

**Socio-economic Monitoring by Caribbean Challenge MPA Managers**

**Report No. 7**

**Assessing the feasibility of alternative livelihood options for communities of the Molinière/Beauséjour Marine Protected Area**

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**2013**

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Citation

Jeffrey, C., F. Gibbs, S. Antoine, M. Mitchell, R. Baldeo, M. Pena and K. Blackman. 2013. Assessing the feasibility of alternative livelihood options for communities of the Molinière/Beauséjour marine protected area. Socio-economic Monitoring by Caribbean Challenge MPA Managers Project Report No. 7. 43 pp.

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This report was prepared by the Centre for Resource Management and Environmental Studies (CERMES) under a Coral Reef Conservation Grant from the National Fish and Wildlife Foundation (NFWF) for the project, Socio-economic Monitoring by Caribbean Challenge MPA Managers (Project no. 2011-0051-012). The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government or the National Fish and Wildlife Foundation. Mention of trade names or commercial products does not constitute their endorsement by the U.S. Government or the National Fish and Wildlife Foundation.

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# 1 INTRODUCTION

## 1.1 Socio-economic Monitoring by Caribbean Challenge MPA Managers

Socio-economic monitoring for coastal management in the Caribbean (SocMon Caribbean) is a globally networked, regionally adapted, practical methodology of socio-economic monitoring for coastal management (Bunce et al. 2000, Bunce and Pomeroy 2003). Consultation with representatives of the MPA community associated with the Caribbean Challenge Initiative<sup>1</sup> indicated the need for capacity building in socio-economic monitoring for the development of an effective regional system of MPAs. This need for MPA capacity building in socio-economic assessment and monitoring has also been identified in various training needs and capacity assessments (Parsram 2007 and Gombos et al. 2011). The Caribbean Challenge Initiative and regional training in SocMon provide a major opportunity for uptake of SocMon for achieving improved MPA management capacity and therefore conservation of coastal resources. With strengthened capacity for management through socio-economic monitoring, MPA managers, authorities and field staffs will also increase their capacity for adaptive management through learning-by-doing.

The Centre for Resource Management and Environmental Studies (CERMES) at the University of the West Indies, Cave Hill Campus was awarded a grant of just over USD 63,000 by The National Fish and Wildlife Foundation (NFWF) to support Socio-economic monitoring by Caribbean Challenge MPA managers. The project's long-term conservation outcome is increased capacity for effective MPA management among Caribbean Challenge (CC) countries through the use of social and economic monitoring data in MPA decision-making.

The goal of this project is to build capacity for improved and effective MPA management among Caribbean Challenge countries by promoting the use of social and economic data in MPA management by:

- Training approximately 40 MPA managers/staff, from three Caribbean Challenge countries, in the practical use of SocMon Caribbean methods via three country-specific workshops
- Initiation of eight site assessment and monitoring programs for coastal management in each of the countries receiving the training via a small grant of USD 2,500
- Documentation of training and monitoring initiation processes, to make them available to a worldwide audience and CERMES communications for replication, with improvement, in future rounds of SocMon activity
- Submission of compatible data to the Reef Base Socio-Economic global database and CaMPAM database

The project involves eight MPAs across three CC countries - Grenada, St. Vincent and the Grenadines, and St. Lucia. Participating MPAs in Grenada and the Grenada Grenadines are the Molinière/Beauséjour Marine Protected Area (MBMPA) and Woburn/Clarke's Court Bay Marine Protected Area (WCCBMPA) in

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<sup>1</sup> (<http://www.nature.org/ourinitiatives/regions/caribbean/caribbean-challenge.xml>)

Grenada, and Sandy Island/Oyster Bed Marine Protected Area (SIOBMPA) in Carriacou. This report presents project activities and results of socio-economic monitoring conducted at the MBMPA.

## 1.2 Situation overview

***"How complex and unexpected are the checks and relations between organic beings, which have to struggle together in the same country" (Charles Darwin, 1882 quoted in Kelleher 2012)***

Charles Darwin was referring to living organisms. The complex, interrelated environmental problems of the early 21<sup>st</sup> Century revealed that his observation is equally applicable to the checks and relations between human political and administrative organisations (Kelleher, 2012). The SocMon Caribbean methodology is one of the tools that can be used to address these problems and identify solutions.

In the two years since its launch<sup>2</sup> in 2010, the management of the now established Molinière/Beauséjour Marine Protected Area (MBMPA) has never been able to address alternative livelihoods for persons within the communities adjacent to the MPA. This was partly due to the absence of a management structure after its designation in 2001. As such this initiative by the Socio-economic Monitoring by Caribbean Challenge MPA Managers project has been timely in addressing this gap in management. It is hoped that this project and its outcomes should not only dispel any misconceptions by the communities that the establishment of the MPA has brought benefits only to the tourists and tourism businesses and not to them but will demonstrate that it can be of long term benefit to the people and communities.

The Molinière/Beauséjour marine protected area is just 0.60 km<sup>2</sup>; 2.2 km long and extends seaward up to 0.8 km from the coast (Figure 1). The main settlements bordering the MPA are, from South to North - Grand Mal, Mt. Moritz, Molinière, Happy Hill, Beauséjour, and Brizan (Roby, 2010). These six communities, according to the 2001 population census<sup>3</sup> have a combined population of 3,340 persons. Many of these individuals, in addition to snorkelers and scuba divers as well as visitors from the many yachts, participate in the many different activities taking place in the MPA. These communities formed the study area for the SocMon study (Figure 1).

This MPA like many others has seen the coral reefs being degraded from pristine to seriously stressed condition due to overuse, pollution, sedimentation and the effects of climate change (Roby 2010). The lack of effective management prior to 2010 for proper monitoring, conservation and protection has seen continued reef degradation, resource depletion and user conflicts. Despite significant progress in management of the MPA after 2010, there are new emerging problems associated with the global economic crisis. With the loss of jobs in many sectors, persons are resorting to livelihoods in other sectors that do not require much capital input, such as fishing and farming. Additionally, most persons feel that with the loss of livelihoods due to the establishment of the MPA, the onus is on MPA management to provide alternative livelihood options. There has been limited information on

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<sup>2</sup> Launch in this case meaning an administrative and political public restart of the MPA

<sup>3</sup>At the time of preparation of this report the 2010 census data not yet available.

alternative livelihoods derived from the MPA and the impacts of MPA management on people's livelihoods.

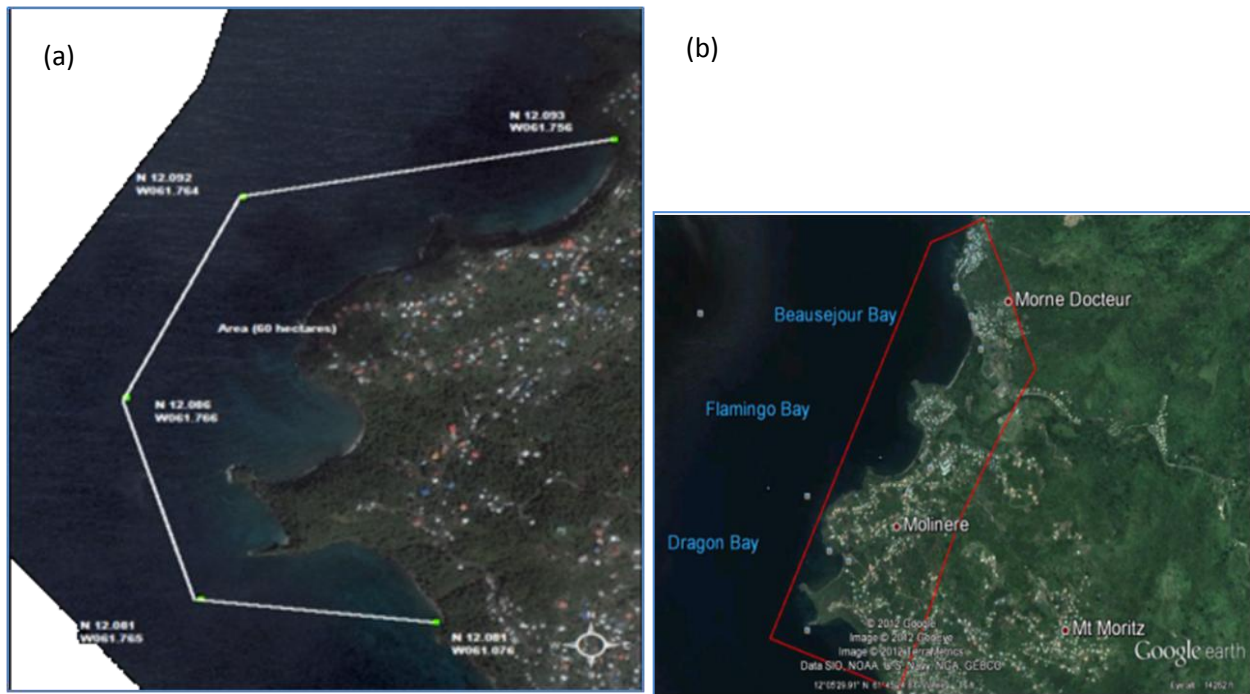


Figure 1 (a) Extent of MBMPA area including seaward boundary and (b) map of SocMon study area

In general there is high dependency on fishing, particularly in poor communities in Grenada. In 2012, Grenada participated in a study to determine poverty levels in fishing communities within CARICOM/CRFM member states (CRFM 2012). In this report the following were identified:

- Grenada has a high percentage of poor households (26% vulnerable, 7% poor) slightly lower than Belize and Guyana. These are the countries in which the households have more trouble getting their basic needs met.
- In respect to demographic differences the impoverished population dependent on the fishing sector is comprised of a significant percentage of young people.
- This study also shows that the importance of fishing in poor households' economy is greater in non-poor and vulnerable households. The importance of fishing within the family index (IFF) ranks Grenada at 88%. This is because unlike vulnerable households, poor households do not receive substantial financial contribution from other sectors.

From this information, it is evident therefore that any MPA management interventions can significantly impact those dependent on these areas for their livelihoods (especially the economically vulnerable). Assessing the feasibility of alternative livelihood options for persons displaced due to MPA management or simply to improve earnings of community members is important.

### 1.3 Goals and objectives

The goals and objectives for assessment are outlined below.

Goal	Objectives
To assess the feasibility of alternative livelihood options for the communities surrounding the Molinière/Beauséjour Marine protected Area (MBMPA).	1. To assess how the MPA impacts livelihoods of the communities in the area.
	2. To strengthen community participation in MPA management and MPA ownership based on examining potential linkages between resource protection and livelihoods.
	3. To identify the socio-economic conditions that will enable alternative livelihood options: tourism and its related development.

### 1.4 Organisation of report

This report is divided into six sections. Section 1 provides a description of the SocMon Caribbean Challenge project, situation overview of MBMPA and the goals and objectives for monitoring. Section 2 outlines the methods used for gathering the data. The results are provided in Section 3. Validation of the results are in Section 4. Discussions and conclusions are in Section 5. The report ends with section 6 which contains recommendations for monitoring and management.

## 2 METHODS

### 2.1 SocMon training

Twelve participants from the three participating MPAs, the Fisheries Division, Ministry of Agriculture, Woburn/Woodlands Development Organisation, Royal Grenada Police Force, North West Development Authority Incorporated (NWDAL) and Ministry of Carriacou and Petit Martinique Affairs (MOCAPA), were trained in the SocMon Caribbean methodology via a 5-day training workshop, 6-10 February 2012 at the Grenada Fisheries Division, Melville Street, St. George's. The Woburn/Clarke's Court Bay was used as the demonstration site for the duration of the workshop (Pena and Blackman 2012).

### 2.2 Preparatory activities

A SocMon team was developed to plan and conduct field work for the project (see section 2.3). As two of our team members are also members of an active group within the MBMPA communities, countless site visits to the study area to gather information for site monitoring were made (see section 2.3). In those visits many useful data were collected. Preparatory activities are listed in Table 1.

**Table 1 MBMPA SocMon preparatory activities**

<b>Activity</b>	<b>Time</b>	<b>What Was Done</b>
Planning for site monitoring	Feb – July	<ul style="list-style-type: none"> <li>• Preparing of pre-proposal (identifying goals, stakeholders, etc.)</li> <li>• Defining the process of monitoring</li> <li>• Selection of SocMon team</li> <li>• Identifying key informants</li> <li>• Purchase of materials to conduct data collection (stationery, equipment etc.)</li> </ul>
Secondary data assessment	Feb – Sept	<ul style="list-style-type: none"> <li>• Collection of data from statistical office, fisheries division, MPA Management Plan</li> <li>• Informal discussions with NGOs, CBOs and community persons</li> <li>• Identifying key informants</li> </ul>
Reconnaissance survey	June – Aug	<ul style="list-style-type: none"> <li>• Scoping of the area to develop map</li> <li>• Photos taken of the 6 communities</li> <li>• Informal meeting and discussions with stakeholders</li> <li>• Notifying key informants of upcoming interviews</li> </ul>
Rapid assessment	Aug – Sept	<ul style="list-style-type: none"> <li>• Development of key informant interview</li> <li>• Testing of the key informant interviews</li> <li>• Reviewing and updating census data from statistical office</li> </ul>
Census	Aug – Sept	<ul style="list-style-type: none"> <li>• Information collected from census office was collated in preparation of the household survey<sup>4</sup></li> </ul>

A key informant interview was designed to collect the relevant data (Appendix 1). Eight key informant variables were used to collect the data for this project, three of which were original SocMon Caribbean variables (Bunce and Pomeroy 2003). Of these three original variables, two were revised and adapted to collect data relevant to the objectives of the project. The development of five new variables was necessary to measure and capture additional data required such as MPA changes or impacts, management support, MPA knowledge and awareness, business and service provision and livelihood trends, enhancement and vulnerabilities (Appendix 2).

### **2.3 SocMon team**

Initially the SocMon team comprised six individuals but due to the constraints of their jobs, the number decreased to four (Table 2). Out of this four, two were not available for every aspect of the project, but they were updated on the progress and were able to give their inputs as they reside in the study area. They were also able to attend some of the meetings conducted and have contributed greatly to this project.

<sup>4</sup>The household surveys were not done in this assessment due to the financial and time constraints related to the project. This can be done in another SocMon assessment project.



**Table 2 SocMon team members**

<b>Name</b>	<b>Organisation</b>	<b>Roles</b>
Coddinton Jeffrey	MBMPA	Team leader
Finbar Gibbs	NWDAI	Community liaison
Stephen Antoine	NWDAI	Data analysis
Marine Mitchell	NWDAI	Data analysis
Kim Harris-Reid	NWDAI	Community liaison
Roland Baldeo	MBMPA	Support personnel

## **2.4 Key informants**

Eighteen individuals were identified within the six communities as well as others outside who worked in the industries that relate to MPAs. Due to the close proximity of these communities most informants had a very good knowledge of the activities of individuals in other communities. Some informants readily identified persons within the other communities that they felt would contribute enormously to this assessment.

## **2.5 Data entry and analysis**

The data from the key informant interviews were entered into an Excel spreadsheet and then analysed using narrative summaries. The Excel datasheet was sent to Maria Pena, Caribbean Challenge SocMon project manager for further review and analysis.

## **2.6 Validation meetings**

Three validation meetings were held for the six communities of the MBMPA during the fourth week of January where validation results of the MBMPA SocMon were presented to the communities (Appendix 3). These meetings were advertised on various radio stations and a local TV station. Prior to each meeting the SocMon team drove through the area to invite and inform the residents of meeting times and venues. Additionally, invitations to meetings were recorded on CD and played on a few of the buses travelling to and from the areas. All key informants were informed of the time and venues of the meetings. Refreshments were served to the participants at the end.



**Figure 2 Announcing an upcoming validation meeting in one of the communities associated with the MBMPA**

### 3 RESULTS

Results are presented under two headings corresponding to the assessment objectives:

1. MPA impacts on community livelihoods and identification of socio-economic conditions that will enable alternative livelihood options (Section 3.1)
2. Linkages between resource protection and livelihoods: strengthening community participation in MPA management and ownership (Section 3.2)

#### 3.1 MPA impacts on community livelihoods and identification of socio-economic conditions that will enable alternative livelihood options

##### 3.1.1 Marine-related livelihoods prior to 2010 MPA launch

Most persons identified fishing and fish vending, 40% and 31% respectively, as the main marine related jobs that the community was involved in prior to 2010 and the launch of the MBMPA. Other ways of earning a living included boat building (9%), boat repair (7%), sand mining (7%), jet skiing (2%), net mending (2%), and engine maintenance (2%) (Figure 3).

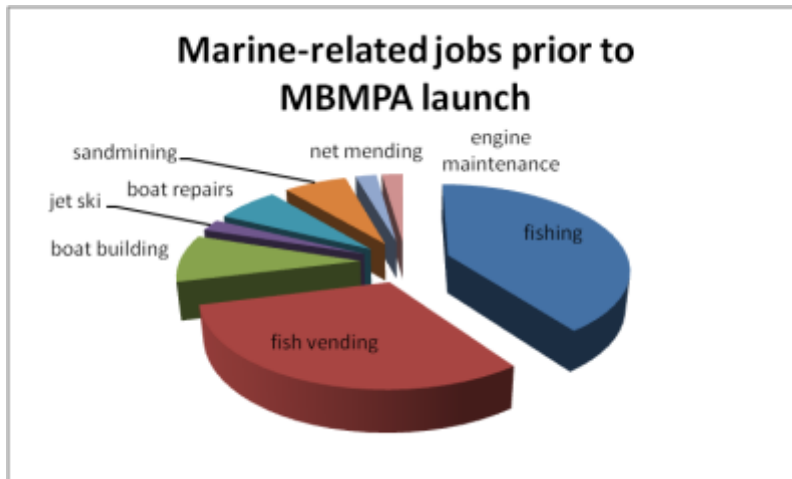


Figure 3 Marine-related jobs people were involved in prior to the MBMPA launch in 2010

##### 3.1.2 MBMPA impacts on livelihoods, livelihood trends and livelihood vulnerability

All key informants stated that the rules and regulations implemented by the MBMPA and its management had affected the ways in which people earn a living in the area. Area and activity restrictions within the MPA have affected people dependent on certain types of fishing. For example, due to the prohibition of spearfishing within the MPA, spearfishermen now have to travel further to spearfish, increasing their operation costs; and seine fishermen are restricted to a certain area within the MPA. Key informants note that these restrictions have led to both positive and negative impacts. Positively, some people now understand the concept of the MPA and its purpose and realise the benefits. Additionally, the implementation of the rules and regulations has led to the introduction of new compatible activities such as kayaking. However in terms of negative impacts, due to the restrictions some people have become involved in illegal activities.

In terms of trends in livelihood changes, key informants noted that persons were forced into other forms of jobs which were mainly construction and farming, 39% each. A fairly large percentage of key informants (10%) noted that there was a trend towards involvement in illegal activities, notably gambling and theft. Six percent of key informants stated that people became involved in government programmes such as de-bushing. A minority of key informants interviewed noted that people became involved in kayaking and subsistence livelihoods such as rock fishing (3% each). It should be noted that most persons were not trained for these various types of employment (Figure 4).

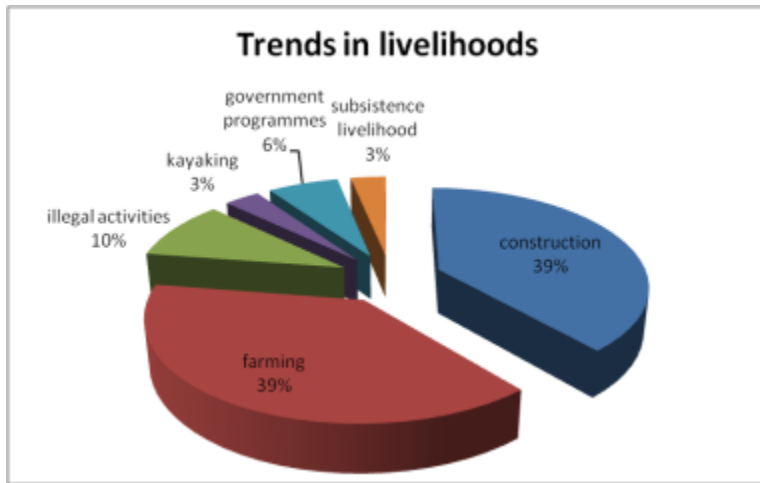


Figure 4 Trend in changes in livelihoods in the area

The majority of key informants (89%) noted that current MPA-derived livelihoods are vulnerable to numerous threats and pressures. Key informants identified six threats and pressures facing MPA-derived livelihoods in the MPA - management regulations and restrictions and their associated impacts (59%); increasing financial costs/pressures (14%); competition among users (9%); pollution (9%); environmental changes (5%); and uncertainty in catch (4%). See Figure 5.

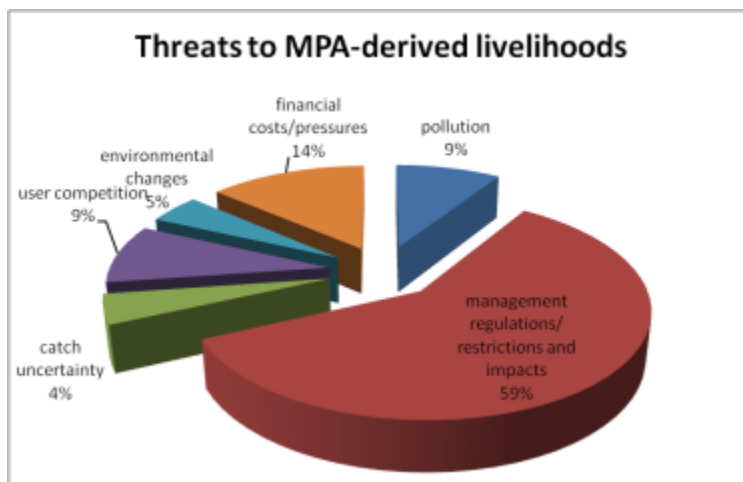


Figure 5 MPA-derived livelihood vulnerability

The most significant threat identified was that of management regulations and restrictions. Key informants noted that due to MPA management, current MPA-derived livelihoods particularly fishing, are increasingly vulnerable because people now have to travel further to conduct certain types of fishing which has an associated cost in terms of operation and requirement for training in new techniques as well as time to adapt to new fishing areas. In general, the majority of key informants noted that livelihoods derived from spearfishing are vulnerable. Changing environmental conditions including those associated with climate change were also identified as a threat to MPA-derived livelihoods.

### 3.1.3 Diversifying current livelihoods, interest in alternative livelihoods and knowledge of livelihood programmes

All key informants believe there is a need to diversify livelihoods in the communities adjacent to the MBMPA. A number of reasons for this need were provided including creation of employment opportunities (52%); improved social and financial stability (22%); provision of new skills (13%); youth empowerment (5%), reduction in crime (4%) and habitat and species protection (4%). See Figure 6. Key informants went on to note that any attempts to diversify livelihoods must be well planned out and executed with consideration of a number of things such as the need for Government support, community involvement, environmental protection and maximum benefits for the community.

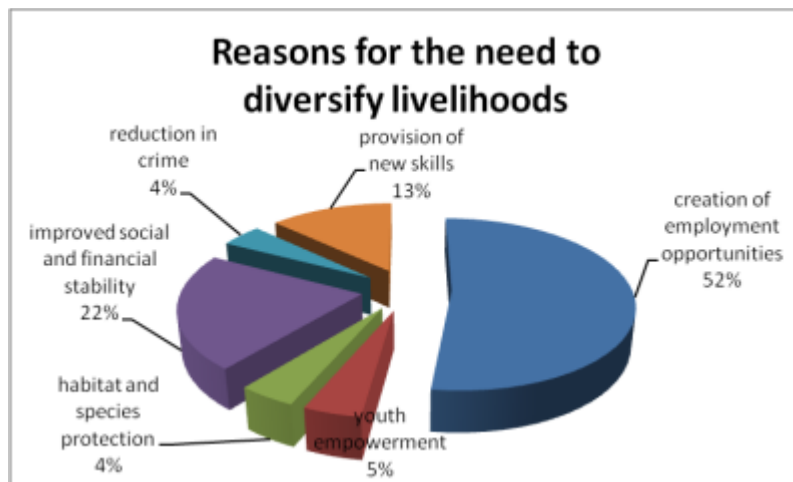


Figure 6 Why there is a need for diversification of livelihoods in communities adjacent to the MBMPA

All key informants believe that people from communities adjacent to the MPA are interested in pursuing alternative livelihoods for the following reasons: there are insufficient tourists to sustain current businesses; the MPA is here to stay so alternative livelihoods are required; to increase income and provide additional services to the community; to encourage creativity in persons; and because of the economic dependence on tourism. In order to pursue alternative livelihoods key informants state that opportunities, relevant training and financial support are required.

Persons see tourism-related jobs in the food and hospitality sector (restaurants, bars, small guesthouses, dive shops, art and craft shops, kayaking, glass bottom boat tours, MPA tour guiding); aquaculture and mariculture industries (seamoss and fish farming); and manufacturing as the most beneficial alternative livelihoods for communities adjacent to the MPA.

Almost equal proportions of key informants thought that training (35%) and financing (32%) were needed to encourage the pursuit of alternative livelihoods in the area. Government support, stakeholder organisation, development of strategies, development of infrastructure, monitoring, private sector investment, a stable political environment, research and marketing to ensure sustainability and development of tourism-related jobs were suggested as also being important to encouraging the creation of alternative livelihoods (Figure 7).

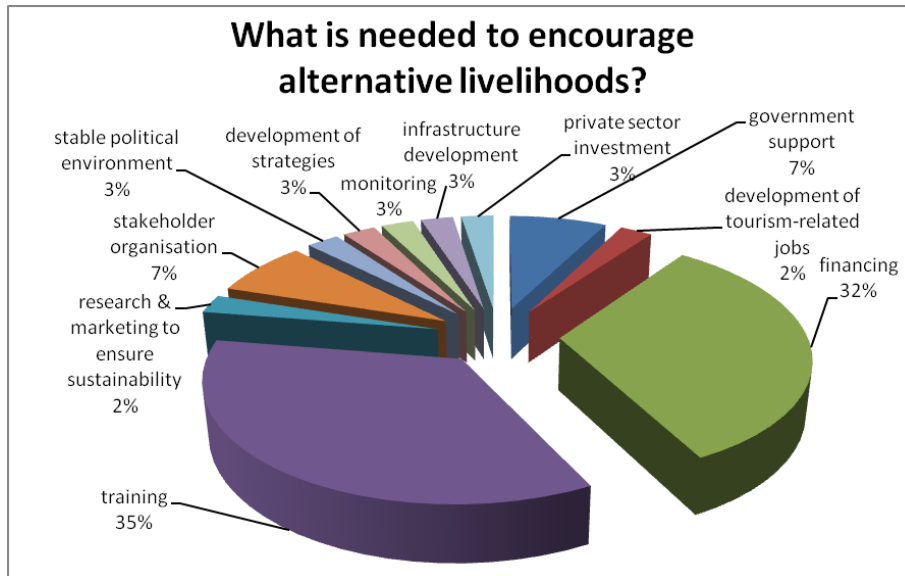
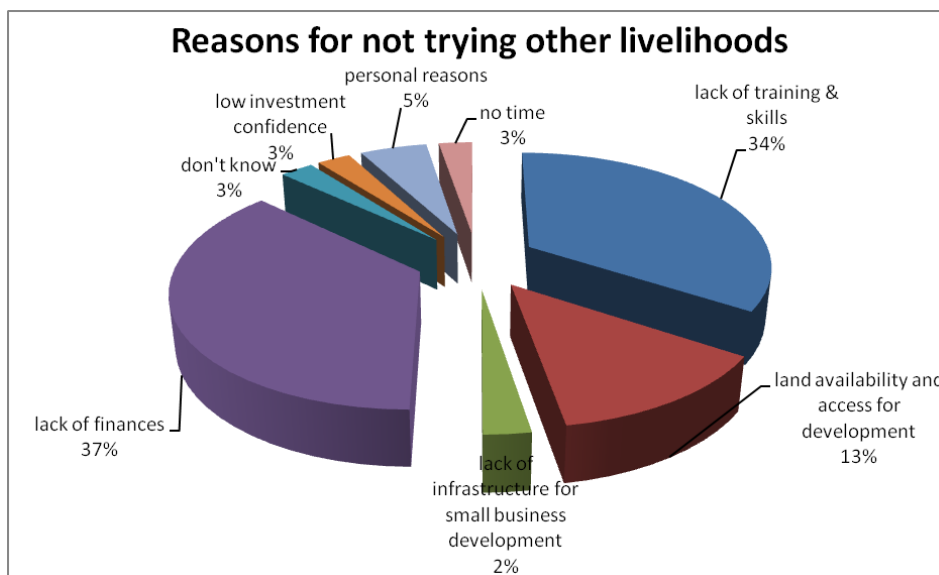


Figure 7 Requirements for promotion of alternative livelihoods

Key informants provided seven main reasons for not pursuing a livelihood they or others thought was better (Figure 8). A lack of finances (37%) and lack of training and skills (34%) were the most significant factors preventing the pursuit of other livelihoods. Other reasons included lack of land availability and access for development; personal reasons; low confidence in investment; no time; and lack of infrastructure for small business development. Only one person was unable to provide a reason for non-pursuit of other livelihoods (Figure 9).



**Figure 8 Hindrances to trying alternative livelihoods**

There was low awareness among key informants (28%) of current livelihood programmes introduced to the community by other organisations other than MPA management. There have been some alternative livelihood programmes implemented by the Grenada Red Cross (art and craft training), the Church (formation of football group with potential for football scholarships); government programmes (de-bushing and a government youth employment programme). The Red Cross and the Church programmes are not current. However, the government de-bushing programme is done annually only for short periods of three weeks to a month. There has been no initiative by MPA management to address alternative livelihoods in the area.

### 3.1.4 Support and need for local businesses

All key informants believe communities support local businesses as most offer lines of credit to people. All key informants also believe that communities will support further business development provided that it can bring benefits to them. It is generally thought that some businesses can create other business linkages which can provide more income opportunities for the people.

All key informants believe there is a need for specific types of businesses in the area. Fifty-seven percent of key informants feel that any tourism-related businesses would be most appropriate for adjacent MPA communities to engage in. The type of business thought to be the best fit for the area by the majority of key informants (27%) was stayover visitor accommodation such as guesthouses, B&Bs and villas. This was followed by diveshops (16%); restaurants and bars (14%); art and craft shops (11%); and a supermarket (11%). Larger supermarkets with greater choices were recommended by 11% of persons interviewed. It was thought that a pharmacy, fish and vegetable outlets, marine equipment supply store and manufacturing businesses were also needed. However, these types of businesses were recommended by only 3% and 5% of key informants (Figure 9). In addition to businesses, key informants noted that there was a need for accompanying infrastructure and facilities such as ATMs.

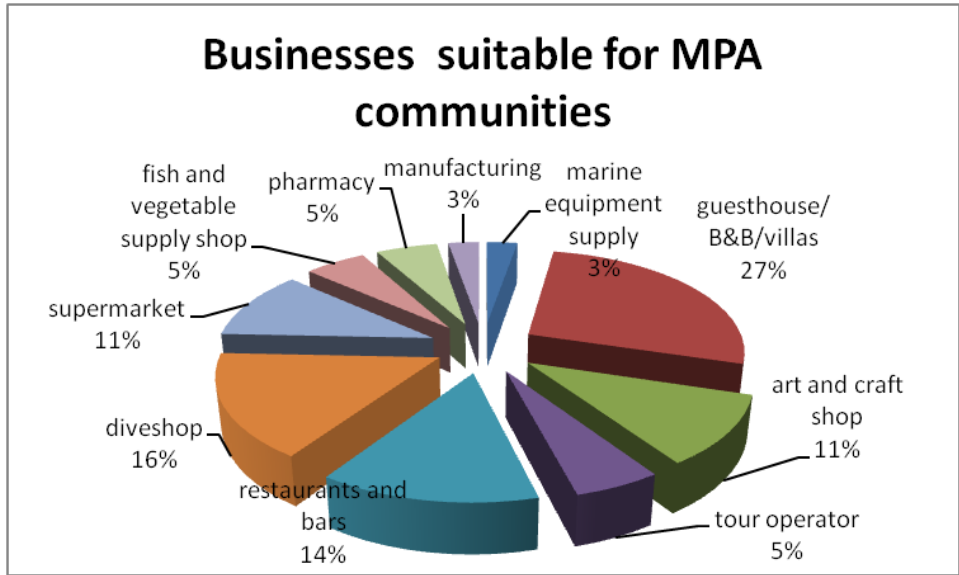


Figure 9 Businesses perceived to be the best fit for communities adjacent to the MBMPA

**3.2 Linkages between resource protection and livelihoods: strengthening community participation in MPA management and ownership**

**3.2.1 Stakeholder support for the MBMPA**

Perceptions of stakeholder support for the MBMPA vary. Over half (56%) of the key informants think that stakeholders are supportive of the MPA and its purpose while 22% in each case believe there is mixed or no support (Figure 10). In general key informants think that stakeholders understand that support for the MPA and its purpose will ultimately be beneficial to their businesses, the community, area development and sustainability. Fishermen, day charters and dive operators are positive about the MPA because they are resource users and their livelihoods are dependent on the MPA. No support for the MBMPA may be attributed to restrictions imposed by management on certain activities.

Key informants think that some stakeholders may have mixed support for the MPA because they perceive MPA benefits to be inequitable. The community feels left out. People living outside the area and who have dive shops, day charters and yachts appear to have more benefits than those with in the area.

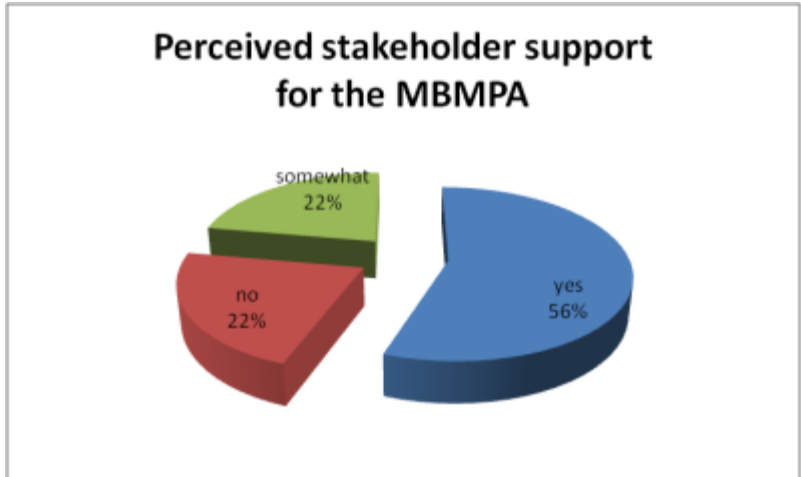


Figure 10 Stakeholder support for the MBMPA and its purpose

3.2.2 Stakeholder awareness of the MBMPA

There were mixed responses of "yes", "no" and "some" to whether stakeholders are well informed about the MPA and its purpose. Just over half of the key informants (55%) believe that stakeholders are aware of the MPA and its purpose whereas 17% think they are not. Twenty-eight percent of persons believe that some stakeholders are well informed and some are not (Figure 11). In general businesses (dive shops and day charters) are thought to be better informed than the communities around the MPA. Awareness of the MPA and its purpose was thought to be due to good promotion by the media and the MPA and business interest. It was noted that because of this awareness people are talking about the MPA and some are obeying rules and regulations.

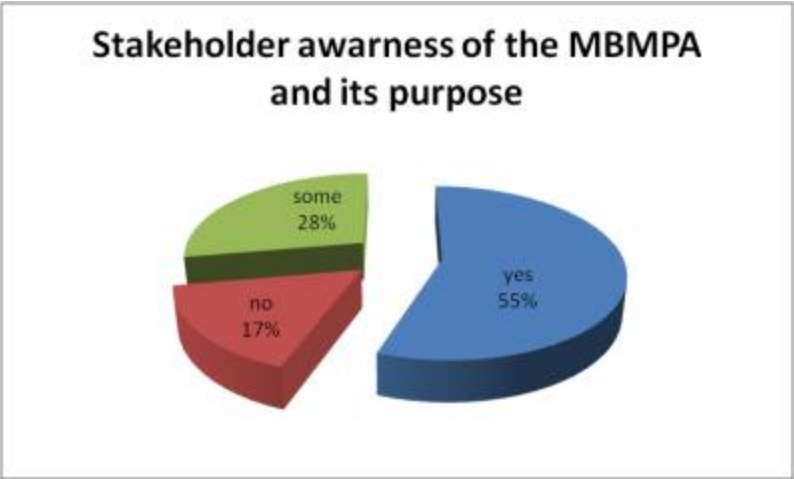


Figure 11 Perceived stakeholder awareness of the MBMPA

Persons suggested that more promotion of the MPA was needed in communities. A lot more work has to be done. It was suggested that the media (radio) be used more for awareness raising. Signage was also recommended. Persons also believe that schools in the area need to be more involved. One-on-one engagement and community meetings were proposed as means of raising MPA awareness. Generally, it

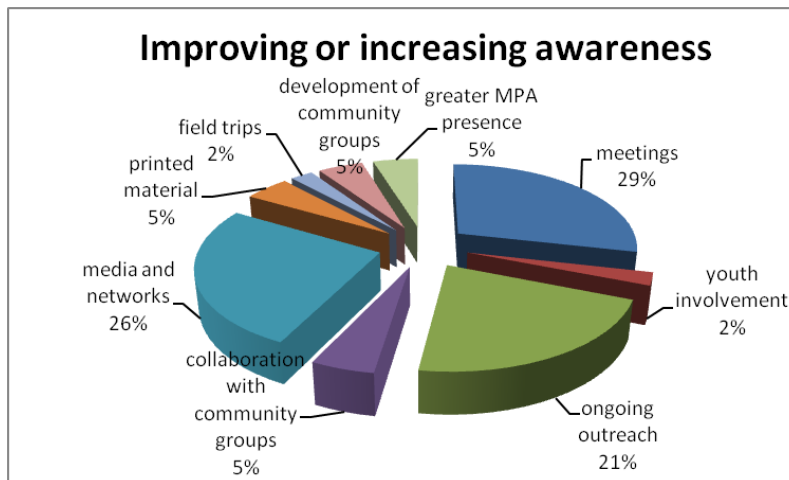


is thought that even though people in the community may know about the MPA, they do know about the functions of the MPA and the role that stakeholders can play in its success.

Key informants suggested a combination of ways that MBMPA management could improve and increase awareness about awareness about the MPA, the most popular of these being meetings (29%); the use of media and social networks (26%) and networks (26%) and ongoing outreach (21%). See

Figure 12. In terms of meetings, it was suggested that more community, stakeholder and group meetings were required. Both group and one-on-one meetings were recommended. Promotion of the MPA through audio/visual and print media such as television, radio, newspaper, newsletters and the use of social networks (such as phone groups) were highlighted by key informants. Continuous community outreach was also recommended and persons mentioned that MPA management should include schools in such outreach.

In general, the majority of key informants (67%) stated that there had been various initiatives that had worked well in worked well in maintaining community awareness about the MPA. Twenty-two percent of persons noted there had not been



noted there had not been any such initiatives while 11% did not know of any (

Figure 13)

Figure 12 Means of improving and increasing awareness about the MBMPA among people in the community

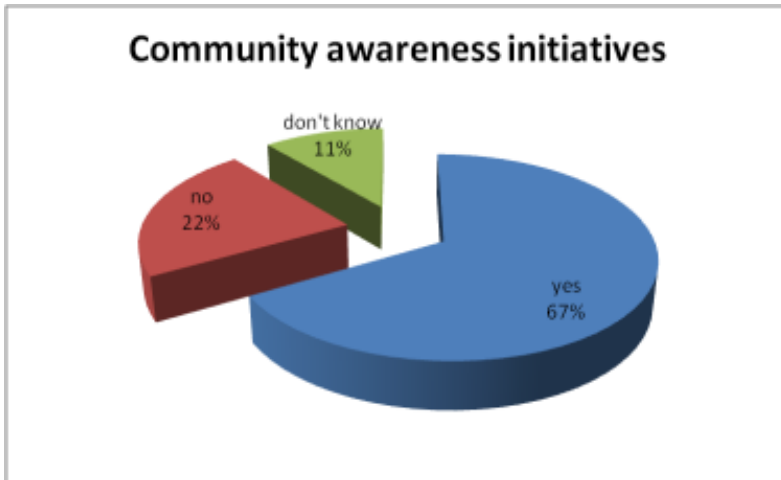


Figure 13 Knowledge of initiatives that have worked well in maintain long-term community awareness about the MPA

Persons were able to recall recent MPA promotions in 2010 with the launch of the MPA and the educational outreach programme in June/July 2012, as well as signs and billboards. However, many persons noted that in spite of this, more needs to be done on a consistent and regular basis to create more understanding of the MPA and its concept. Additionally, some suggest that a system needs to be put in place to help evaluate the impact of these awareness-raising activities and programmes.

### 3.2.3 Stakeholder interest and involvement in MPA management

Thirty-nine percent of persons interviewed were able to identify stakeholders interested in management of the MBMPA. Key informants noted that community members, schools in Happy Hill, the Happy Hill Family Day Organisation, the Happy Hill Football Club, fishermen and the Fishermen's Cooperative in Grand Mal are interested in MPA management. Two key informants also noted their personal interest in management of the area. Fifty percent of key informants said they were not aware of any stakeholders or organisations that are interested in MPA management, while 11% believe there is no interest in management.

Three main stakeholders have been involved in management of the MBMPA. Many of the key informants (67%) knew of the involvement of the North West Development Authority Inc. in MPA management followed by 17% for the Happy Hill Family Day Organisation and 6% for the Southern Fishermen's Cooperative. Twenty-eight percent of key informants either did not know or were not aware of any stakeholder involvement in MPA management, while 6% believed there was no stakeholder involvement.

### 3.2.4 Encouraging stakeholder participation in management

The majority of key informants (67%) thought that not enough had been done to encourage stakeholder participation in management of the MPA. Only 28% believe that stakeholders have been encouraged sufficiently to participate in management (Figure 14).

Generally, key informants feel that more needs to be done in the community to raise awareness about the MPA and gain interest in MPA management. In cases where there have been awareness-raising activities, key informants stated that there has been no follow-up to increase participation. Persons interviewed note that the targeting of local users has not been done in a consistent way. Some key informants suggested that MPA management needs to take a leading role in conservation and protection of the environment in the area through community and beach clean-ups.

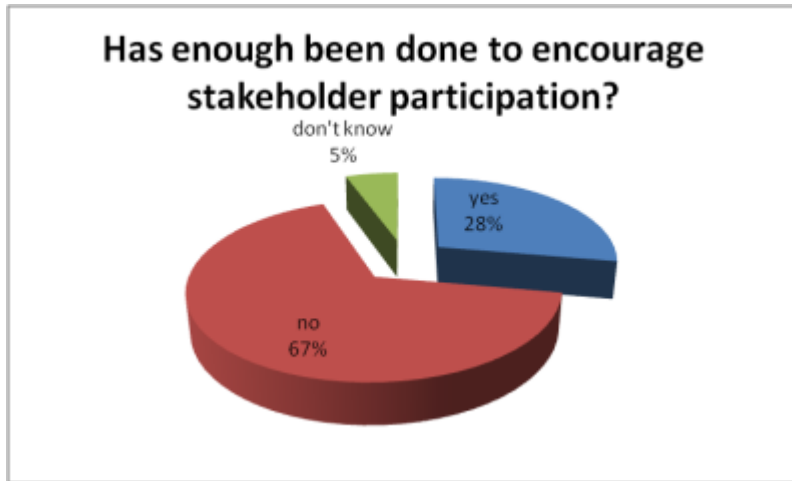


Figure 14 Has sufficient been done to encourage stakeholder participation in management?

### 3.2.5 Stakeholders positively and negatively affected by MPA management

Fishermen (55%) and dive shops, day charters, tour operators (30%) were identified by key informants as the stakeholders that are being positively affected by MPA management. A few key informants noted that the community (7%) and bars (4%) also benefit from management. Only 4% believed that none of the stakeholders are positively affected by management of the MBMPA (Figure 15).

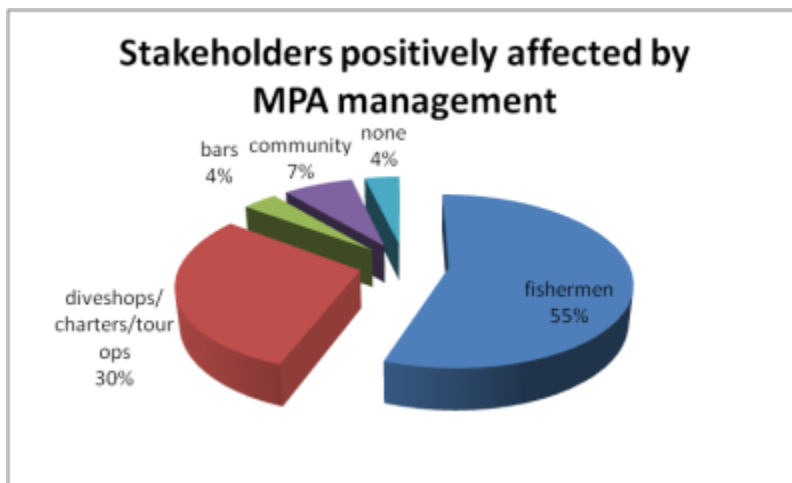


Figure 15 Stakeholders perceived to be positively affected by MBMPA management

Persons interviewed believe that boat, rock and seine fishermen are positively affected by MPA management due to a number of reasons including: increases in fish stock size and the spill-over effect due to protection of corals resulting in increased catches; increase in fish quality; awareness of other available opportunities; ability to use normal fishing grounds (seine fishermen); and use of areas not used previously for fishing. Some people noted that dive shops and day charters were benefiting from management since increases in fish populations are attracting more visitors to the park. The community also benefits from the increased catches because there is more food available and more visitors to the area so there are increased opportunities for business.

In general, fishermen are also thought to be negatively affected by MPA management. Key informants (78%) thought that fishermen combined - boat, seine and spear fishermen - are the stakeholders that are most negatively affected by MPA management. Of that proportion, 56% of key informants believe that spear fishermen are most negatively impacted by MPA rules and regulations. A minority of persons interviewed (13%) think the community has been negatively affected and 9% were unable to identify stakeholders affected negatively (Figure 16).

Fishermen are thought to be most disadvantaged by MPA management due to area restrictions imposed by management. Key informants noted that due to these restrictions, fishermen now have to travel further away resulting in increases in operation costs and effort. These financial pressures may result in decreases in household income. It was also noted that spear fishermen are further disadvantaged because they have to travel outside of the MPA to conduct their activities while other uses are zoned.

Some key informants noted that the community is affected mainly because of a lack of awareness and understanding of the MPA user fee system which has resulted in community members not taking part in activities allowed in the MPA.

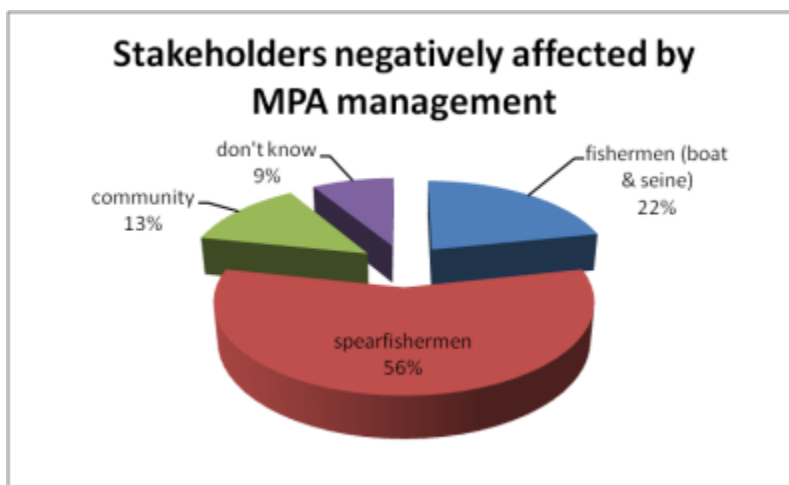


Figure 16 Stakeholders perceived to be negatively affected by MBMPA management

### 3.2.6 Influence on decision-making and management

Community groups and organisations were recognised by the majority of key informants (32%) as being in a position to influence decision-making and MPA management. Property and business owners (20%)

such as dive shops and day charters, fishermen and traditional users (18%) and community leaders and other influential people (12%) were also perceived to be influential in MPA management and decision-making. The yachting sector, government and petroleum industry were also thought to be in positions to influence management however these were suggested by a minority of key informants (Figure 17).

In terms of community groups and organisations that could influence MPA management, key informants identified the following: NWDAL, Northwest 40+, Happy Hill Family Day Association, Happy Hill Football Club and the Southern Fishermen’s Association. Key informants were careful to note that community members and fishermen could influence management but only if they were able to organise themselves in groups.

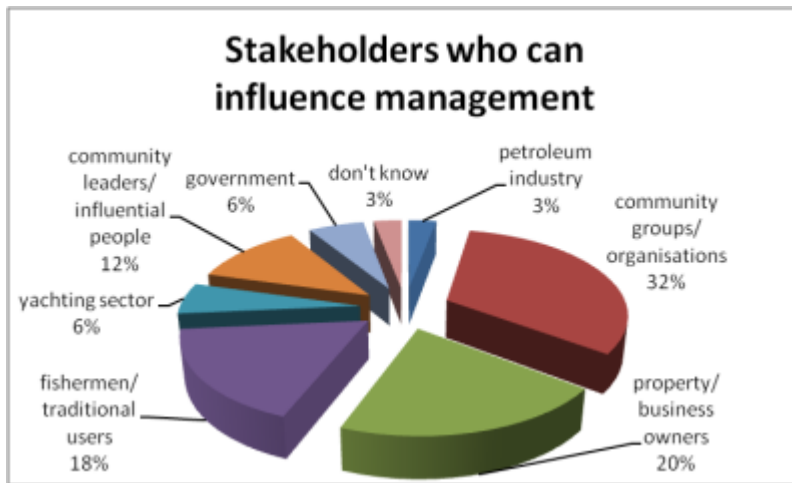


Figure 17 Stakeholders and resource users who are in a position to influence decision-making and management

#### 4 VALIDATION OF RESULTS

The turnout at these meetings was much lower than was anticipated. There were no more than ten persons at each meeting with four or five persons being kids. However, at the presentations of the results individuals were very attentive and engaged in the discussions that followed.



Figure 18: PowerPoint presentation of results

Poor meeting attendance may have been due to a number of reasons including:

- Announcement of the date for the county's election which propelled everyone into a campaign frenzy.
- Most of the residents in the study area are strong supporters of the opposition political party, the New National Party (NNP) and as such were preoccupied with campaign meetings.
- MBMPA SocMon meeting times conflicted with these political campaign meetings.
- Deadline of the project was close and therefore meetings could not be postponed.

## 5 DISCUSSION AND CONCLUSIONS

### 5.1 To assess how the MPA impacts livelihoods of the communities in the area and identification of socio-economic conditions that will enable alternative livelihood options

MPAs are an example of regulatory approaches to the use of coastal resources, in terms of their implications for livelihood change, both through the constraints they put on pre-existing livelihoods such as small scale fisheries, and through the livelihood initiatives (alternative or additional) they bring with them (Brown 2011).

Prior to the launch of the Molinière-Beauséjour marine protected area in 2010 over 75% of the MPA-derived jobs were related to or involved the extraction of marine resources. This high dependency on, and unsustainable use of the area, led to reef degradation and resource depletion. There was a need for protection and conservation of the marine and coastal resources. Some of the other jobs available e.g. sand mining, boat building and jet skiing began to dwindle as regulations were now enforced with the designation of the MPA. Fishermen were buying bigger boats to be able to access distant fishing grounds. With the global recession looming overhead, most turned to fishing and farming as livelihood options as they both require less capital input. Nevertheless, these livelihoods brought continued pressure on to the already stressed marine resources, as bad farming practices resulted in excessive nutrient runoff while continued fishing, i.e., seine and rock fishing, reduced the population of important species.

Consequently, current MPA-derived jobs are vulnerable to declining importance due to continued resource degradation, other threats and pressures, as well as MPA management interventions. Fishermen are thought to be most disadvantaged by MPA management due to regulations, specifically area restrictions, imposed by management. Due to these restrictions, fishermen now have to travel further away to fish resulting in increases in operation costs and effort, as well as time spent to adapt to new fishing areas. These financial pressures may result in decreases in household income. Spear fishermen were further disadvantaged because they have to travel outside of the MPA to conduct their

activities, while other uses of the area have been considered and are zoned. In addition there was the uncertainty of the catch and there has been competition and conflicts between the numerous MPA users. Generally, due to MPA management interventions there has been a trend of displacement of people who had previously been making a living from the MPA into jobs such as construction and farming for which they had not been trained. There have been a few alternative livelihood options or programmes in these communities, however, most are no longer functioning. This displacement and lack of alternative livelihood options may also be linked to involvement in illegal activities within communities.

As such, there is an urgent need for MPA management to pay attention to the diversification and provision of livelihoods in communities around the Molinière-Beauséjour MPA. As indicated by the key informants, any diversification of livelihoods has to be well planned and supported by the community for acceptance and to bring sustainable benefits to the people and the communities. Persons are very interested in alternative livelihoods as they believe the MPA is here to stay. Additionally, these types of livelihoods can increase income, provide additional services to the communities and encourage creativity. With a decline in the tourism sector careful consideration must be given to the types of alternative livelihoods that are promoted as most of the alternative livelihood options identified as being most beneficial to the communities are closely linked to this sector.

A number of socio-economic conditions exist within the communities of the MBMPA that will enable the development and pursuit of alternative livelihood options. These include the declining importance of traditional MPA-derived livelihoods (fishing) due to continued resource degradation, and knowledge that resource users are dependent on the MPA and that its protection will ultimately be beneficial to livelihoods.

Management should be mindful that in spite of interest in alternative livelihoods, the substitution of existing extractive livelihoods, such as fishing, with a new income-generating opportunity not dependent on MPA resources may not necessarily result in a reduction in reliance on resources from within the MPA. Additionally, the introduction of alternative or additional livelihood options does not necessarily mean that poor people from the surrounding communities will not need to use resources from the MPA if they have increased income. There is also the possibility that new sources of income will complement rather than replace income obtained from the MPA (Brown 2011).

Financial and other business organisations from both the private and public sectors must work with MBMPA management and interested individuals as some of the gaps in addressing these livelihood options relate to financial support and business training. For those who have the resources to pursue alternative livelihoods, necessary training skills, low investment confidence and political stability are possible hindrances to pursuing these livelihood options. Due to the link between MPA management and the surrounding communities, management is strategically placed to provide the public and private sectors with information on specific livelihood needs and constraints to obtaining them. Collaboration between MPA management and these sectors is essential in providing appropriate livelihood options, developing livelihood programmes, and providing any required training in new skills for persons displaced from the MPA by management measures. Providing people in the communities surrounding

the MPA with alternative livelihood options will aid in increasing stakeholder acceptance and support of the MPA. People will realise that MPA management recognises the importance of people in neighbouring communities and the stake they have in the MBMPA. Further, it will aid MBMPA management in achieving at least one component of the long-term goal of the MPA, "...to ensure provision of livelihoods..." (Roby 2010).

## **5.2 To strengthen community participation in MPA management and MPA ownership based on examining potential linkages between resource protection and livelihoods**

An important component in effective MPA management and therefore good MPA governance is community and/or stakeholder participation in decision-making or involvement in management activities. However, this can be difficult and may take long to achieve (C. Isaacs pers. comm.) This is so as most MPA benefits to communities come with a reduction in their livelihood activities, even more so when there are no opportunities for alternative livelihoods. Therefore engaging stakeholders in management may be difficult. Despite some successes, and the involvement of three key stakeholders in management (as members of the management board), the MBMPA is no different in this regard. Not enough has been done by the MBMPA to encourage stakeholder participation in management. This however can be changed.

Based on key informant perceptions on stakeholder support, there seems to be significant support already for the MBMPA among communities. This compares favourably with the results of a socio-economic survey conducted in 2010 on stakeholder awareness, attitude, perceptions and opinions of the MBMPA to inform management planning in which a large percentage of respondents were in support of the MPA (Roby 2010). Additionally, even though it is a small proportion, key informants believe that stakeholders are interested in the management of the MPA with numerous groups or organisations thought to be capable of influencing management. However, it is thought that more groups need to be formed in the community to strengthen community participation in MPA management and ownership.

To build on this already fairly significant base of support and encourage stakeholder participation in management, MPA management needs to increase the level of awareness-raising and improve communication about the MPA and its potential livelihood benefits in the communities. There has been some awareness promotion conducted recently by the MPA in 2012 which involved the distribution of informational brochures, five open air presentations and glass-bottom boat rides for adults and children to the Sculpture Park. These types of activities should be ongoing.

The perception of the key informants, and by extension the community, appears to be that the current MPA management has benefitted or benefits only fishermen and businesses such as dive shops and day charters. Some persons interviewed see the linkages between resource protection and livelihoods as they noted that boat, rock and seine fishermen are positively affected by MPA management due to a number of reasons including: increases in fish stock size and the spill-over effect due to protection of corals resulting in increased catches; increase in fish quality; awareness of other available opportunities; ability to use normal fishing grounds (seine fishermen); and use of areas not used previously for fishing. In addition, day charters and dive shops are well informed of the functioning of the MPA as they are well



represented on the MBMPA management board. They are aware that they benefit from increased business opportunities due to increased visitation to the areas a result of MBMPA management. However, some key informants noted that the community is affected negatively by MPA management mainly because of a lack of awareness and understanding of the MPA user fee system which has resulted in community members not taking part in and benefitting from activities such as swimming and snorkelling that are allowed in the MPA.

The results of the MBMPA SocMon seem to indicate a change in the perception of stakeholders in the past three years regarding perceptions of benefits of the MPA to communities. In the 2010 socio-economic survey by Roby, the overwhelming majority of persons were optimistic about the future benefits of the MBMPA. The results of this SocMon study suggest that MPA management needs to improve its education efforts to make stakeholders aware of the long-term benefits of the MBMPA to the communities by highlighting the potentially positive relationship between resource protection and livelihoods. It has been suggested that MPA management make more use of one-on-one engagement, community meetings and involve schools of the area in its awareness-raising. MBMPA management should be guided by and should fully implement the communication plan for the MBMPA (Roby 2010).

The current relationship between the communities and the MPA can be seen as one in which there is only interaction and communication when either party is making some type of demand of each other. For example when management engages the community about compliance with rules and regulations or when the community confronts MPA management when management actions adversely affect their livelihood activities. This type of management approach cannot work and should be adjusted to one in which there is regular interaction between MPA managers and communities. Regular scheduled meetings (informal or formal) between MPA managers and staff, and stakeholders to discuss MPA plans, stakeholder issues and concerns will encourage greater stakeholder participation in management and foster stakeholder ownership of the MBMPA. This will lead to increased stakeholder support for and success of the MPA (Pomeroy et al. 2004).

### 5.3 Lessons learned

The lessons learned are those relating to the process of socio-economic monitoring at the MBMPA. This project, the first in addressing alternative livelihoods in the communities of the MBMPA, has presented the team with many challenges. The lessons learned will certainly assist in any future SocMon assessment. These include:

- Funds should be made available during development of the pre-proposal as financing is needed for the information gathering and administration.
- Early disbursement of funds is necessary to ensure fluidity of the project. The second disbursement of funds was late and disrupted the process as persons were now inconvenienced by the change in activity schedule.
- Late disbursement of funds hindered the scheduled activities and the participation of more key informants in these activities.
- Funding was insufficient as this specific assessment needed to include the six communities of the MBMPA which was not catered for in the pre-proposal.

- More persons were available who could have contributed to the monitoring but this had not been catered for in pre-proposal.
- Not all team members were trained in the SocMon methodology.
- Poor attendance at validation meetings was not as expected as they were held during the island's soon to be held elections. Careful planning of meetings to avoid conflicting dates is essential.
- More refreshments were catered for than the number of persons who turned up.
- Due to deadline of the project some activities had to be rushed so as to avoid it clashing with the election campaigns. Time management of project activities is critical.

## **6 RECOMMENDATIONS FOR MONITORING AND ADAPTIVE MANAGEMENT**

This SocMon study has highlighted a number of areas that should be considered by MBMPA management for effective and sustained management of the area. These include:

- An overwhelming need to create employment opportunities in the MPA and improve the social and financial stability of the six surrounding communities. Tourism-related jobs have been suggested as those that would be the most beneficial alternative livelihoods for communities adjacent to the MPAs. Management should therefore determine the capacity for such. Perhaps a detailed livelihoods analysis should be undertaken for the area in which further analysis of suggested alternative forms of income generation could be undertaken.

MBMPA management must consider that in order for alternative forms of income to replace MPA-derived income, they must be attractive in terms of relative value and inputs of time and labour, but if they leave sufficient periods of time or seasons when people can continue to earn income from the MPA, then local people are likely to continue to exploit the MPA resources (Fisher 2001). A delicate balance must therefore be found.

Once the livelihoods analysis is completed, a job fair for people to consider a range of employment and training opportunities could be organised by the MBMPA in collaboration with local businesses and the private and public sectors. Vocational training programmes based on priorities emerging from the job fair in order to satisfy community requirements and to provide new possible alternative income generation could then be designed. Any training programmes or initiatives implemented should be monitored by the MBMPA to measure impact and success on the MPA and its resources.

It is important that an effective plan for the development of alternative livelihoods within the MBMPA and surrounding communities be implemented. It is our hope that this process can be used a model for other MPAs in Grenada.

- Fishermen are the most negatively and positively affected MPA stakeholder group. The MBMPA needs to consider this stakeholder group carefully in future implementation of management measures. This group is both highly vulnerable and impacted by MPA management.

Management should promote the formation of a fishermen's group in the area for integration and participation in MPA decision-making and management.

- There is thought to be relatively high stakeholder support for the MBMPA but there is room for improvement. Similarly awareness of the MPA among stakeholders is fairly high but needs to be increased. Improved and increased promotion of the MPA should be a priority for management. Awareness-raising needs to be a continuous management activity. Regular interaction between MPA managers and staff, and stakeholders should be initiated as outlined in the communication plan for the MBMPA (Roby 2010). The level or degree of interaction between MPA management and stakeholders as well as stakeholder awareness and support should be monitored to determine changes and evaluate MPA management effectiveness.

With the exception of the socio-economic survey conducted in 2010 to guide management planning, this study has been the first socio-economic assessment conducted subsequent to the launch of the MBMPA. This Caribbean Challenge SocMon project has provided valuable insight into MPA-derived livelihoods and options for alternative livelihoods. The preparation of a monitoring program for the MBMPA has been emphasised in the management plan (Roby 2010), however focus was given to the biophysical. The need for social monitoring was indicated as being necessary for adaptive management. Therefore, the MBMPA should include socio-economic monitoring and the adoption of the SocMon Caribbean methodology in the research, monitoring and evaluation framework for the MPA. Such monitoring will allow the examination and determination of, among other things, trends in livelihoods, stakeholder attitudes and perceptions, stakeholder awareness and participation in management and socio-economic conditions within the MPA in order to inform and adapt management. New SocMon variables have been developed specifically for this study and can be used with other SocMon variables to build a core of socio-economic variables that can be regularly measured and monitored.

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## 8 APPENDICES

### Appendix 1: Key informant interview



## Socio-economic Assessment for MBMPA

### Key informant interview

This key informant interview is aimed at collecting data to assess the feasibility of alternative livelihood options for the communities of the Moliniere/Beausejour Marine Protected Area (MBMPA). Brizan, Beausejour, Happy Hill, Moliniere, Mt. Moritz and Grand Mal are villages that will be participating in this survey. This interview is being facilitated by the MBMPA and conducted as part of a project which is funded by the Centre for Resource Management and Environmental Studies (CERMES), University of the West Indies. All information given will be treated with the utmost confidence and used solely for the purpose stated. So that you know what is happening, you will be invited to a meeting where information collected from a series of key informant interviews will be presented. You may be asked to participate to again in a similar activity in a few years.

Interviewee: \_\_\_\_\_

Interviewer: \_\_\_\_\_

Location: \_\_\_\_\_

Date: \_\_\_\_\_

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#### **MPA impacts on community livelihoods and identification of socio-economic conditions that will enable alternative livelihood options**

1. Before the launch of the MBMPA in 2010, what marine-related jobs were people in the community involved in? *Key informants should be asked to recall different types of marine-related jobs people were involved in five years before the launch of the MPA, (i.e. during the mid-2000s)*

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2. (a) In what ways, if at all, has the MBMPA and its management affected the ways in which people earn a living in the area? [New: Coastal and Resource Management Levels and Types of Impact OR MPA impacts]  
(b) What has the trend in changes in livelihoods in the area been?

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3. Are current MPA-derived livelihoods vulnerable to any threats or pressures? If yes, what are they?

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4. Is there a need for diversifying livelihoods in communities adjacent to the MBMPA? Explain.

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5. Do you think people from communities adjacent to the MBMPA are interested in pursuing alternative livelihoods (e.g. seamoss farming, fish farming, tourism, small businesses, etc. Get an indication of what alternative livelihoods would be most beneficial to MPA communities)? Explain.

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6. What, if anything, has prevented you or someone you know from trying a livelihood they thought was better?

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7. (a) Are you aware of any livelihood programmes introduced to the community by any organizations?  
(b) Are they current?

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8. What is needed to encourage alternative livelihoods in the area?

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9. Do communities support local businesses (by patronizing them)? Would communities support further business development in the area? Explain.

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10. Is there a need for specific types of businesses/services in the area? What types of businesses would work best in communities adjacent to the MBMPA (e.g. hotels, guesthouses, dive shops, tour operators, restaurants and bars, art and craft shops etc)?

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**Linkages between resource protection and livelihoods  
(strengthening community participation in MPA management and ownership)**

11. Do you think [stakeholders] are supportive of the MBMPA and its purpose (to reduce user conflicts as well as protect coral reefs and associated resources)? Explain.

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12. In your opinion, are stakeholders [fishers, dive operators, businesses, hoteliers/restaurant owners etc] well informed about the MPA and its purpose (*to reduce user conflicts as well as protect coral reefs and associated resources*)? Explain.

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13. What can MBMPA management do to improve and increase awareness about the MPA among people in the community?

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14. Have there been any initiatives that have worked well in maintaining long-term community awareness about the MPA? Explain.

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15. Which stakeholders and/or organizations within the MBMPA communities are interested in or involved in MPA management?

Interested:

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Involved:

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16. Which stakeholders and or/organizations are affected (positively or negatively) by MPA management?

Positively:

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Negatively:

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17. Do you think enough has been done by MPA management to encourage stakeholders to participate in management of the MBMPA and its resources? Explain.

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18. Identify the resource users and stakeholders who are in a position to influence decision-making and management of the MPA.

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**THANK YOU.**

Appendix 2: Key informant SocMon Caribbean variables selected for monitoring

<b>Variable no.</b>	<b>Variable name</b>
K12	Occupation
K23 (revised)	Stakeholders
K31 (revised)	Stakeholder participation
NEW	MPA changes and impacts
NEW	Management support
NEW	MPA knowledge and awareness
NEW	Business and service provision
NEW	Livelihood trends, enhancement and vulnerabilities

Appendix 3: Validation meeting slides



**Assessing the feasibility of alternative livelihood options for communities surrounding the Molinière-Beauséjour Marine Protected Area, Grenada**

Coddinton Jeffrey  
Senior Warden, MBMPA

**Overall Objectives**

- To assess how the MPA impacts community livelihood
- To encourage community participation in MBMPA management and ownership based on examining potential linkages between resource protection and livelihood
- To identify the socio-economic conditions that will enable alternative livelihood and its related development

**What is a socio-economic assessment?**

It's a way to learn about the social, cultural, economic & political conditions of individuals, groups, communities and organizations.




**Why in the communities of Moliniere/Beausejour Marine Protected Area?**

- The balance between sustainable use and conservation.
- Human activities have affected reef health.
- Livelihood and prosperity of people depend on the conditions of the reef.
- All these cannot be considered in isolation!!!!!!




**With this information management can....**

- Determine the effects of management decisions on stakeholders (e.g. no seine fishing in Sculpture Park)
- Use stakeholder interests and concerns to guide management process
- Identify the value of the reef resource and services to the general public (e.g. creating awareness)



**Moliniere-Beausejour MPA**

- 0.60 km<sup>2</sup> (0.23 sq miles)
- 2.2 km long (1.4 miles long)
- 2.5 miles from St. Georges
- Many resource users (e.g. scuba divers, snorkelers, fishermen, yachting sector)
- Residents from the 6 adjacent communities use the area
- Many stakeholder interest



### Moliniere-Beausejour MPA



### Moliniere-Beausejour MPA

- Unsustainable use over time has led to reef degradation and resource depletion.
- Global recession
- Most turn to farming and fishing
- General consensus – MBMPA management has to provide alternative livelihood opportunities



### Method

- A SocMon team was formed (including 4 community members)
- Using SocMon Monitoring Guidelines/SocMon Manual – surveillance, secondary data collection, etc.



### Method

- The interview for the key informants was developed and tested.
- Key informants were identified and interviewed.
- These included
  - Community members
  - Community group members
  - Fishermen
  - Business owners
  - Gov't reps.



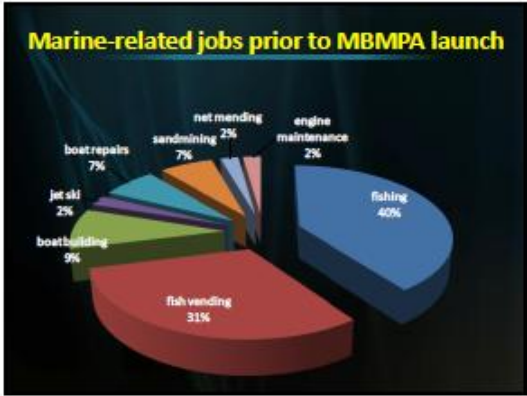
### Method

- 18 interviews were conducted – about 3 from each community
- Two informal meetings were held.
- Data compiled and analyzed



### Results

**MPA impacts on community livelihood and identification of socio-economic conditions that will enable alternative livelihood options**



- ### Threats to MPA-derived livelihoods
- Management regulations/restrictions & impacts (59%)
  - Financial pressures (14%)
  - Pollution (9%)
  - User competition (9%)
  - Environmental changes (5%)
  - Catch uncertainty (4%)



- ### Enabling environment for Alternative Livelihood
- All key informants are interested in an alternative livelihood option
    - Income generation
    - New skills learned
    - Improved lifestyle
  - All agreed there is a need for diversifying livelihood
    - Bring direct, indirect & long term benefits for the people and communities
- 

- ### Reasons for not trying other livelihoods
- Top three reasons:
- Lack of finances (37%)
  - Lack of training & skills (34%)
  - Land availability & access for development (13%)
- Other reasons
- No time
  - Personal reasons
  - Low investment confidence
  - Don't know
  - Lack of infrastructure for small business development



### Businesses most suitable for communities near the MPA

The top three suitable businesses:

- \*Guesthouse/B&B/villas (27%)
- \*Dive shops (16%)
- \*Restaurant and bars (14%)

Other suitable businesses

- \*Art and craft shop
- \*Supermarket
- \*Tour operator
- \*Pharmacy
- \*Marine equipment supply
- \*Manufacturing
- \*Fish and vegetable supply shop

### Encouragement of alternative livelihoods

Most key informants (KIs) stated the following is needed:

- \*Training (35%)
- \*Financing (32%)

Other requirements

- Stakeholder organisation
- Private sector investment
- Infrastructure development
- Monitoring project process
- Research and marketing to ensure sustainability
- Development of tourism-related jobs




### Results

#### Linkages between resource protection and livelihoods (strengthening community participation in MPA management and ownership)

### Community support and awareness of MBMPA

- \*56% believed that stakeholders supported the MBMPA
- 55% indicated that stakeholders are aware of the MBMPA and its purpose



### How to strengthen community participation?



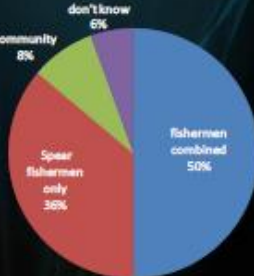
N = 18



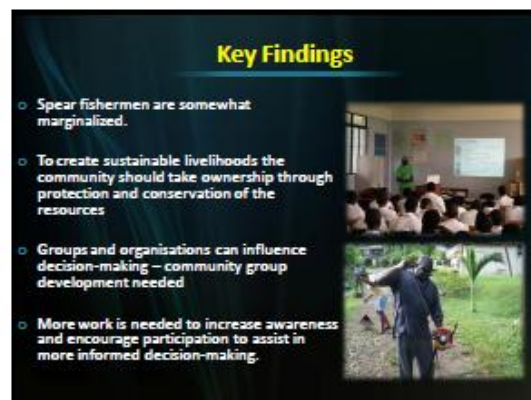
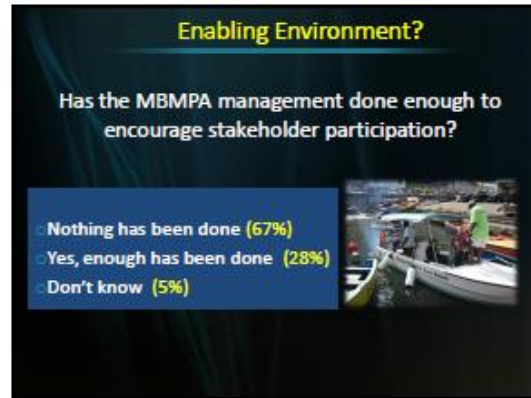
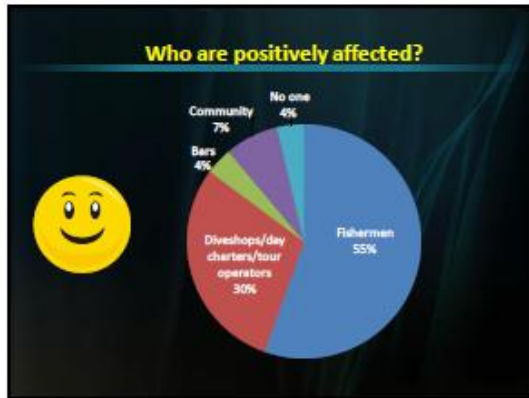
Media: 1  
Community meetings: 2  
Community group formation: 2  
Intersection of all three: 13



### Who are negatively affected?






fisherman combined: 50%  
Spear fisherman only: 36%  
community: 8%  
don't know: 6%




### Key Findings

- Potential livelihood are closely linked to tourism
- Training and financial support are required for potential livelihood options



### Recommendations for Managers

- Work closely with the community to form groups (especially fishermen)
- Reform spear fishermen - tour guides (Sculpture Park Excursions)
- Engage in more community awareness and education through the media, community activities, schools, etc.
- Seek collaboration with donor agencies and private sector to provide funding



### Recommendations for Managers

- Use private & public sectors to help build capacity in business development
- Focus on bringing long-term benefits to the people and the communities
- Service sector can help – requires minimal capital input



### Potential funding opportunities for alternative livelihoods for fishermen

- Funded by Global Environmental Facility
- Status: Approved
- Maximum funding can be up to EC\$ 134,000

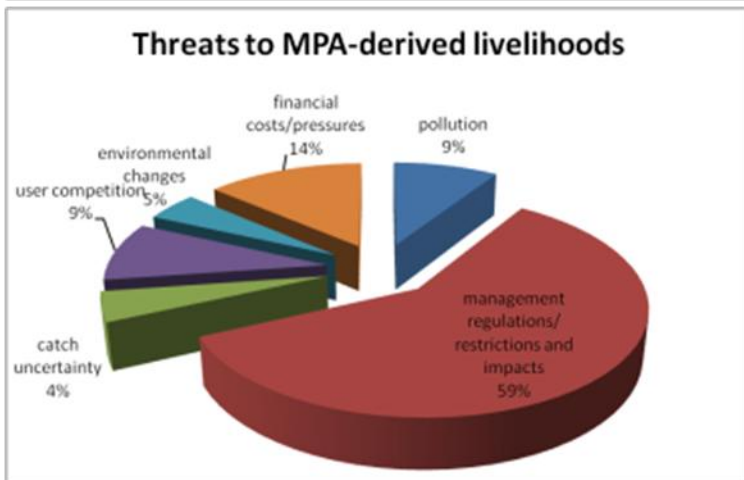
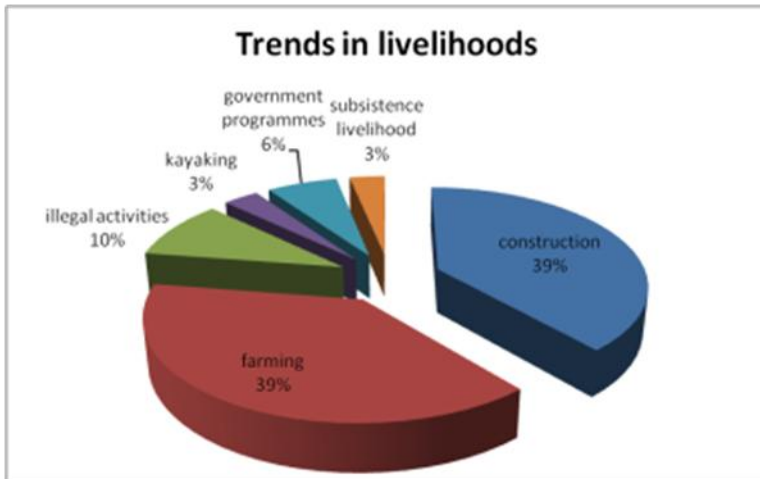
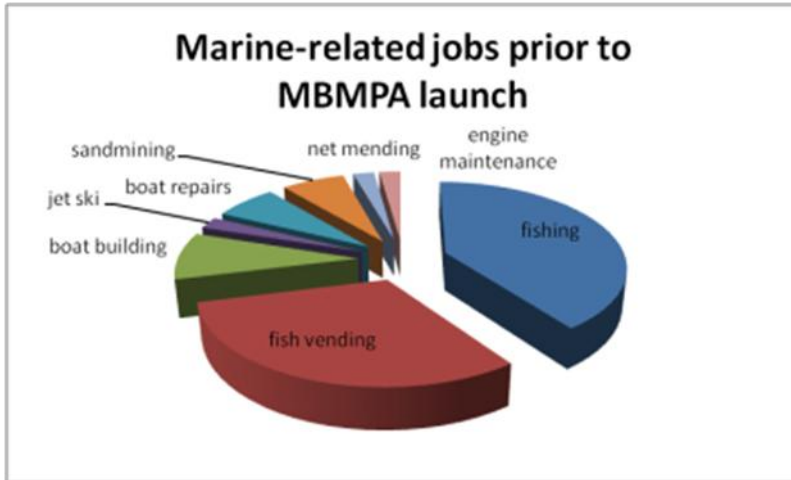


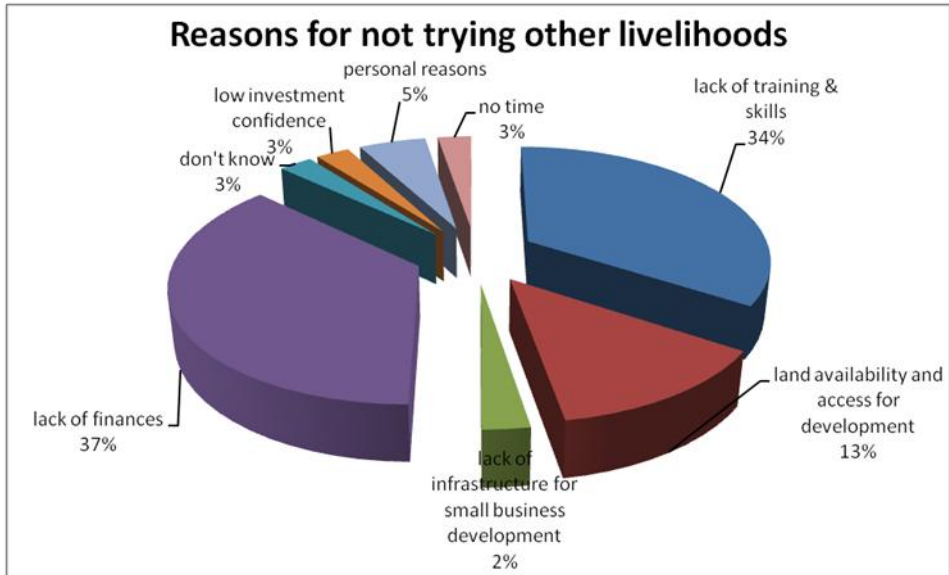
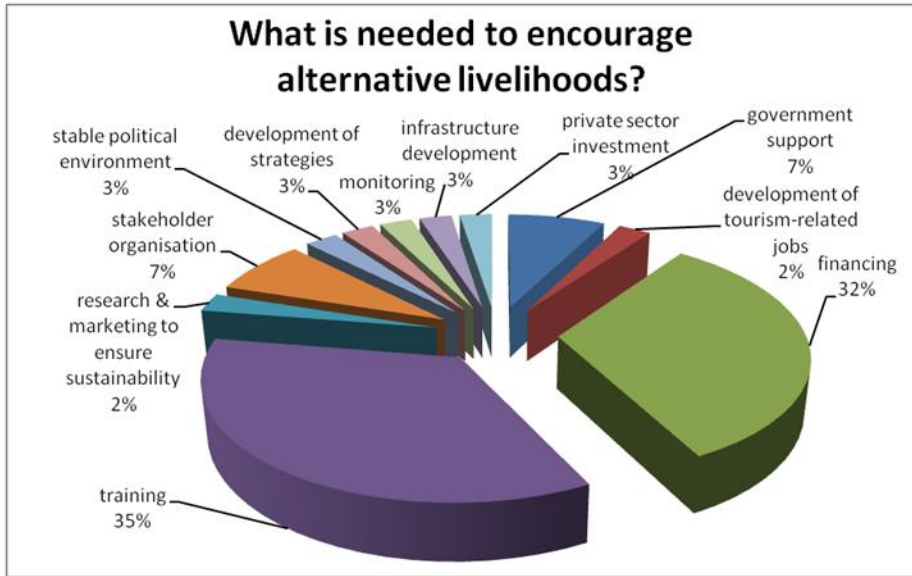
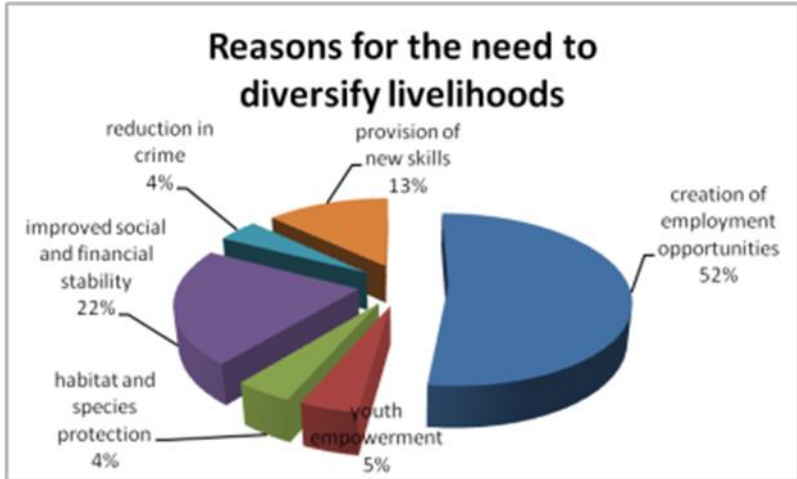
### Thank You!



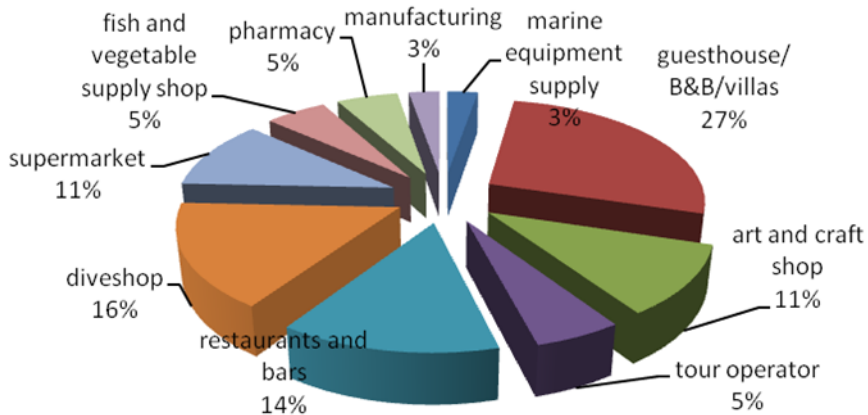


Appendix 4: Graphs from key informant interview analysis

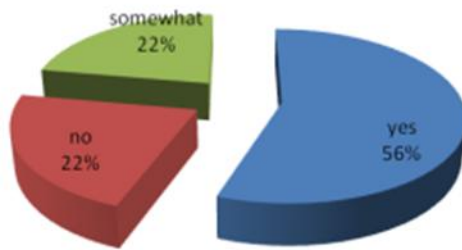




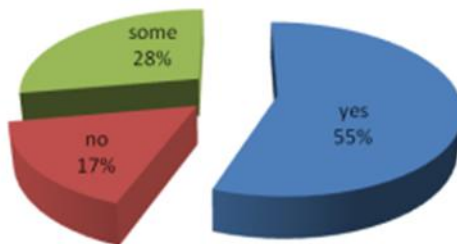
## Businesses suitable for MPA communities



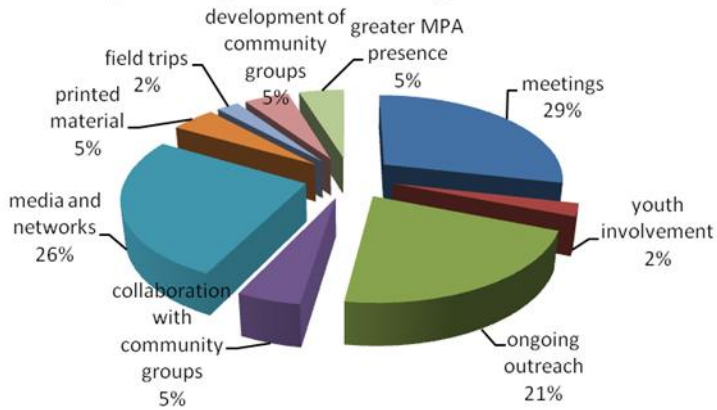
## Perceived stakeholder support for the MBMPA



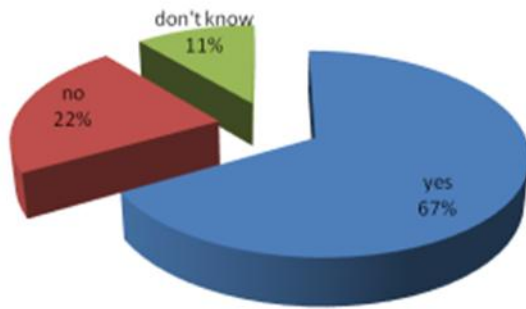
## Stakeholder awareness of the MBMPA and its purpose



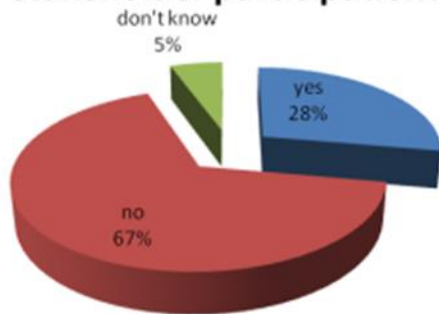
### Improving or increasing awareness



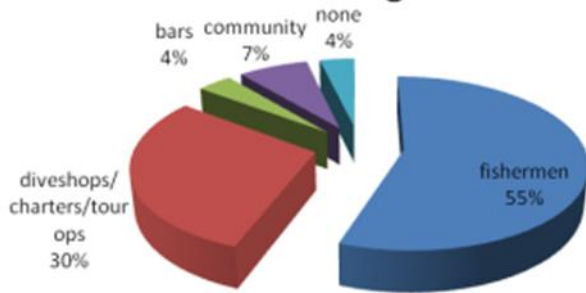
### Community awareness initiatives



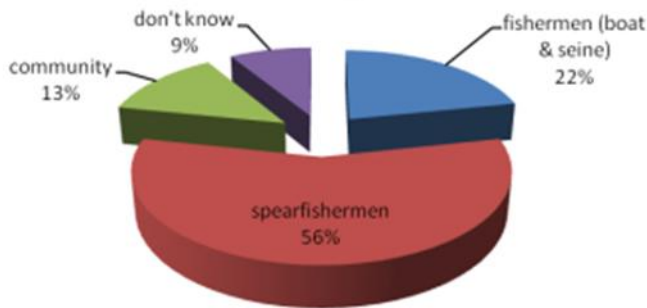
### Has enough been done to encourage stakeholder participation?



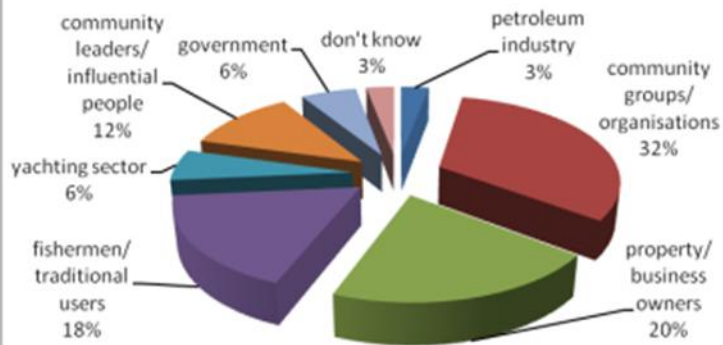
### Stakeholders positively affected by MPA management



### Stakeholders negatively affected by MPA management



### Stakeholders who can influence management



#### Appendix 5: SocMon project costs

<b>Description of expense</b>	<b>Cost (XCD)</b>
Pre-proposal activities	250.00
Stationery	1000.00
Communication	600.00
Interviewer stipend	2500.00
Transportation	500.00
Team meeting refreshments	300.00
Community meeting refreshments	200.00
Equipment	100.00
Validation meetings	800.00
Miscellaneous	200.00
<b>TOTAL</b>	<b>6450.00</b>