

Stakeholder Consultation to Facilitate Knowledge Sharing: A Case Study in Water Risk Management in the Caribbean

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Purpose: The COVID-19 pandemic has forced policymakers, technocrats, academics as well as the public to re-examine their strategies concerning water-related Disaster Risk Reduction (DRR). The pandemic spared no jurisdiction and has exposed the need for increased resilience in vulnerable populations in Caribbean Small Island Developing States (SIDS). This has also led to the possibility of creating a distraction from water-related disasters due to the hyper-focus on COVID-19.

Study design/methodology/approach: To facilitate knowledge sharing and to address DRR more comprehensively within the region, a regional stakeholder consultation was held. The Consultation sought to discuss and gain insights on how to practically implement key suggestions proposed in the principles for addressing water-related DRR during the COVID-19 Pandemic. A two-pronged approach was used, where the first phase was a 3-hour online consultation utilising different modes of delivery such as presentations, polling, breakout groups and Questions and Answers (Q&A) sessions to share knowledge on key thematic areas. The second phase involved the use of a questionnaire comprising of seven (7) closed-ended questions, administered using one of the online tools.

Findings: The data were collated and analysed using simple descriptive statistics. The polling revealed that out of 67 respondents, 21% indicated that the principle on enhancing leaders' awareness on DRR offered the most practical advice to political leaders, managers, and all stakeholders on how to prepare and respond to water-related DRR. Overall, the consultation facilitated knowledge sharing among key stakeholders in the Caribbean region, on how to better prepare for co-occurring disasters. This paper seeks to demonstrate that stakeholder consultation can facilitate knowledge sharing on water-related DRR and COVID-19.

Originality/value: This review can form the basis for future research work that seeks to examine the effectiveness of stakeholder consultations, as a mechanism to facilitate knowledge sharing.

Keywords: knowledge sharing, water-related Disaster Risk Reduction (DRR), stakeholder consultation, COVID-19, Small Island Developing States (SIDS)

Introduction

Caribbean Small Island Developing States (SIDS) are known to be amongst the most vulnerable in the world concerning natural hazards. According to CDEMA (2014), the Caribbean is the second most hazard-prone region in the world. This heightened vulnerability emanates from a myriad of factors that range from inherent geographic factors to socio-economic complications, which have been intricately influenced by decades of colonial hegemony. Additionally, 60% of the region's population resides within two (2) miles of the coastlines while, 70% of economic activity occurs within two (2) miles of the region's coastlines (CDEMA, 2014). Scandurra et al. (2018) examined the vulnerability of SIDS to climate change and environmental complications and noted some of the factors mentioned above while emphasising the disparity between their collective contributions to climate change and the potential for devastating impacts.



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Over the last decade, there has been a notable increase in both the frequency and intensity of hydro-climatic disasters, resulting in catastrophic outcomes for affected islands. Throughout the Caribbean, floods are one of the most prominent hazards (Roopnarine et al., 2018), even though some islands are subject to seasonal variations resulting in water-scarce conditions and meteorological droughts. Additionally, some islands lack sufficient surface water sources and are heavily reliant on groundwater reservoirs and desalination plants (Cashman, 2014).

These circumstances underpin the critical need for intervention as it relates to water and water-related disaster management, which are core aspects of Agenda 2030 and the associated Sustainable Development Goals (SDGs). Notwithstanding the interrelations and relevance of all SDGs, SDG 6 and SDG 11 are both worthy of special mention as they have specific indicators aligned to the elements of Disaster Risk Management (DRM) and Sustainable Water Use (**BOX 1**).

BOX 1: Sustainable Development Goals (SDGs) 6 and 11

SDG 6: Ensure availability and sustainable management of water and sanitation for all, and its interconnected **target 6.4**; which states to, “substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.”

SDG 11: Make cities and human settlements inclusive, safe, resilient, and sustainable, and its interconnected **target 11.5**; which states to, “significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to the global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and

The onset of the COVID-19 pandemic has created additional challenges in Caribbean SIDS. It has placed additional stress on the limited water resource and has triggered a chain reaction of unprecedented proportions, with socio-economic and health concerns apparent throughout the region. Considering the current hyper-focus on COVID-19 management, efforts to address water-related disasters must not be brought to a halt. Mandated sanitary measures have increased water usage (Gallaway et al., 2020). Handwashing, for instance, is considered one of the most important strategies towards curbing the transmission of the virus. Caribbean SIDS affected by drought or by water pollution issues, simply lack access to water for economic, social, or environmental reasons resulting in a challenge of having water available for handwashing.

This underscores the need for comprehensive risk management that extends beyond COVID-19 management. This should be inclusive of integrated efforts to improve access and availability of water (Hyndman et al., 2017). Additionally, it should include the sharing of knowledge on water-related DRR as it relates to the coping skills required to address DRR and COVID-19.

This sharing of knowledge took place using a multi-stakeholder platform, where continuous engagement of various stakeholders in exploring innovations to address problems was essential. Stakeholder consultations provide various complementary insights about the different dimensions of a problem while broadening the knowledge base.

Stakeholder consultations have been the most convenient method used by many during the COVID-19 pandemic in addition to conversations and dialogues (Liebowitz, 2016). It engages in a social learning process with individuals, where stakeholders can negotiate what type of innovations are technically feasible, economically viable, culturally, and politically acceptable (Schut et al., 2014; Hermans et al., 2011; Esparcia, 2014).

The principles listed below in Table 1 were developed to address the challenges that confront the Caribbean region, as it relates to water-related DRR and COVID-19 (Ishiwatari et al., 2020). These principles were relatively new, and the stakeholder consultation was held to introduce water-related disasters and COVID-19. Additionally, to offer practical advice to political leaders, managers, and all stakeholders on how to prepare and respond to DRR and COVID-19, to avoid magnified impacts due to co-occurring disasters. The overarching goal of the consultation, which occurred on February 9th, 2021, was to create an avenue for the introduction of the High-level Experts and Leaders Panel on Water and Disasters (HELP) Principles, thus, allowing stakeholders to assess its applicability and feasibility in a Caribbean context. While these principles were identified to address water-related disasters, they are equally applicable to other types of disasters. These principles contributed to the sharing of knowledge using online consultation, resulting in a high prevalence for the use of social sources where persons can translate their knowledge and apply it to different situations through reasoning processes (Aurisicchio et al., 2010).

Table 1: HELP Principles

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|--------------|---|
| Principle 1 | Enhance leaders' awareness of disaster risk reduction (DRR) in the pandemic. |
| Principle 2 | Integrate risk management of disasters and pandemics. |
| Principle 3 | Provide clean water, sanitation, and hygiene sustainably during and after disasters. |
| Principle 4 | Protect disaster risk management stakeholders from the threat of COVID-19. |
| Principle 5 | Protect scarce medical resources from disaster impact. |
| Principle 6 | Protect disaster evacuees from the threat of COVID-19. |
| Principle 7 | Protect COVID-19 patients from the threat of disasters. |
| Principle 8 | Develop Specialised Evacuation Guidance for Cities and Areas under COVID-19 Lock-Down. |
| Principle 9 | Finance DRR actions under COVID-19 effectively to avoid an economic catastrophe. |
| Principle 10 | Strengthen global solidarity and international cooperation to cope with these co-occurring challenges towards building our world back better. |

Methodology

Caribbean Community (CARICOM) governments have now started to increasingly prioritise DRR efforts, to build the region's institutional and social capacity, to better structure policies and strategies, that are better equipped to ensure their population's resilience to water-related disasters (GWP-C 2021). Considering the above, it is increasingly important for the Caribbean Region to understand the "twin risks" or co-occurring disasters, so that governments avoid being totally preoccupied with COVID-19 affairs and inadvertently neglect the threats posed by water-related disasters, as they remain just as imminent as before, during and post-pandemic.

Having a clear guide can avoid any competition and complication that may result from DRR efforts during a global pandemic. In light of this, the **“Principles to Address Water-related Disaster Risk Reduction (DRR) under the COVID-19 Pandemic”**, spearheaded by the High-level Experts and Leaders Panel on Water and Disasters (HELP) was birthed.

Given the urgency of the matter, Global Water Partnership-Caribbean (GWP-C) and Global Water Partnership (GWP), partnered with the High-level Experts and Leaders Panel on Water and Disasters (HELP) to conduct an online ground-truthing consultation focused on Caribbean SIDS. The consultation attracted a total of 70 participants from 26 countries from state ministries (including water, environment, tourism, agriculture, finance), permanent secretaries, senior and mid-level technicians, academia, Non-Governmental Organisations (NGOs), Community-Based Organisations (CBOs), representatives from Regional and International organisations/agencies and interested persons. This facilitated an interactive and holistic consultation where different formats such as presentations, polling, Q&A, and breakout group discussions were used to impart knowledge on water-related DRR and COVID-19. The stakeholder consultation was structured as follows:

1. The opening ceremony included welcome remarks, opening remarks, a keynote speech, and a presentation on the principles and their urgency
2. Icebreaker sessions
3. Experiences from different perspectives session:
 - a. Water-related DRR and public health during COVID-19
 - b. Water-related DRR during COVID-19
 - c. Community-based experiences in coping with water-related disasters and the COVID-19 pandemic
 - d. Business continuity and challenges faced during water-related disasters and the COVID-19 pandemic
 - e. Youth, gender, and marginalised groups' strategies for addressing water-related disasters and COVID-19
 - f. Japanese Disasters and DRR actions under COVID-19
4. Breakout session with discussion points on:
 - i. How applicable are the principles to be implemented on the ground?
 - ii. Which principles can be implemented in the immediate, short, and long term?
 - iii. What are the major challenges participants foresee as it relates to implementing the principles?
 - iv. State the opportunities that exist, if any for the implementation of the principles.
5. Plenary groups reporting
6. Polling session
7. The closing – the way forward and key next steps

During the online consultation, information was gathered using different approaches such as the Q&A session and polling using the PollEv application, where three (3) questions as shown in Figures 1 and 2 and Box 2 below, were posed to the participants. Responses to the four (4) questions listed under # 4 above, were received when the participants were placed in 4 random breakout groups with assigned facilitators and rapporteurs to discuss the questions.

Two (2) weeks after the consultation was held, an evaluation was conducted using a questionnaire. The questionnaire comprised of seven (7) closed-ended questions which were administered to the 70 participants who participated in the online consultation. This was done to ascertain whether knowledge on the co-occurring disasters and the strategies employed to address these disasters were shared. The responses received were analysed using descriptive statistics to determine if there were any commonalities between DRR and COVID-19.

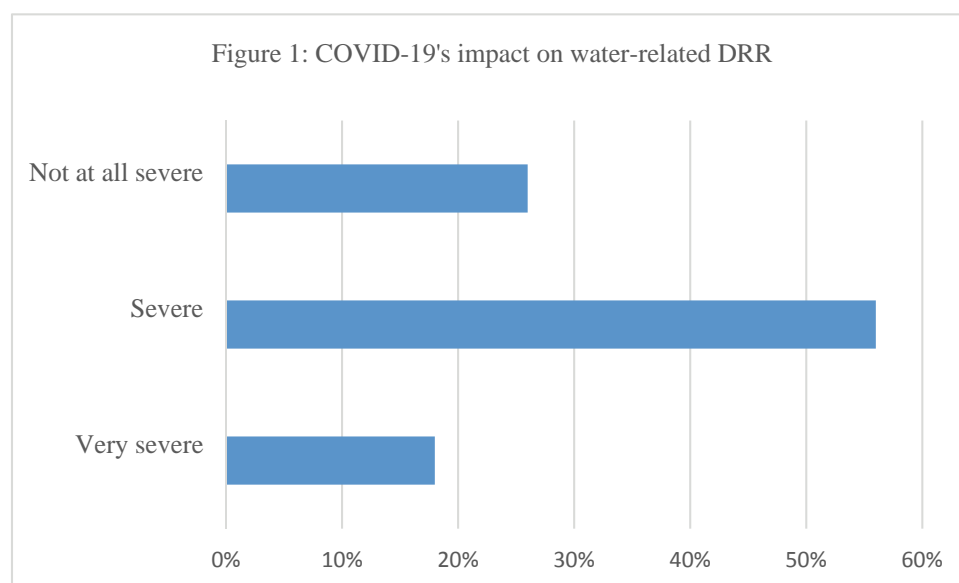
For this paper, the questions posed using PolleEv and the responses solicited from administering the questionnaire will be presented and discussed.

Results and Discussion

Online consultation

During the consultation, participants were asked to participate in the polling exercises facilitated through the Zoom platform. The cross-sectoral, intra-regional and international composition of participants allowed for comprehensive data coverage and informed opinions that are critical toward accurate identification of knowledge sharing in addressing and coping with water-related DRR and the COVID-19 pandemic.

Participants were asked to answer the following question during the consultation: **In your opinion, how is the COVID-19 pandemic impacting water-related DRR efforts in your country?** A total of 34 participants responded to the question while 36 did not respond due to competing schedules, as well as the unwillingness to respond to the questions during the allotted time. The responses to the question are shown in Figure 1 below.

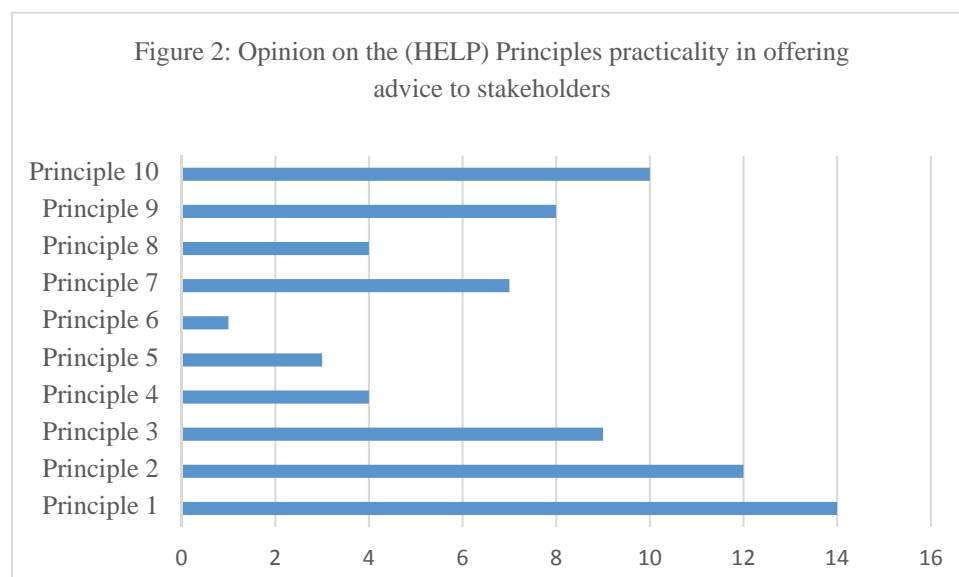


Source: Poll results of the GWP-C, GWP and HELP online consultation.

During the consultation, 56% of the participants as shown in Figure 1 above indicated that they believe COVID-19 is impacting water-related disaster risk reduction efforts “severely” while 18% indicated they believe the impact to be “very severe.” A combined 74% viewed it as a competing priority. While this may not be an actuality, a significant percentage of stakeholders perceived it as such, leaning towards the view that the COVID-19 pandemic was potentially infiltrating water-related DRM efforts. This can therefore lead to an increase in the region’s vulnerabilities to water-related disasters and as stated by (Meybeck et al., 2020), the vulnerabilities of our societies and food systems have been revealed by the COVID-19 pandemic bringing to the forefront the need to build resilience to be prepared for new risks.

A case in point is in Bihar, India, where flood risk reduction measures such as embankment maintenance and repair works have been affected, as workers had to stay at home due to the COVID-19 lockdown (DownToEarth, 2020). In some regions, the urban population is particularly vulnerable to flooding where disaster preparedness is also limited. These flood disaster-affected areas are prone to becoming epicentres of pandemic explosion (Htoon et al., n.d). The severe impact of COVID-19 on water-related DRR has national and local governments and DRR agencies, experiencing unprecedented challenges to manage these dual disasters due to their competing approaches and far-reaching consequences (Amarnath, 2020). In East Africa for example, amid a prolonged lockdown, the region was experiencing exceptional heavy rainfall, causing floods that threatened life and livelihoods (Marsham, 2020).

An attempt was then made to assess the views of participants on the actual HELP Principles. In terms of the guiding principles, the HELP strategy offers ten (10) far-reaching and all-encompassing principles as shown in Table 1 above, however, some may have stronger applicability than others within the Caribbean Region. Figure 2 below shows the results based on 67 of the participants' responses to the following question: **Which principle do you think offers the most practical advice to political leaders, managers, and all stakeholders on how to prepare and respond to water-related disaster risk reduction (DRR) under the COVID-19 Pandemic?**



Source: Pool results of the GWP-C, GWP and HELP online consultation.

The responses received from the participants as shown in Figure 2 indicate that most participants (14) considered Principle 1 (Enhance Leaders' Awareness on Disaster Risk Reduction (DRR) in the Pandemic) as the most practical. The next most popular choice was Principle 2 (Integrate Actions on Risk Management of Disasters and Pandemics), which was selected by 12 participants and Principle 10 (Strengthen global solidarity and International Cooperation to cope with these co-occurring challenges towards building our world back better) which was selected by 10 participants. The top three (3) selected responses show the importance of knowledge sharing, cooperation, and exchange of information at the state, regional, and international levels. This also reveals that countries with a well-functioning risk communication system in place to provide early warning of floods (often disseminated via mobile phones), as in the case of Nepal, can use these systems to inform and advise people about COVID-19 and the coping mechanisms that can be employed to address water-related disasters (Rana, 2020).

To assess the views of participants on the applicability of the HELP Principles within the Caribbean SIDS context, participants were asked to respond to the following question: **What do you think the first step in your country should be towards implementing the Principles?** A summary of the responses under the category of education and awareness is provided in Box 2 below.

Box 2. Perspectives documented from Participants as it relates to education and awareness-raising

- ✓ Raising awareness on the urgency and importance of the issues related to DRR and strengthen global solidarity.
- ✓ Creating awareness through education. Forming partnerships.
- ✓ Sharing knowledge.
- ✓ Public awareness regarding the Principles and review regarding other existing Principles. Awareness must include policymakers across the political divide.
- ✓ Awareness building at all levels.
- ✓ Raising the awareness of leaders that DRR and COVID-19 should be addressed in an integrated manner.
- ✓ Education and awareness of the ten (10) key Principles
- ✓ Informing people about the Principles
- ✓ Communicate the benefits of acting on the Principles.

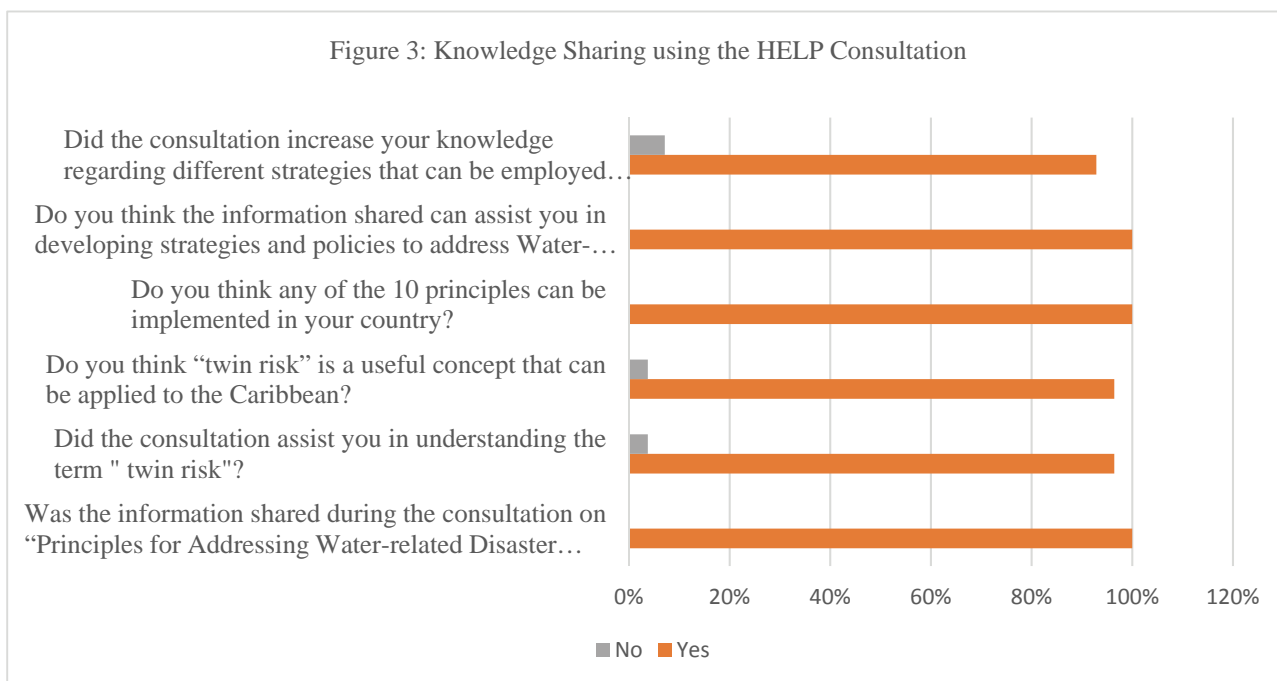
Box 2 represented the views of a microcosm of stakeholders concerning the first steps that should be implemented in-country from the principles developed. Numerous participants expressed views centred around “education and awareness” building at all levels, its urgency, and the need to ensure policymakers are properly informed about the crucial step towards the implementation of the HELP Principles. With many stakeholders sharing such a perspective, it is evident that education and awareness of the Principles are limited in the region and more information is required on its applicability and measures for implementation. It is therefore critical that Caribbean countries engage in capacity building activities and employ an effective knowledge sharing mechanism. This is evident as explained in (Kueneman et al., 2020), where there is an urgent need for a strong enabling environment that is guided by policies and accompanied by knowledge-rich extension support services, appropriate technology and hands-on training in addition to capacity building opportunities for key stakeholders. Noting the intricacies of Caribbean societies, the cultural rigidity, and limited financial and human resources, emphasis must be placed on innovative techniques that extend beyond static inputs of knowledge while encouraging the use of knowledge, rather than mere knowledge acquisition.

Post online consultation

To ascertain whether the stakeholder consultation did facilitate the sharing of knowledge as it relates to water-related DRR and COVID-19, participants were asked a few questions two (2) weeks after the hosting of the HELP consultation. The results presented below in Figures 3 and 4 reflect the views of 40% of the participants who attended the consultation. Responses were not received from 60% of the participants because of their unwillingness to devote a lot of time and effort to provide the requested information. Results of the post-consultation evaluation indicate that knowledge was shared during the online stakeholder consultation.

In Figure 3, 100% of the participants indicated that the information shared during the consultation on “Principles for addressing water-related DRR during COVID-19 pandemic” was useful in assisting them to understand the link between water-related disasters and COVID-19. Out of the respondents, 96.43% indicated that the consultation assisted them in understanding the term “twin risk” while 3.57% indicated that they still did not understand the term.

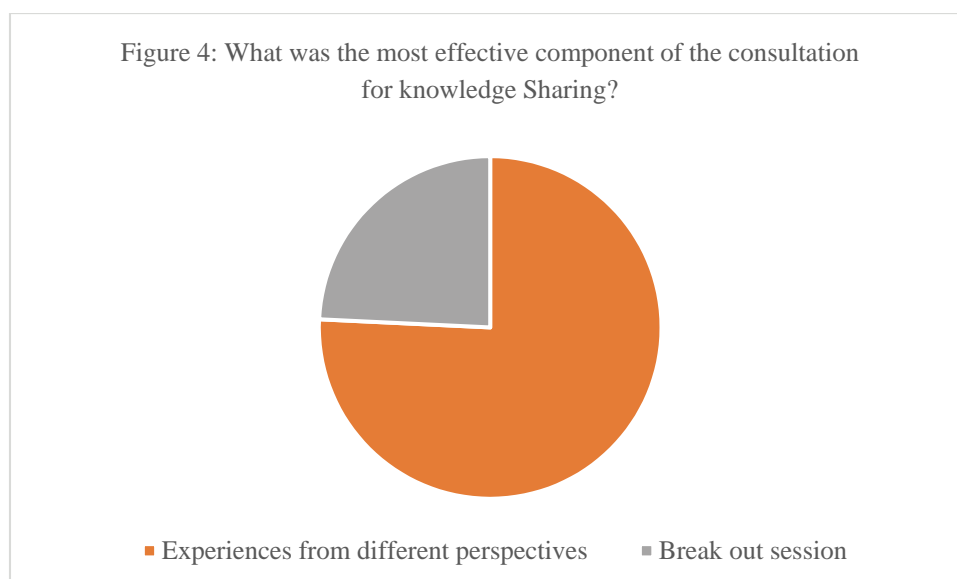
Similarly, 96.43% indicated that they are of the view that “twin risks” is a useful concept that can be applied to the Caribbean, while 3.57% indicated that the concept is not applicable in the region. It is important to note however that 100% of the respondents are of the view that the ten (10) principles can be implemented in their respective countries. Similarly, 100% of the respondents indicated that the information shared during the consultation can assist them in developing strategies and policies to address water-related DRR in their country. Finally, in Figure 3, 92.86% of the respondents indicated that the consultation did increase their knowledge regarding the different strategies that can be employed to address water-related disasters whenever they occur, while 7.14% indicated that the consultation did not assist.



Source: Survey results of the GWP-C, GWP and HELP online consultation.

The results demonstrate that knowledge was and can be shared effectively using online stakeholder consultation. Hosting the consultation using the described format, resulted in a great level of collaboration at the community, national, regional and international levels. Online consultation has been used by many organisations to share knowledge. Agencies such as the International Federation of Red Cross and Red Crescent Societies (IFRC) and National Disaster Management Organisations in many countries with a wealth of information and ideas on disaster risk reduction, including combating the spread of diseases (Djalante et al., 2020; Experts, 2019), use this platform to share knowledge with their stakeholders. This, therefore, indicated that immediate multi-stakeholder collaborations and engagements must be established, especially in endemic countries, to facilitate the sharing of knowledge on the disaster. Different disaster management frameworks such as the Sendai Framework for Disaster Risk Reduction (SFDRR) which refers to knowledge sharing, can be consulted for coordinating various sectors at the international, national and community levels.

One of the questions in the questionnaire sought to garner from the participants the component of the online consultation that was most effective for the sharing of knowledge. The results in Figure 4 show that 89% indicated that the most effective component of the consultation was the session that dealt with the sharing of experiences from different perspectives, followed by the breakout group session.



Source: Survey results of the GWP-C, GWP and HELP online consultation.

The use of online consultations as a mechanism for knowledge sharing has demonstrated that it is a very good medium for increasing the knowledge of the participants and building their capacities to address the challenges that may occur when faced with water-related DRR and COVID-19. This is reflected in the work undertaken by (Shaw et al., 2018), where the perspective of the consultation reflected general confidence in the potential of technology, to improve the efficiency and effectiveness of service provision. The online consultation facilitated direct, interactive and face-to-face dissemination of information which resulted in the timely collection and collation of data required to validate that stakeholder consultations do facilitate knowledge sharing. Respondents indicated that the sharing of knowledge was achieved, as they understood the link between water-related DRR and COVID-19. Furthermore, they understood the term “twin risks,” and indicated whether the term “twin risks” is a concept that applies to the Caribbean. They also acknowledged that the ten (10) principles can be implemented in their respective countries and they were fortified with information on the different strategies that can be employed to address water-related disasters whenever they occur.

Conclusion

The vulnerability of Caribbean SIDS to water-related hazards is of paramount importance. Despite the numerous challenges brought on by the COVID-19 pandemic, efforts to treat with such must not be weakened. The need to effectively manage water resources and guard against water-related disasters should not be compromised, as the threats remain a concern. Efforts toward improved DRM should ensure that all risks are considered, enabling a pathway to holistic risk management strategies that does not subvert focus away from pre-existing threats. The introduction of the HELP Principles and the regional stakeholder consultation provided an opportunity to not only increase awareness on “twin risks”, but also to enable interactive, intersectoral and multidisciplinary knowledge sharing. These are all crucial aspects for the actioning of effective and comprehensive DRM plans. Noting the uncertainty as it pertains to the “end” of the pandemic along with the potential for future pandemics, implementation of the HELP Principles will certainly play a crucial role in enhancing the resilience of Caribbean SIDS against present and future hazards.

The regional stakeholder consultation was held to discuss and gain insights from key stakeholder grouping on how to practically implement key suggestions proposed in the principles for addressing water-related DRR during the Covid-19 Pandemic. Additionally, to ascertain the applicability of the principles in Caribbean SIDS. This led to the emergence of urgent activities and measures to be instituted at the community, local and regional levels. Looking ahead, the Global Water Partnership-Caribbean (GWP-C), Global Water Partnership (GWP), the High-level Experts and Leaders Panel on Water and Disaster (HELP), and the National Graduate Institute for Policy Studies (GRIPS) will work with governments in the Caribbean region to incorporate the HELP Principles into policies and implementation plans.

Forums such as webinars, consultations, and workshops will be organised by the major stakeholders listed above, in collaboration with Caribbean governments to continue raising awareness and sharing knowledge on how to address DRR more comprehensively within the region. Additionally, consultations and engagements of Governments in the region will continue regularly, as we continue to examine in more detail, how can Caribbean SIDS adapt its policies and programmes to devise measures for addressing co-occurring disasters to include compound risk rather than focusing mainly on water-related disasters and COVID-19. This is critical, as seen in the case of St. Vincent and the Grenadines where in April 2021, the country experienced eruptions of the La Soufrière volcano which is not water-related, while dealing with the challenges of COVID-19.

In addition to the above measures, at the local level, communities will be encouraged by GWP-C through its partnership, to develop and implement community-based solutions to address co-occurring disasters. This will offer an effective way of engaging in knowledge sharing and transfer while building capacity at the community level. The solutions developed by the communities can be replicated within the country and across the different countries that are confronted with the same or similar challenges that may arise due to co-occurring disasters. Regional governments will be provided with the necessary technical expertise and tools required to develop and strengthen policies that address unequal access to water in water-scarce regions and an integrated disaster risk reduction plan for pandemics, as well as natural hazards through regional and international cooperation agreements and instruments.

Additionally, the preparation of other similar consultations in 2022 and 2023 and the preparation of an article on water-related disasters and COVID-19 on “Exploring the relevance of the HELP Principles in the Caribbean SIDS”, will be prepared and shared with major stakeholders in the region to augment the sharing and transfer of knowledge on water-related disasters, co-occurring disasters, and compound risks.

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