observations at 34%. The power of conversations with other persons in real life or over social media is showing to have alarming influence on the population if used for negative reinforcements.

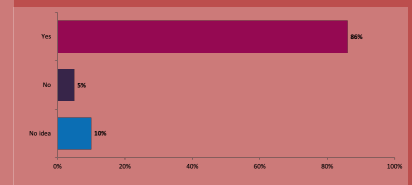
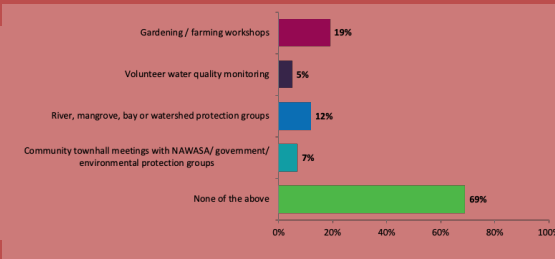
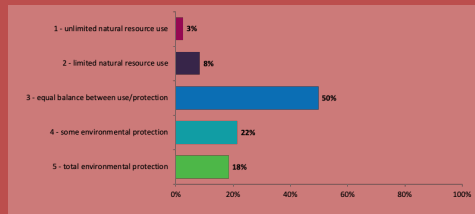
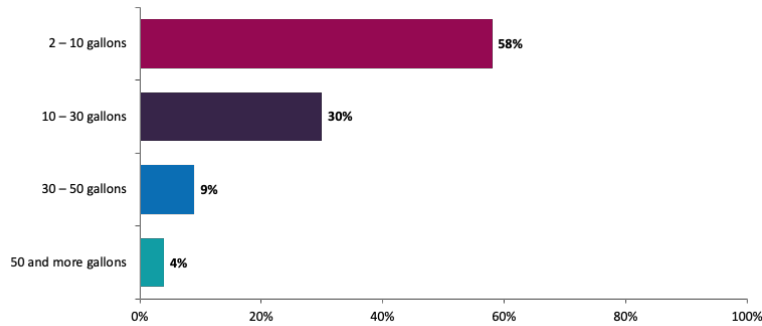
LEARNING OPPORTUNITIES

Videos, websites, demonstrations, workshops and watching a tv production are the preferred methods of learning that persons indicated they are willing to take advantage of.



SELF REPORTED CONSUMPTION

When asked to express how many gallons of water one is estimated to have used within the course of one day. 58% of persons claim to use only between 2 to 10 gallons a day. This data can be examined against the actuals of NAWASA data for validity.



ENVIRONMENTAL CONCERN

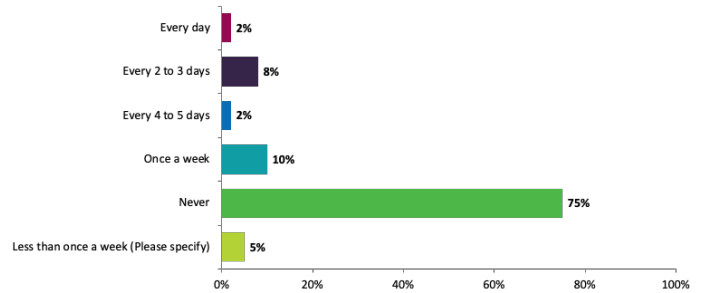
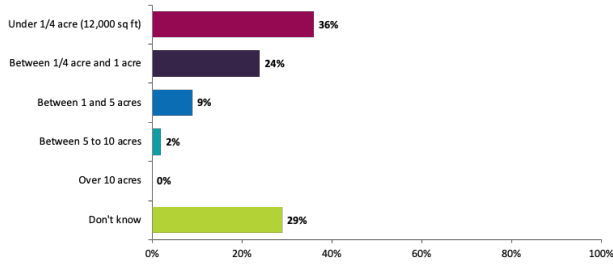
50% of persons declare themselves for equal balance between use and protection of the natural environment, with only 18% stating that they believe in total environmental protection. The weighted score within the 5-point scale is 3.45 supporting the equal balance between use and protection.

ENVIRONMENTAL ACTIVISM

69% of persons have not participated in any type of workshop related to farming, gardening nor have they been involved in any river, mangrove or watershed protection groups, or even attended any townhall meetings related to environmental issues. Only 7% have engaged in townhall meetings, 19% attended workshops, and 12% involved in environmental protection groups.

WATER RESOURCES MANAGEMENT UNIT

86% of the respondents indicate that there should be the creation of a Water Resources Management Unit to oversee the regulation/ pollution control and water services regulation in Grenada. Only 10% express uncertainty with the idea stating that they do not hold an opinion.



HOMEOWNERS

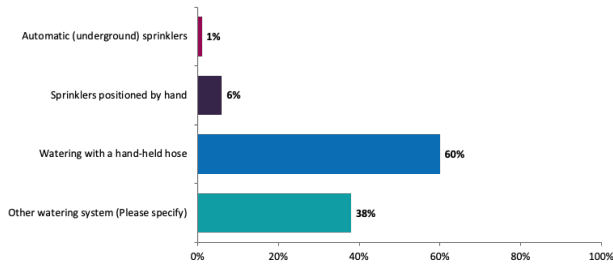
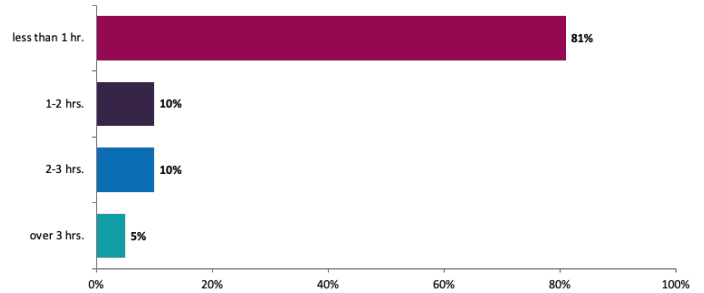
The average house lot is under quarter of an acre (36%), however about 29% are unaware of the size of the lot they occupy, but 24% are on lots between 1/4 to one acre in size.

DRY SEASON WATERING

The reported dry season watering of lawns resulted in 75% of persons indicating that they did not water their lawns in the dry season. However, the 22% that report some level of watering may be cause for concern.

WATERING SYSTEMS IN YARD

Most person 60% water their yards with a handheld hose. Sprinkler usage is under 10%, while 38% relied on the rainfall, used buckets and barrels to catch water.

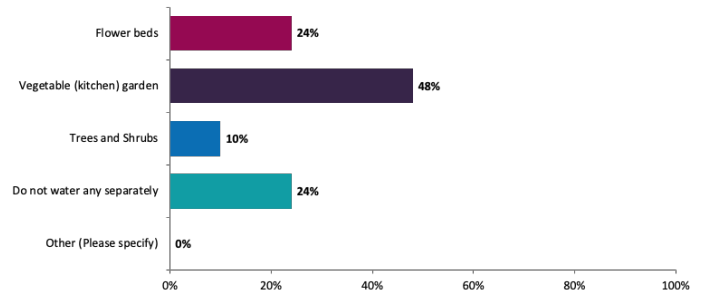
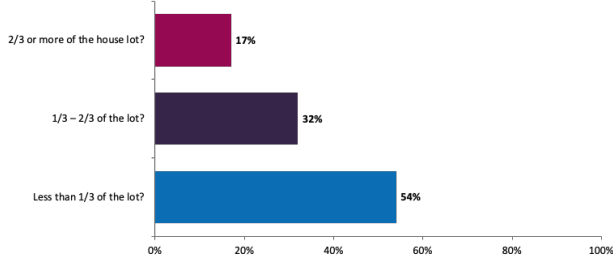


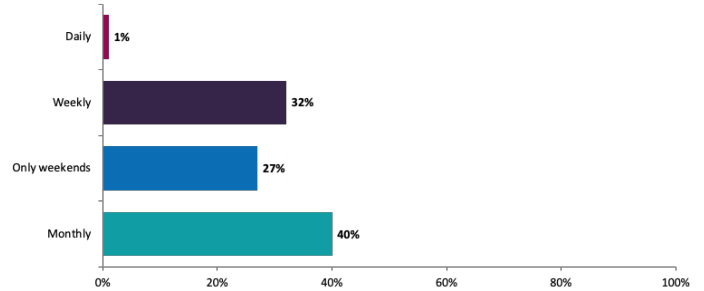
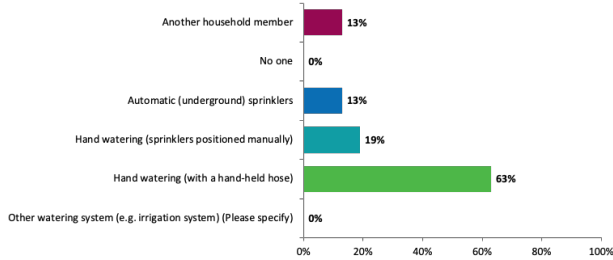
Only 5% watered their lawn and flower for over 3 hours at a time, with 81% doing it for less than 1 hour.

Only 41% of respondents reported having a lawn. Of which 54% indicated that the lawn occupied less than 1/3 of the lot, while only 17% reported that their lawn took 2/3 or more of the house lot.

WATERING PATTERNS

48% of persons water their kitchen garden separately from their lawn, while 24% water their decorative flowers separately. Also, there a 24% who waters all aspects as a unified venture – all at once.



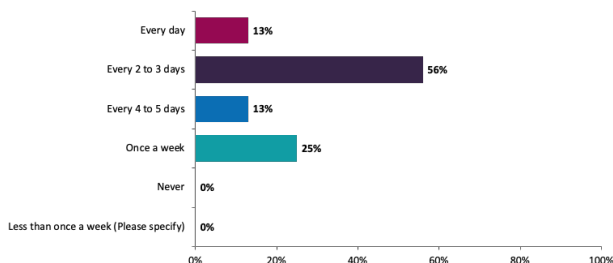


DRY SEASON WATERING

During the dry season water hoses are the most frequently used option (63%) to water flower gardens, kitchen gardens and decorative shrubs. Sprinklers are used 19% of the time (manual kind) and automatic sprinklers 13% of the time.

FREQUENCY OF WATERING FLOWERS/KITCHEN GARDENS

Given the food security needs it may be understood why 56% of persons water their flower gardens, kitchen gardens and shrubs every 2 to 3 days. Since the distinction was not made between flower gardens and kitchen gardens it is hoped that the higher frequency relates to food security and not flowers.

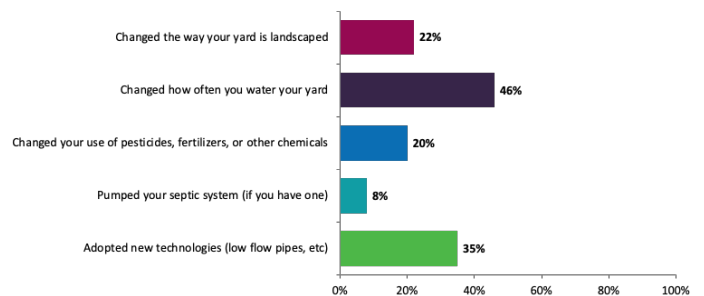


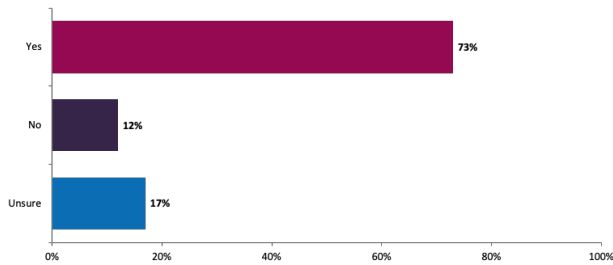
CAR WASHING AT HOME

58% of persons indicated that they do in fact wash their cars in their driveway at home. Within that population 40% do so monthly with 32% doing so weekly and 27% only on weekends.

CHANGES TO CONSERVE WATER

The respondents showed efforts to conserve water or improve water quality by doing the following in their individual environments and within their community – 46% changed how often they watered their yard, 35% adopted new technologies like low flow pipes and 22% changed their landscaping. Only 20% changed the use of fertilizers and pesticides, which leaves lots of room for education programs on the effects of those on public health and the environment.





The overall attitudinal statements as expressed by homeowners show that on aspects ranging from water for recreation, residential water conservation, new dams & reservoirs, preserving mangroves & green spaces, water quality monitoring to data availability to the public all rank as important to very important at above 80%.

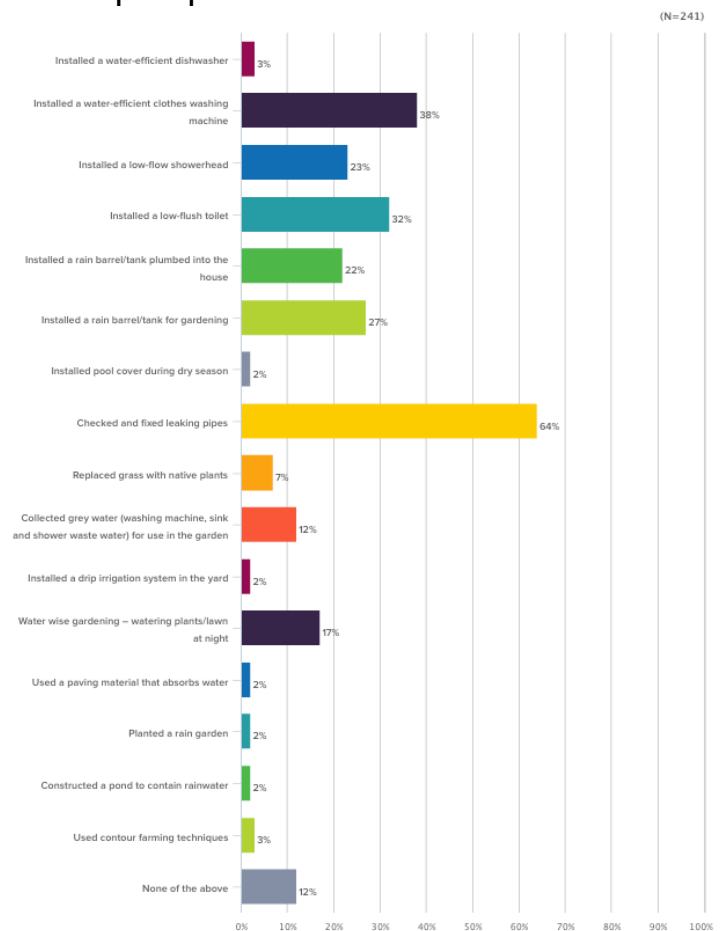
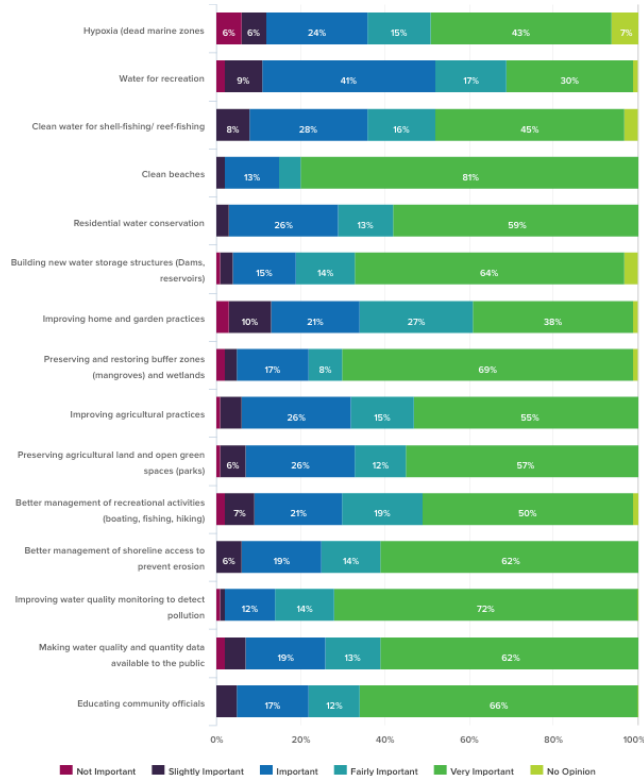
RECYCLED WATER USE

73% reported that they willing to use recycled water to water their lawns, washing the cars and any other activities that do not involve direct personal contact with or ingestion of the water. Recycled water was defined for the user as water which has been flushed down drains, filtered, purified tested and brought back in a different pipe.

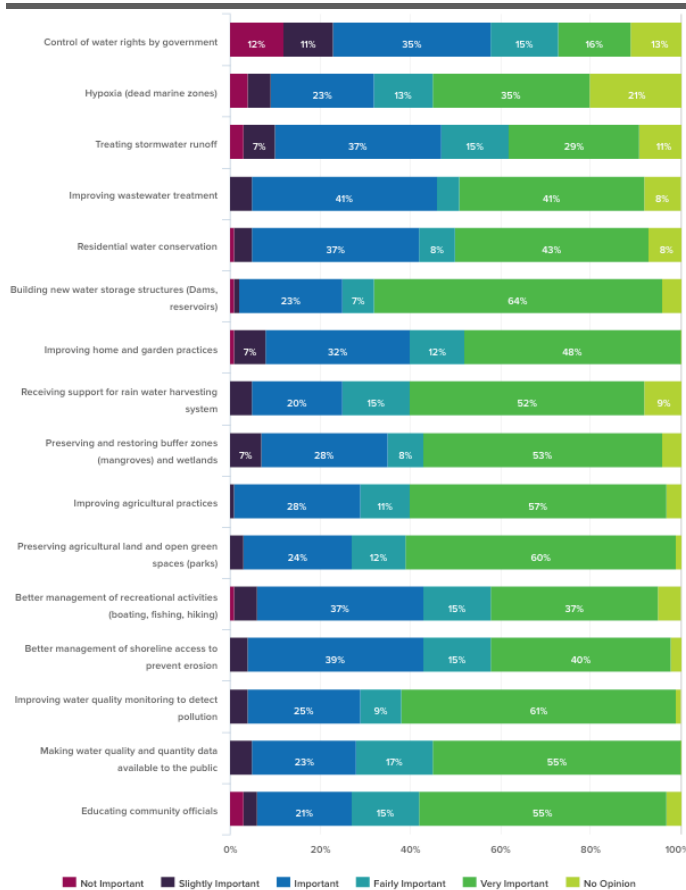
HOMEOWNER CHANGES

Checking for and fixing leaks are the most reported homeowner activity at 64%, followed by the water efficient washing machines at 38% and low flush toilets at 32%. Encouraging is the fact that rain harvesting was implemented by 22% for household use and 27% for gardening. The 2% who installed pools covers leaves room for education on evaporation of water from open pools.

BASELINE ATTITUDES



(N=241)



THE YOUTH BASELINE ATTITUDES

Like the homeowners the youth attitudes towards the various aspects of environmental issues ranging from water for recreation, wastewater treatment, new dams & reservoirs, preserving mangroves & green spaces, recreational activities management, water quality monitoring to data availability to the public all rank as important to very important at above 80%.



CONTRADICTIONS

While 21% have no opinion on dead marine zones, only 5% indicated no opinion on the management of recreational activities and 4% having no opinion on shoreline access to prevent erosion – so the linkages between these areas are not clear to the youth segment.



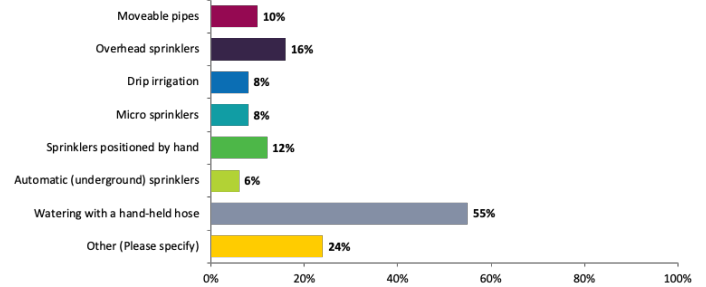
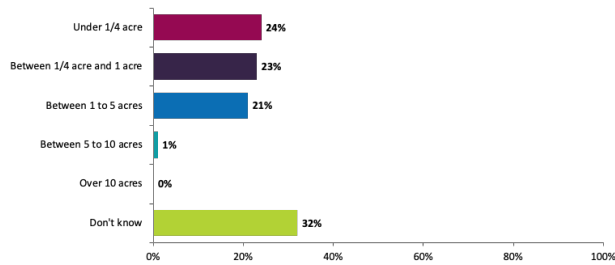
MAJOR DIFFERENCE

12% of the youth do not see government control of water rights as being important



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 government and water rights.

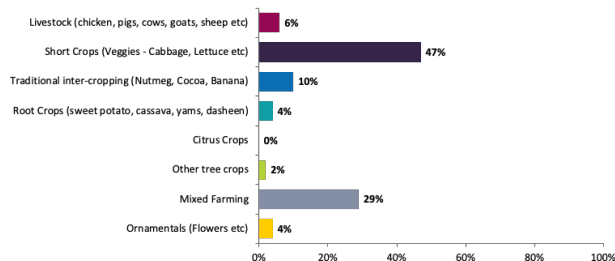


THE FARMERS

The farmers are engaged in farming on 1/4 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.

AGRICULTURE TYPE

75% of the farmers are not engaged in commercial farming but are doing so in terms of their own food security. So therefore, it can be understood why 47% of the reported farmers are engaged in short crops (veggies) and 29% in mixed farming. The traditional farmers (nutmeg cocoa banana) account for 10% and livestock 6% while ornamentals account for 4%.

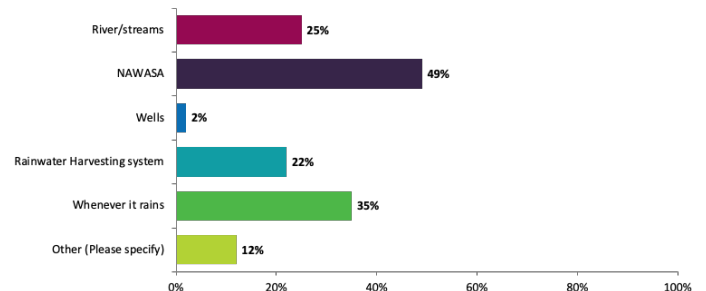


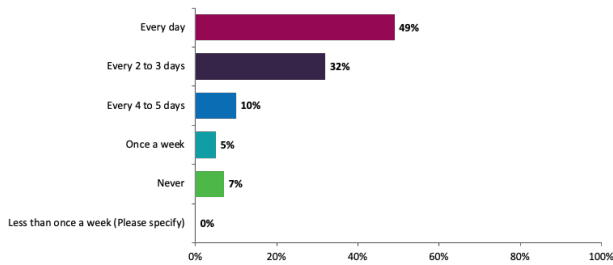
AGRICULTURE IRRIGATION

Given the food security type farming and smaller farms, the irrigation systems of choice 55% is the water hose, followed by the other defined as the rain barrel, bucket or rain. Various sprinkler types and pipes cumulatively account for 60% of the irrigation types. Noted is the fact that the multiple types may be employed on the farm simultaneously.

AGRICULTURE WATER SOURCES

The water sources relied heavily on NAWASA at 49% relating back to the sprinkler systems noted earlier. Some rely on rainfall at 35% coupled with the rainwater harvesting systems at 22% and the rivers at 25%. This reliance on NAWASA can be an opportunity for some type of recycled water.



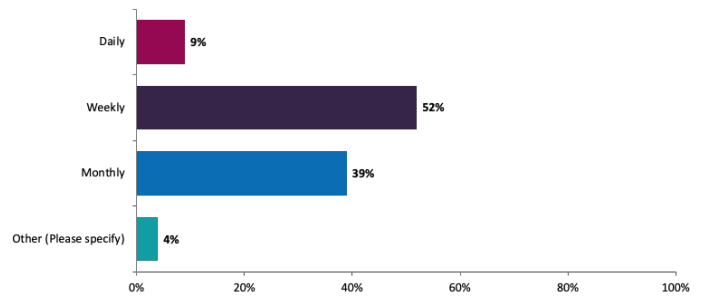
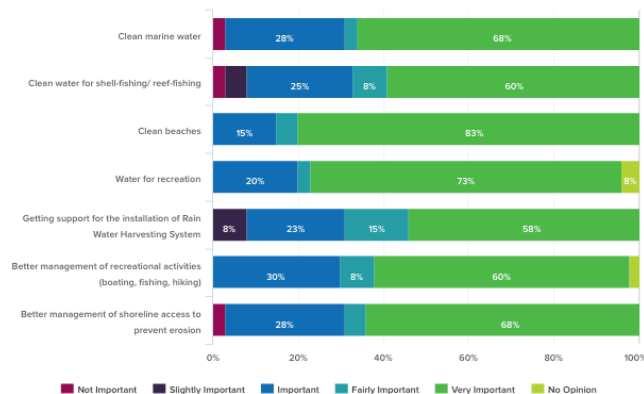
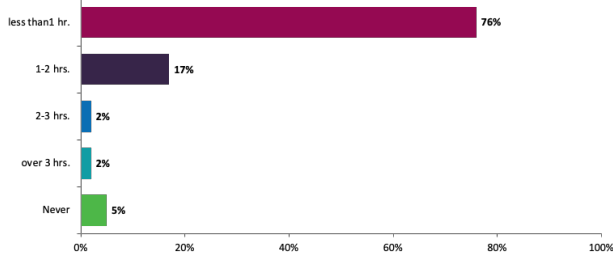


DRY SEASON FARMING

During the dry season 49% of the farmers reported watering their crops, while 32% did so every 2 to 3 days and only 7% never watering their crops.

DRY SEASON WATERING

Given the nature of dry season, the farmers were asked how long they would water their crops in the dry season for. The answer was less than one hour for 76% of the farmers, with only 2% watering their crops for over 3 hours.

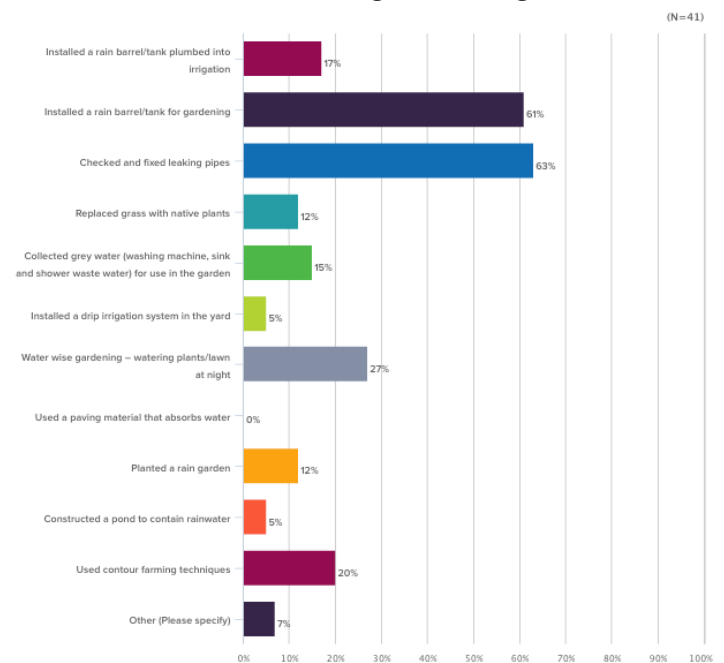


FARMER CAR WASH

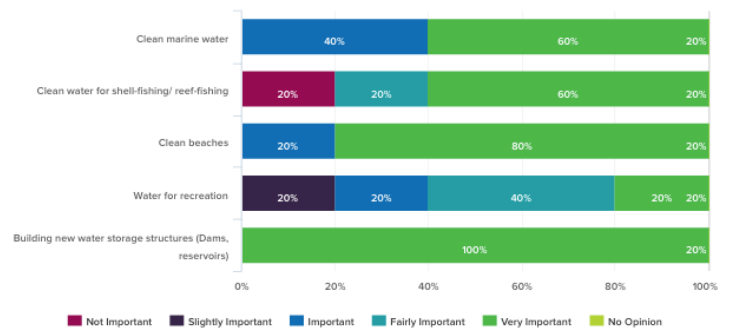
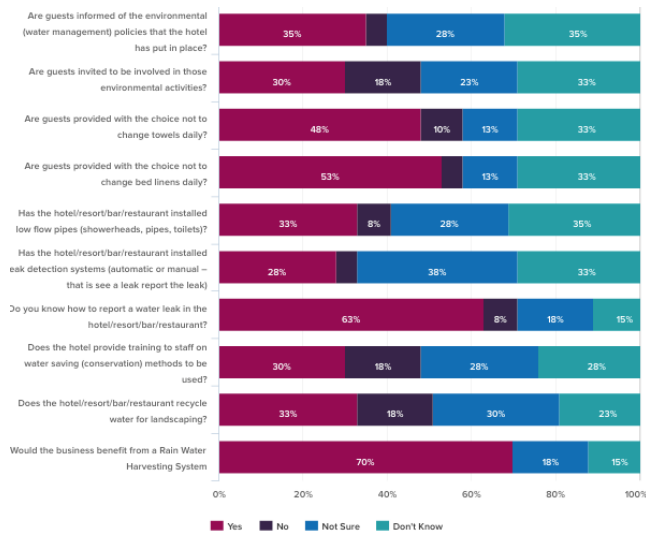
62% of the farmers wash down their vehicles in their driveway, with 9% doing so daily, 52% doing so weekly and 39% doing so monthly.

FARMER CHANGES

The farmer when asked what changes you have made since you started farming. Responded by saying the key change is fixing leaks in the water systems at 63%, followed closely at 61% the installation of a rain barrel or tank for gardening.



The farmers baseline attitudes are overwhelmingly positive and listed as important on various dimensions ranging from clean marine water to rainwater harvesting systems to reef fishing.



ABOUT TOURISM

The tourism sector workers were asked a series of questions regarding the practices within the industry. These questions determines if a serious effort is made within the sector to address the conservation of water. The alarming result here is percentages that report they ‘do not know’ (above 30%) or ‘not sure’ (above 20%) if the entity (hotel/resort/restaurant/bar/other tourism business) actually practice these actions. The actions ranging from guest communications (35% do not know and 28% are not sure), guest involvement in the initiatives (33% do not know and 23% are not sure), the installation of low flow pipes/toilets (35% do not know and 28% are not sure), leak detection and reporting systems (33% do not know and 38% are not sure) to name a few. All the ‘don’t knows’ and ‘not sure’s’ are above 10% with most being above 20% and 30%.

RAISING THE ALARM

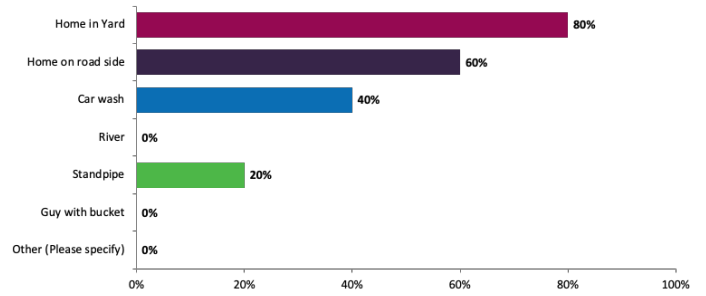
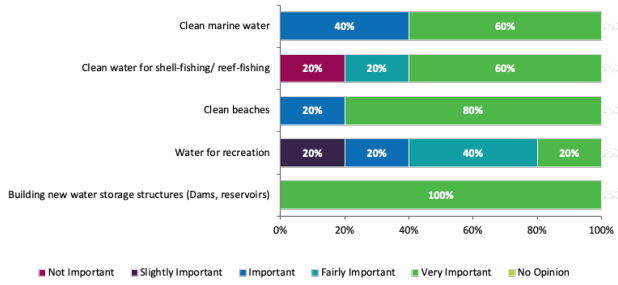
The high rate of not sure and don’t know responses speaks to the need to have more training within the sector and better communication between management and the line staff, otherwise industry can be called out for greenwashing.

BASELINE ATTITUDES

Like previous groups the attitudes indicate an overall positive or importance of the various aspects of the environment however, given the importance of the water/marine environment to the tourism product it is surprising to see that 20% did not think that the clean water for shellfish fishing and reef fishing is important. Given the heavy usage of water in the sector it is not at all surprising to see that 100% sated that building new dams and reservoirs are very important.

IDEAS & OPPORTUNITIES

The ideas range from water saving plans, rainwater harvesting for gardens, marine cleanliness, getting the staff involved in conservation, funding available to help with the retrofitting of bathrooms to recycling.

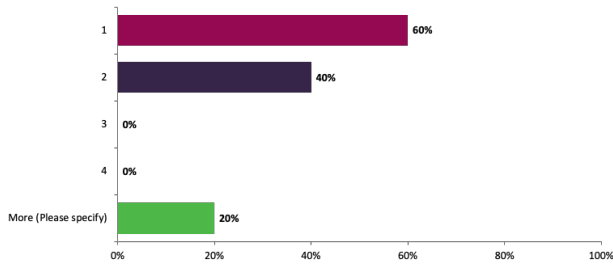


ABOUT TRANSPORTATION

Within the transportation sector the baseline attitudes are overwhelmingly positive – seeing most aspects of environmental concerns as important except for clean water for reef fishing. New dams and reservoirs are of the utmost importance.

OWNERSHIP

While 60% own one vehicle to ply their trade, 40% own 2 vehicles and 20% own over 4 vehicles. Note that the distinction was not made between ownership and operating on behalf of the owner.

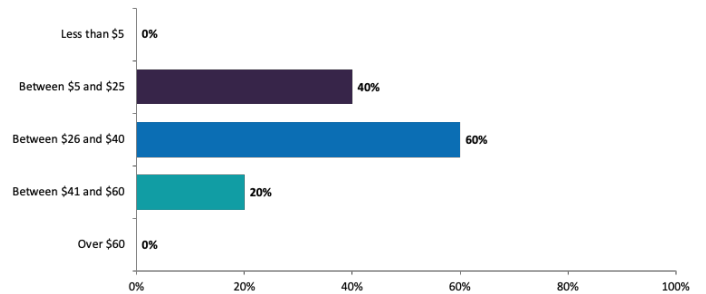


WHERE VEHICLES ARE WASHED

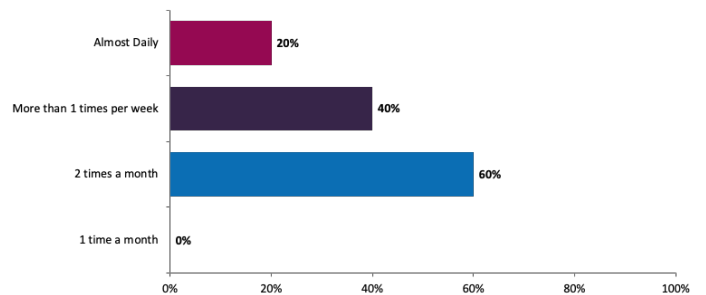
Like with the homeowners and farmers the transportation sector owners/operators typically wash down their vehicles at their home at a rate of 80% with 60% doing so on the roadside and 20% using the NAWASA standpipe and only 40% using a formal car wash facility. This leaves room for growth formal car washes which can low water systems at high pressure to wash the vehicles.

COST OF WASHING VEHICLES

The average person (60%) within the transportation sector pays between \$26 and \$40 to wash down their vehicle, while 20% pay between \$41 and \$60.



20% wash vehicles daily and 40% more once per week.



Conclusion



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. Within this context the biggest surprise the pervasive infiltration of conspiracy theories that the population believes in. 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 firstly address the levels of misinformation and highlight with real examples from the local context 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 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

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. After the 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 next rendition needs to be trimmed down to a smaller number. Having established the baseline – the crucial next step is to determine which aspects need to be tracked over time. So therefore, there are several questions that will be to be dropped from the survey. The simplicity of the language is another aspect that will need to be addressed if the multi-modal approach is to be continued. The field investigators had to explain several questions to the respondents. So therefore, the survey questions will have to be pitched at a much lower level for the sake of comprehension.

The field deployment – social distancing and covid-19 hampered the more concrete face-to-face measures to engage with the respondents. Interviewing respondents over the phone even when scheduled ahead of time meant there were disruptions in the flow of the conversations and having to call back at a later time. Hopefully within the next survey those covid-19 problems will be a thing of the past. 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 length of the survey 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 5,892 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, but also 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

The levels of strong beliefs in the many conspiracy theories that are floating around social media and the internet.

These 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.

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.

The linkages were not clear for a number of persons – so the education campaigns will have to address the linkage between our actions, water resources and climate change.