

FULL-LENGTH ARTICLES

Giving Voice to the Invisible Through the Use of Participatory Videos to Communicate Community-level Vulnerability to Pelagic Sargassum Influxes in the Eastern Caribbean

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The islands of the eastern Caribbean have been experiencing unprecedented pelagic sargassum influx events for over a decade now, which has become a significant concern for the region. Several studies have been conducted on this phenomenon, highlighting the need for diverse management responses to address this issue. However, most countries, including Saint Lucia, have been primarily reactive in their approach towards managing sargassum strandings. They have failed to implement a structured and organised plan to manage the influxes of sargassum, resulting in an ad hoc and unplanned response (Brooks et al. 2018, CRFM 2019, Djakourè et al. 2017, Doyle and Franks 2015, Gower and King 2011, Hinds et al. 2016, Hu et al. 2016, Oxenford et al. 2016, Wang and Hu 2017).

In 2017, a draft National Sargassum Management Plan was developed by the Government of Saint Lucia to address this issue. However, this Plan has several gaps and weaknesses, including a lack of consultation with the most vulnerable groups, who would be the most severely affected by sargassum influxes (Cox. Shelly-Ann, Oxenford, and McConney 2019). This is contrary to the approach that should be adopted while seeking to build resilience in communities. When dealing with physical constraints or discrimination, such as poverty, disability, and minority status, people usually have lower adaptive capacity. Therefore, their views and opinions should be considered while developing a Management Plan for sargassum influxes (Cutter, Mitchell, and Scott 2012, Yumarni et al. 2021).

This research had a unique focus called the ‘Voice of the Invisible,’ which aimed to target the poor, disabled, women, and minority groups in three communities in Saint Lucia: Dennery, Praslin, and Micoud. These groups had been excluded from previous data collection processes for sargassum management, and their views had been ignored. This research allowed their ‘voices’ to be heard and their opinions to be captured. The approach was empowering and sought to be all-inclusive, bringing the ‘voice of the voiceless’ at the heart of the discussion. The forum aimed to enable community members to demand accountability and transparency from policymakers while building resilience in the communities (CANARI 2014).

INTRODUCTION

Unprecedented pelagic sargassum influx events have been plaguing the islands of the eastern Caribbean for a little over a decade (Brooks et al., 2018; CRFM, 2019; Djakourè et al., 2017; Doyle & Franks, 2015; Gower & King, 2011; Hinds et al., 2016; Hu et al., 2016; Oxenford et al., 2016; Wang & Hu, 2017). The impacts of the massive influxes of pelagic sargassum are locally specific (Louime et al., 2017) as every country has its unique realities and associated challenges (Mortier, 2019). Negative impacts have ranged from problems within the fisheries and tourism sectors (Caribbean Hotel and Tourism Association, 2022; Monnereau & Oxenford, 2019) to health impacts (de Lanlay et al., 2022), damage to property and household appliances and loss or reduction of uses of the beach (economic, recreational, religious) (CRFM, 2019; Ramlogan et al., 2017; UNEP, 2018).

In the Caribbean region, countries have sought to address this new phenomenon in diverse ways. Sir Hilary Beckles, Vice Chancellor of The University of the West Indies (UWI), speaking at The UWI 2015 Sargassum Symposium described it as “the single biggest threat to tourism” in Barbados (MercoPress, 2015, p. 1). The National Research Agency of France has devoted 13 million EUR from 2019 onwards, towards research on pelagic sargassum in the French Overseas Territories (Mortier, 2019). The Tobago House of Assembly intends to declare current sargassum inundations a natural hazard and has developed a National Management Plan (Robin, 2019). Mexico is currently using innovative technologies to provide direction for tailored solutions (Morado, 2019).

Like all other countries, Saint Lucia’s management responses to the unprecedented influxes of sargassum have been mostly reactive. The country continues to “scramble into action” with attempts at managing sargassum strandings occurring in an ad hoc, unplanned, and disorganised manner. In 2017, the draft National Sargassum Management Plan was developed. This Plan, however, has many gaps and weaknesses including failure to consult with the most vulnerable groups, who advertently would be the most severely affected by sargassum influxes. However, the exact opposite should be adopted when seeking to build resilience, as persons with limited choices due to physical conditions or discrimination e.g., poverty, disability and minority status, usually have lower adaptive capacity than persons without these constraints (Cutter et al., 2012; Yumarni et al., 2021). In 2021, the Saint Lucia Sargassum Adaptive Management Strategy (SAMS) was also developed by the Centre for Resource Management and Environmental Studies (CERMES), of the University of the West Indies (UWI), in

collaboration with the Government of Saint Lucia (GoSL). However, the exact status of this SAMS is unclear as it is currently awaiting adoption by the Department of Fisheries (Felix, 2022 pers. comm.)¹.

This research had a unique focus called the ‘voice of the invisible’ which specifically targeted the poor, disabled, women and minority groups like Rastafarians, in three communities in Saint Lucia, namely Dennery, Praslin and Micoud. Residents in these affected communities had been excluded from previous data collection processes for sargassum management. As a result, their views would have been excluded. This forum allowed their ‘voices’ to be heard and their views captured. This approach also allowed community members to demand accountability and transparency on the part of policy makers. Furthermore, this empowering process sought to be all-inclusive and brought the ‘voice of the voiceless’ at the heart of the discussion (CANARI, 2014).

METHODOLOGY

Participatory Vulnerability Analysis (PVA) is a systematic approach which encourages and facilitates the involvement of community members to understand the intricacies of their own vulnerability and utilise their knowledge and experience to effect change (ActionAid International, 2008). This qualitative process analyses vulnerability by breaking it down into its components, which can later be addressed (Yates et al., 2010). The strength of this approach lies in the power of the community members to define their vulnerabilities and identify those who are most susceptible (Rosellón-Druker et al., 2023). This leads to the development of solutions and actions that are adapted to the community context and guided by the needs of community members, including the poor and vulnerable (ActionAid International, 2008; Gibeaut et al., 2023).

The method chosen for communicating community perspectives on sargassum to the policy makers was the participatory video (PV). The participatory video is a useful tool for community empowerment. It encourages residents to be actively involved in the creation of a video, which brings to the fore, their unique experiences and perspectives on a particular issue, and assists in the determination of the way forward (Plush, 2013). This research determined that participatory videos were the best channels for communicating the challenges of and solutions for sargassum management. This is the first time that this tool has been used for sargassum management. However, it has been widely used in climate change-related disasters, including flooding, droughts and hurricanes, as a popular tool for youth-led research, disaster risk reduction and advocacy (Haynes & Tanner, 2015). In many developing countries, its usage has increased to better understand

¹ Interview with Dr. Marie-Louise Felix, Project Co-ordinator, CC4FISH Project, Wednesday 21st December, 2021.

climate-smart agricultural practices (Kwapong et al., 2024), transformative resilience (Ichplani, 2022) and community-based adaptation to climate change initiatives (Lemaire & Muñiz, 2011).

The participatory video is a facilitation tool which encourages community members to tell their story on a specific topic. This method should not be confused with the traditional creation of a documentary or film, as community members are fully involved in every stage of the production of the video: selection of PV team, brainstorming and scriptwriting, filming the videos and capturing still photographs, narration, editing and collation (CANARI, 2014). The PV method was also selected as the preferred option for the following reasons:

1. Easy and accessible medium for people at all literacy levels.
2. Exciting and effective as people enjoy seeing themselves on film and so they are eager to get involved.
3. Encourages community unity as people have to work together to produce the film.
4. Potentially empowering as persons who would not usually be involved in policy formulation, now have a say.
5. Permanence as the product can be widely circulated as required, at local, national, and perhaps even regional and international fora (CANARI, 2011, 2014, 2017).

Participatory videos are lauded for their facilitation of communal exploration, issue articulation, and creative narrative expression (Lunch & Lunch, 2006). Their efficacy extends beyond comprehensive ethnography and community involvement, encompassing the facilitation of effective communication. Their prominence in the development sphere is primarily attributed to the capacity to amplify the voices of marginalised individuals and facilitate more equitable outcomes through application in research, advocacy, community mobilisation, and policy discourse (Sandercock & Attili, 2010). Scholars have also highlighted their potential to empower individuals who have historically lacked control over media representation and narrative framing, as well as its role in fostering increased self-esteem and community cohesion (Mhando, 2005; Okahashi, 2000).

There are a few disadvantages to keep in mind when it comes to creating and using participatory videos. First, participatory videos can be time-consuming and resource-intensive to produce, which may limit their feasibility for some organisations or communities. Additionally, participatory videos may not always be well-received by all audiences, as they may feature content or perspectives that some people find uncomfortable or controversial. Finally, participatory videos may be vulnerable to ethical concerns,

particularly around issues of informed consent, privacy, and power dynamics between participants and producers (Asadullah & Muniz, 2015; Jenkins & Brun, 2011).

Community Meetings

Community meetings were held with the three communities: Dennery - August 19th, 2021, Praslin - August 24th, 2021 and Micoud - September 02nd, 2021. The meetings were well attended with 15, 17 and 21 residents attending the Dennery, Praslin and Micoud meetings respectively. This attendance was very good (typical attendance is 10 persons) considering that this was during the COVID-19 pandemic and that community members usually do not attend stakeholder meetings due to suspicion, lack of interest or time and the challenge of getting to the location. The attendance was also very encouraging because Dennery has approximately 210 households, Praslin 100 households and Micoud 262 households (Saint Lucia - Central Statistical Office, 2010).

Additionally, attendees comprised youth, older residents, women, fishers, a disabled Parliamentary Representative and Rastafarians. All interested community members were invited. There was no exclusion based on socio-economic, cultural and religious characteristics.

This study utilised a wide array of techniques to engage stakeholders from diverse educational, cultural, religious, and socio-economic backgrounds. These techniques included telephonic communication, electronic mails, WhatsApp messaging, in-person visits, the distribution of printed advertisements across communities and on social media platforms, dissemination of announcements through religious and educational institutions, and the usage of a town crier (who conveyed the message in both local French Creole and English). Special attention was given to gender and disability issues, such as the selection of appropriate consultation days, times, and locations. Such diverse approaches ensured the target audience was reached and created a safe and conducive environment, where all stakeholders were encouraged to contribute to the participatory process.

The names and numbers of attendees have been withheld as they were promised complete anonymity for their attendance.

The main objectives of the community meetings were:

1. Identify problems caused by the unprecedented influxes of pelagic sargassum in each community.
2. Identify possible solutions to these problems.
3. Develop a storyboard/script to tell the story (community perspectives).
4. Document the problems and solutions using photographs and short videos captured by residents using smartphones.

5. Create a video telling the story.
6. Discuss ways of sharing the video with local and national government, for advocacy and better management of the sargassum problem.

Identical formats were used for each community meeting and the production of the PV. Each meeting lasted for about 3 hours with a 30-minute break at the 1.5-hour mark. The steps involved in the production of the community PVs were as follows:

Step 1: Introduction

The meetings began with an introduction of the researcher, her research topic and the objectives of the research. The researcher is bilingual and ably conducted the meeting in both English and French Creole. Many residents were already familiar with this research due to prior sensitisation conducted during the scoping and data collection exercises. This was followed by an icebreaker during which time participants were asked to introduce themselves and indicate whether they were interested in being a part of the PV process.

Step 2: Problem Identification and Analysis

The methodology employed for identifying the problems posed by anomalous sargassum strandings in the community was the Problem Tree. Problem Tree Analysis or Situational Analysis helps to determine the causes and effects of a particular problem thus allowing the problem to be broken down into practical, definable and manageable components. Described as a diagnostic tool, a Problem Tree can be used to explain a sequence of events that lead to and result from a focal problem. It also allows the outcomes of different management options to be visually represented and thus more easily understood (CANARI, 2011; Zimmermann et al., 2008).

Participants wrote down the main problem on flipchart paper and it formed the trunk of the Problem Tree. Next participants identified the causes of the focal problem, by asking what problems could cause this focal problem. These causes became the roots (or bottom) of the Problem Tree. The effects of the main problem were determined, by asking what problems this main problem resulted in. These consequences became the branches (top) of the Problem Tree. The causes and effects were written on post-it notes and moved around to establish relationships between the problems. The result was an elaborate network of interconnected problems on sargassum influxes: root problems, core problem and effect problems. After the Problem Tree was completed, stakeholders were asked to identify priority problems for their community, that they would want to feature in their video. Finally, participants were asked to explain their Tree and to provide justifications for the priority problems selected.

Following the completion of the Problem Tree, community members were asked to create a Solution Tree or Objective Tree. As the name implies, the Solution Tree is the opposite of the Problem Tree and seeks to identify solutions for the problems previously highlighted. As the negative statements of the Problem Tree were replaced with positive ones, a means-end relationship was developed between solutions, with the means forming the roots of the Tree and the ends forming the branches. Participants were also required to present their Solution Tree to the group.

The Problem and Solution Trees created by each community are depicted and explained in the Results section of this paper.

Step 3: Scriptwriting

Following the presentations of the Problem and Solution Trees, participants were asked to select a team leader, a script writer, a narrator and persons to capture the photographs and videos (Audio-visual Team). The researcher tried to ensure that persons clearly understood their role and were comfortable with the responsibilities assigned to them.

For each script, community members were encouraged to include the following: title and subtitle, introduction of community, a quote that aptly represents the importance of 'finding one's voice', problems with and possible solutions for sargassum influxes (obtained from Problem and Solution Trees), what residents would like to see happen in their community and their experiences with the participatory process. It was also recommended that PVs be no more than 10 minutes long.

Stakeholders used the rest of the meeting to brainstorm about their video: target audience, message to be communicated and scenes to be shot. The team was allotted one month for the completion of the script and approximately 3-4 months for the completion of the PV. The meetings ended with most participants excited about the PV.

Step 4: Capturing and Editing Videos

About one week later, following the finalisation of the script by the researcher, the Audio-visual Team went out into the community, accompanied by the researcher, to take photographs and record short videos using smartphones. The entire group also met regularly (about twice a month) to screen the footage and for consensus building. The photographs and video clips were also checked against the script to ascertain that the message would be communicated accurately and clearly. In instances where gaps were identified, the Team would venture out again to obtain footage to fill those gaps. Additionally, regular (weekly) meetings were held with the researcher and the team leader to ensure that the group was making steady progress and remained on schedule.

Step 5: Video Production

Artlas Consultants, a well-established company with a wealth of experience in documentary-film production, was hired by the researcher to complete the video-production process with the three communities. The company was provided with the scripts, photographs, video clips, narrations and music choices, and tasked with the responsibility of undertaking the final editing of photographs and videos and developing the final product. Group members were actively involved in the final editing of the film to ensure that it met the group's requirements.

RESULTS

Problem and Solution Trees

Figures 1, 2 and 3 show the Problem and Solution Trees developed by the community members of Dennery, Praslin and Micoud, respectively. This exercise demonstrated that residents thoroughly understood how sargassum influxes negatively affected their communities, health, property, and livelihoods. Interestingly, all the residents mentioned climate change, global warming, and pollution as possible root causes. The effects highlighted were identical to those revealed from the household surveys, key informant interviews and focus group meetings, previously undertaken during this research. These included possible health implications, disruption in the livelihoods of fishermen, corrosion of jewellery, destruction of property and household appliances, the terrible odour and reduced beach access.

The Solution Trees showed divergence in community approaches to sargassum management. In Dennery, residents viewed finances and other resources, coupled with the implementation of laws as fundamental, while in Praslin developing alternative uses of sargassum and implementing off-shore collection measures e.g. booms was critical. Micoud took it a step further and spoke to conducting a needs assessment to determine what was required and subsequently developing a community-specific Sargassum Management Plan.

The PV Process and Output

During the initial phase of the communal gathering, some community members voiced concerns about formulating and disseminating the PV to policymakers and other community members. A number of young individuals anticipated encountering skepticism from the audience; however, as the instructional workshop advanced, participants began to exhibit greater confidence and acknowledge their distinctive capacities as communicators of risk. Subsequent to the training, the majority of the feedback revolved around the necessity for their communication and consciousness-raising efforts within the community and at higher echelons of governmental authority.

The community members also diligently collaborated to ensure that the developed scripts addressed the idiosyncrasies of their community, the factors contributing to unprecedented sargassum influxes, and potential solutions to this environmental hazard. They were meticulous in emphasising the distinct

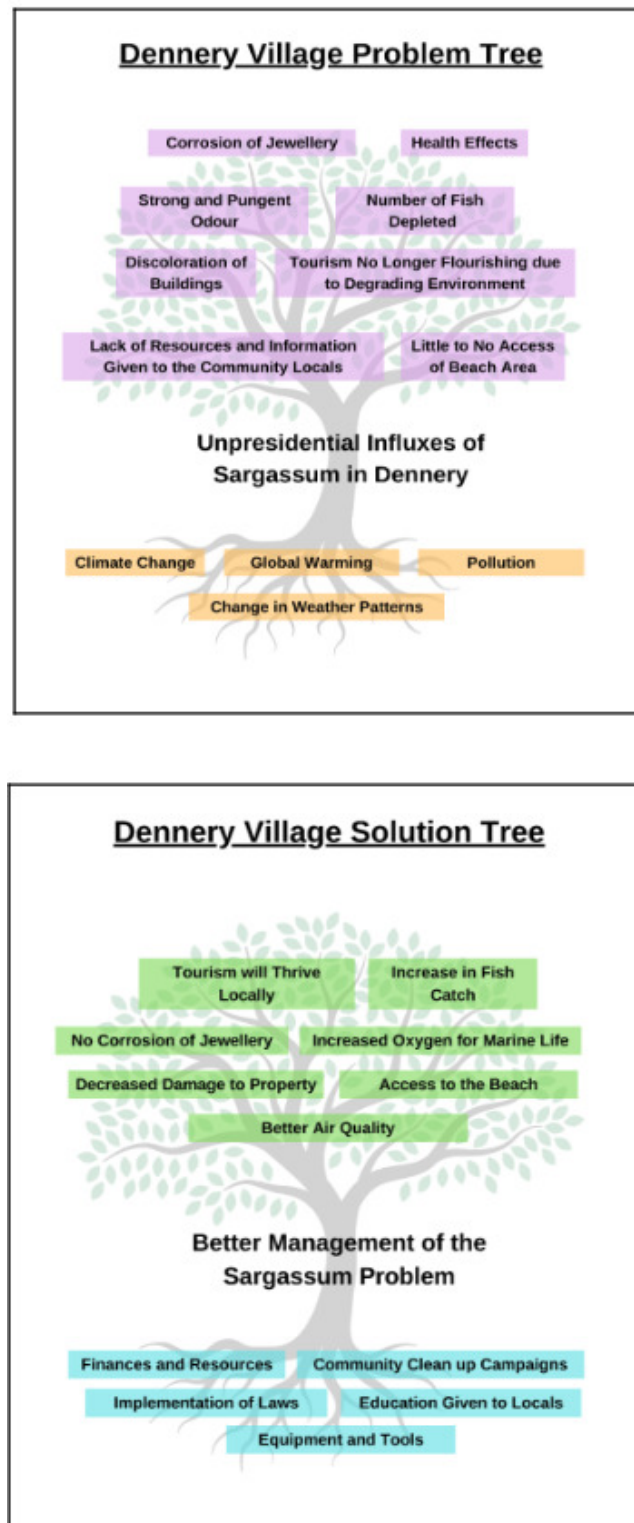


Figure 1. Problem and Solution Trees for the Community of Dennery

role that each community member can play in sargassum management and focused on unified efforts to urge policymakers to take tangible action. Although all three PVs centred on sargassum management, each group delved into varying socio-economic, environmental, and political factors influencing their susceptibility to pelagic sargassum influxes. The PVs are outlined in the following section.

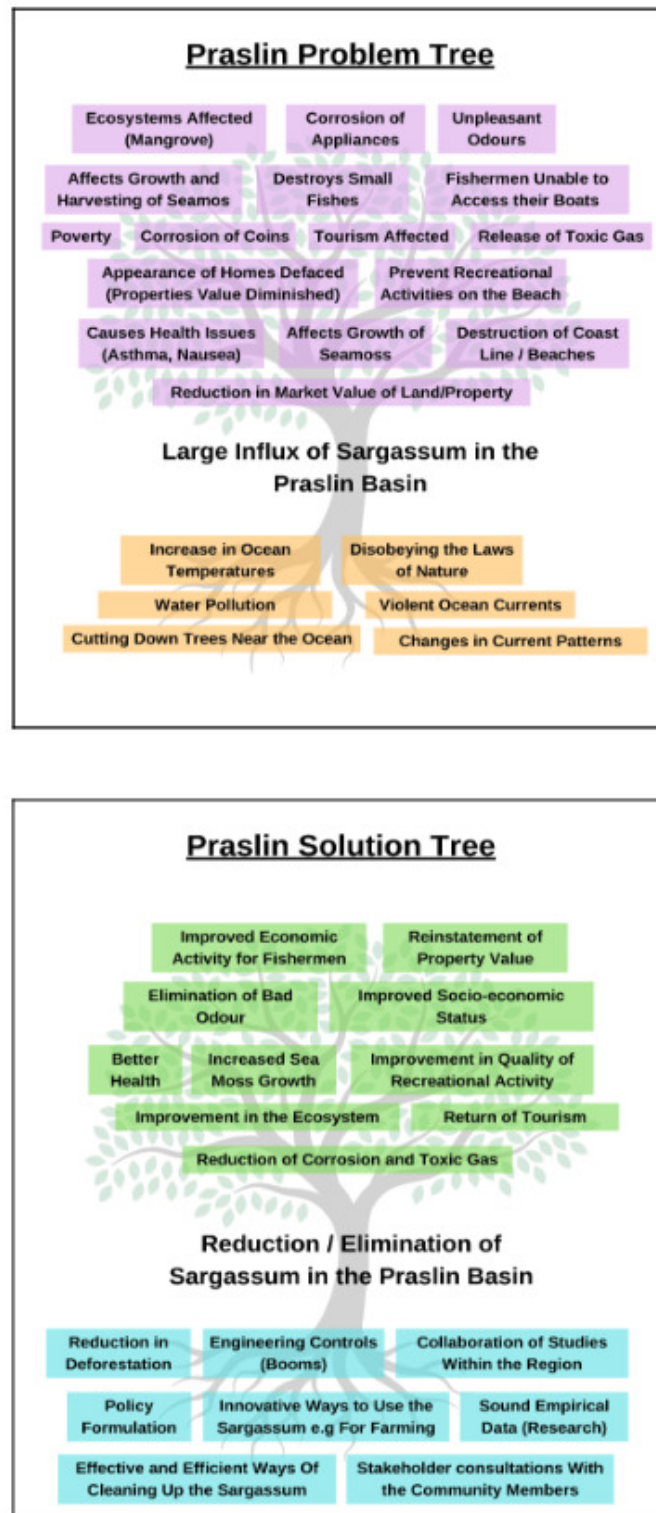


Figure 2. Problem and Solution Trees for the Community of Praslin

A number of participants discussed how meeting and interviewing community leaders and other stakeholders during the video production had been a valuable experience. They noted that this was not a common exercise for them, and they appreciated the opportunity to broaden their experience and confidence.

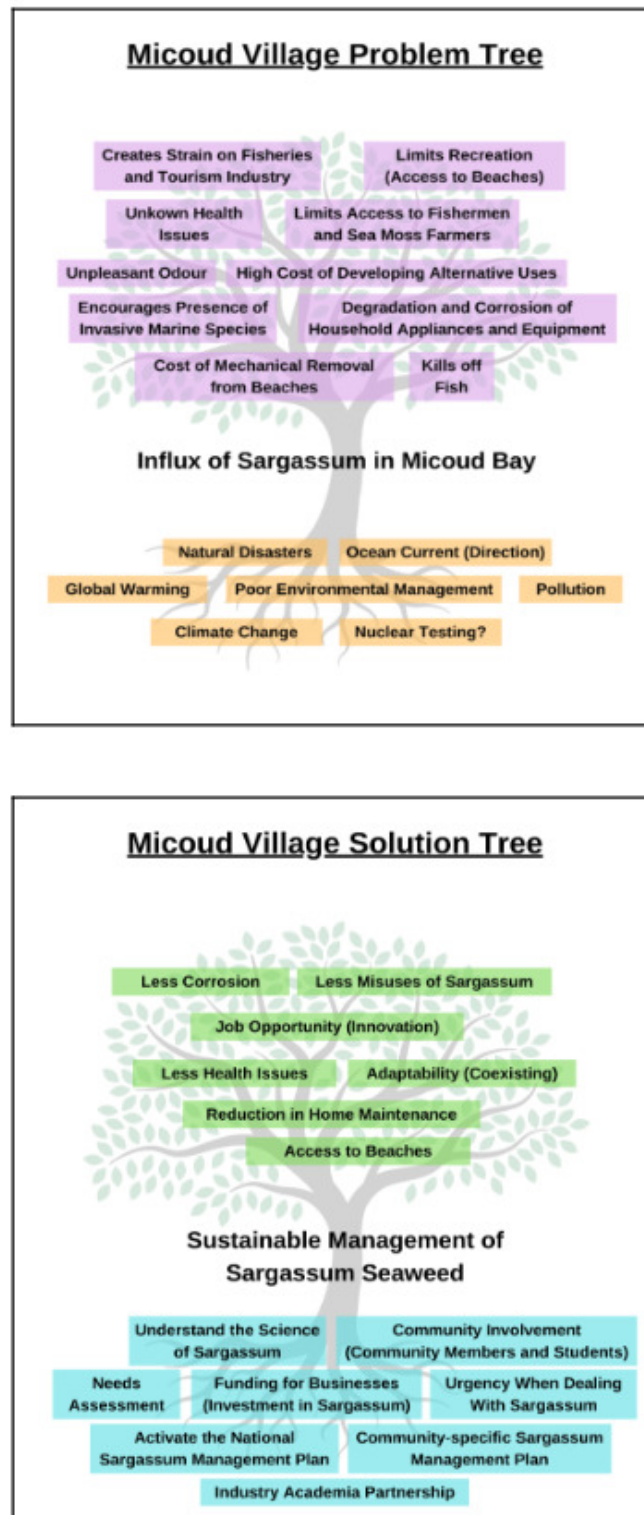


Figure 3. Problem and Solution Trees for the Community of Micoud

Community Participatory Videos

The length of time taken from the conception (initial sensitisation of stakeholders) to the completion of the PVs was approximately six months. Unfortunately, not all material provided to Artlas was able to be used due to the poor quality of some photographs and the condition of some videos

(shaky, low audio and very loud background noise). Additionally, some of the material was repetitive and their inclusion in the final video would have made it too lengthy.

Three creative, interesting and educational Participatory Videos were produced; one for each community. The links for the videos are provided below.

Dennerly PV: *Conversations – Sargassum Exchange. Brown Curse or Golden Blessing*. <https://youtu.be/oeAvYDWJev4>

Praslin PV: *Sarg-Chat – A Praslin People's Perspective on the Pelagic Plague*. <https://youtu.be/-isqGBSDXsw>

Micoud PV: *Sargassum Talks – The People of Micoud Tell All*. <https://youtu.be/w8iaywms0ul>

DISCUSSION

This research has demonstrated that participatory videos can be used as an effective means of communicating the experiences, perspectives and expectations of community members regarding sargassum influxes. It also showed that community members are fully capable of describing their vulnerabilities to unusual pelagic sargassum influxes using their words and their voice. Additionally, it was evident that community members are interested in sargassum management and most of them desire to be an integral part of the solution.

In addition to revealing insights for the role of PV methods in promoting empowerment and advocating for sargassum management, this research illustrates that each video reflects an understanding of the social, environmental and economic drivers of vulnerability to pelagic sargassum influxes. Through this vulnerability emphasis, participants can develop their capacities to reduce risk based not only on physical aspects of the hazard, but also on the human causes of risk that require behavioural and policy change (Haynes & Tanner, 2015).

These results of this research are also congruent to the results from the SaRiMed Project (Health Issues of SARgasses for Residents and MEDiation MEDicale), a French initiative which endeavors to enrich the existing body of knowledge concerning the health predicament that ensues from the putrefaction of sargassum along the Caribbean shorelines. The proliferation of sargassum algae in Martinique has raised concerns about the habitability of the coastline. The local residents have shared various stories and experiences about the impact of this issue on the environment, their homes, and their daily lives. These stories are a mix of collective and individual narratives, which are both contextualized and universal. The SaRiMed ethnographic research project has helped to capture these narratives through interactions between respondents and interviewers. Under SaRiMed, the information obtained on the public health situation created by sargassum was disseminated through photographic, choreographic (performances) and sound productions, as well as through readings and storytelling (AMURE, 2023).

Despite the successes of this research, the PV process must be recognised as a long-term effort, in terms of both empowerment and risk reduction impact. A number of follow-up activities have already been conducted, including screenings to communities and decision-makers, the passing on of film-making knowledge to other community members and further use of PV tools.

While, the videos may not fully align with the collective anticipations of the community, they will carry significant implications for the community's capacity to manage and adjust to prevailing and forthcoming sargassum influxes. Herein lies the novelty of this research – empowering community members to be responsible for improving their own resilience and adaptive capacity to sargassum influxes (Haynes & Tanner, 2015; Khatun et al., 2018).

Dissemination

The communities anticipate that their PV will be used for advocacy and to arrest the attention of Parliamentary Representatives, Ministers of Government and scientific researchers. The videos have been widely shared on social media platforms and have been uploaded on the UWI-CERMES YouTube Page and the University of Southampton website. The videos were also featured on the Sargassum Podcast as Episode 50 and at CINEFISH for the 75th Conference of the Gulf and Caribbean Fisheries Institute (GCFI75) in 2022. Additionally, the videos continue to inspire other stakeholders from across the globe who suffer a similar fate e.g., Ghanaian fisherfolk where the videos have been used by the *Teleconnected SARGassum risks across the Atlantic: building capacity for TRansformational Adaptation in the Caribbean and West Africa* (SARTRAC) Project. Additionally, this methodology has been so successful and the videos so interesting, that *the Building Youth-led Citizen Science Expertise in Remote Ghanaian Coastal Communities* (SargSNAP) Project will be utilising them to undertake a similar exercise with stakeholders in Ghana.

Outcomes/ Impacts of Videos

Empowerment through community participation is a powerful tool for driving change and progress. When individuals come together to work towards a common goal, they can create a sense of ownership and pride in their community (Richardson-Ngwenya et al., 2019). This can lead to increased collaboration, better decision-making, and ultimately, stronger and more resilient communities. By involving everyone in the decision-making process, researchers can ensure that everyone's voice is heard and that the needs of all members are taken into account. This type of empowerment can be transformative and can lead to positive changes that benefit everyone involved (Anzoise et al., 2014; Khatun et al., 2018).

The residents have demonstrated that their views matter in discussions on sargassum management and that these views can be used to effect the necessary changes in their community. Though time-consuming, these participatory videos remain a creative and relatively simple means of

showcasing participatory approach methodologies. This was also a very enjoyable and rewarding experience for the researcher, and the wide and favourable reception of the videos bears testament to their usefulness and impact on policy-makers, researchers, scientists and the public. The videos continue to be used at various sargassum-related fora, including sargassum conferences, workshops and meetings. They will also be aired on the local television stations in Saint Lucia, in the summer of 2024.

Lessons Learnt

There are several take-away points for the development of these participatory videos:

1. All the answers do not reside within the scientific community. Community members are fully capable of speaking about their vulnerabilities, as they live with sargassum every day.
2. Community members are interested in sargassum management and would like to be involved in every stage of the adaptation planning process.
3. People, regardless of age, educational background and nationality enjoyed the videos, learnt from them and sought permission to share them with other stakeholders.
4. Participatory videos are a valuable and resourceful method of documenting problems and solutions to natural hazards.

Limitations

Creating participatory videos can be a powerful tool for community engagement and empowerment, but there are also several limitations to consider. One of the main limitations is the cost and time required to produce high-quality videos. This can be a challenge for communities with limited resources or technical expertise. Additionally, participatory videos can be limited by the availability of equipment and software, as well as the technical skills of participants (Tremblay & Harris, 2018).

Another limitation is the potential for power imbalances to arise during the process of creating participatory videos. This can occur if certain groups or individuals dominate the conversation or decision-making process, leading to unequal representation in the final product. It is important to ensure that all voices are heard and that there is a fair and equitable distribution of power throughout the process (Mitchell & De Lange, 2019; Shaw, 2012).

Finally, there may be limitations to the reach and impact of participatory videos. While they can be effective at engaging and empowering local communities, they may not have the same level of impact on policymakers or

broader audiences. It is important to consider how the videos will be shared and promoted to ensure that they reach their intended audiences and have the desired impact (Khatun et al., 2018; Tremblay & Harris, 2018).

The Way Forward

The six objectives of the community meetings were met, however community members continue to work on Objective 6: sharing with local and national government, for advocacy and better management of the sargassum problem, despite the research ending approximately two years ago. Furthermore, regardless of challenges with funding, community members have tackled the ‘low hanging fruit’ and shared these videos with their Parliamentary Representatives, Fisheries Extension Officer, Primary and Secondary Schools and community groups e.g., churches and sports clubs. Their aim is three-fold: (i) raise awareness; (ii) attract funding for sargassum management in their community and (iii) arrest the attention of the agencies responsible for sargassum management. Presently, a community group in Praslin, under the leadership of Mr. Ron Peter is drafting up a proposal for funding to clean up Dennery, Praslin and Micoud Bay, and to use the collected sargassum for fertilizer (Peter, 2022 pers. comm.)².

CONCLUSION

The ‘Voice of the Invisible’ gave all community members the avenue and opportunity to add their perspective to sargassum management. Community members were delighted to be a part of this exercise and welcomed the opportunity to tell their stories, in their words, using their voice. Residents of the three communities continue to promote these videos and remain optimistic that they will assist in bringing about the necessary changes in sargassum management at the local and national levels.

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² Interview with Ron Peter, Resident of Praslin, Thursday December 15th, 2022

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