

Community Awareness and Livelihood Opportunities at the Pointe Sable Environmental Protection Area (PSEPA), St. Lucia

Oportunidades de Conocimiento y Medios de Vida de Comunidad en el Área de Protección Ambiental de Pointe Sable (PSEPA), St. Lucia

Possibilités Communautaires de Sensibilisation et des Moyens de Subsistance à la Zone de Protection Environnementale de Pointe Sable (PSEPA), St. Lucia

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ABSTRACT

The biophysical framework which previously governed the assessment of coastal and marine resources is perceived as no longer adequate as the intrinsic ecological and economic values of coastal resources are becoming even more apparent. As a result the direct relationship between the socio-economic activities of a community and the effective management of coastal resources cannot be overemphasised and needs to be understood and assessed along these lines. The Socio-economic Monitoring Framework (SocMon) was therefore developed in order to determine the most effective management strategies and was specifically designed to build capacity in socio-economic monitoring for coastal resources. SocMon facilitates site-level data collection with the potential to inform national, regional, and international databases while at the same time establishing sustainable collaboration among the various stakeholders at all levels.

The Pointe Sable Environmental Protection Area (PSEPA) is highly biologically diverse, possessing essential resources which include mangroves, coral reefs, sea grass beds, and dry forests with their respective flora and fauna. Coupled with its rich biodiversity, PSEPA is also steeped in culture and history that is of great significance to the Saint Lucian society. Therefore, PSEPA can offer valuable contributions to the local economy and to the national development of the country.

The monitoring goal of the study was to determine the level of awareness of the Vieux Fort Community of the Pointe Sable Environmental Protection Area (PSEPA) as a protected area and the existing and potential livelihood opportunities in the area. The selection of the SocMon Team was based on individual's specialized skills and in some cases the organizational affiliations of team members. The methods of data collection involved key informant interviews and household surveys. Following the recommended sample size as provide in the SocMon Caribbean Guidelines and the distribution of household in the area, 114 households were surveyed. Household surveys were conducted in groups of two and the format used was questionnaires.

Key informants were chosen primarily because of their involvement in activities (livelihood related or otherwise) within the PSEPA. Seven key informants were interviewed, and the information gathered provided the basis for comparison with previous data obtained. From the key informant interviews information on the illegal activities that are undertaken within the PSEPA were identified.

Despite limited knowledge of the PSEPA, there is the prevailing concept of intergenerational equity which could foster collaboration among the various stakeholders and ensure the successful protection and sustainable management of the PSEPA. Educating the population on the rules and regulations that govern the protection and management of the PSEPA was seen as priority and should be undertaken before any future development begins.

KEY WORDS: Socio-economic monitoring, Environmental Protection Area, livelihoods

INTRODUCTION

SocMon Caribbean

A common but recent realization among coastal resource managers throughout the Caribbean Region, and the world at large, is that it is no longer adequate or effective to govern coastal resources from a biophysical focus alone. The recognition of the close ties that exist between the socio-economic dimensions of a community and the efficient management of coastal resources near or within that community is paramount. For example, the community's attitude towards and uses of coastal resources, have serious implications on the biophysical health of the coastal marine ecosystems. By the same token, the management of coastal resources has equally serious bearings on the socio-economic status of the community. Out of this understanding, SocMon Caribbean (or simply SocMon) was born.

The Socio-Economic Monitoring Guidelines for Coastal Managers in the Caribbean (2003) defines SocMon as "a set of guidelines for establishing a socioeconomic program at a coastal management site in the Caribbean". Thus SocMon is most effective at the study site level, but enables this site-level data to feed into national, regional and international databases for comparisons and aid in decision making and policy development. According to Bunce and Pomeroy 2003, SocMon Caribbean is directed towards obtaining a clearer and deeper understanding of the human dimensions of coastal and marine resource management within the Region. This initiative results from substantial collaborations among social scientists and coastal managers in the Region. The Regional Component is being implemented by the Centre for Resource Management and Environmental Studies (CERMES) at the University of the West Indies (UWI), Cave Hill Campus, Barbados.

Situation Overview

The Pointe Sable Environmental Protection Area (PSEPA) is located along Saint Lucia's southeast coast, occupying approximately 250 hectares in area (Espeut 2006). According to the Gazette Notice, dated August 27, 2007, the PSEPA is located from Pointe De Caille to Moule a Chique including Savannes and Pointe Sable in the quarter of Vieux Fort. The PSEPA encompasses a number of internationally recognised protected areas and or reserves notably, Savannes Bay Mangrove and Mankote Mangrove, which were declared RAMSAR Sites, under the RAMSAR Convention on Wetlands in 2002, and Scorpion Island and Maria Island as a wildlife reserve (Gardner 2007, 2009, SLNT 2010). A detailed map showing the PSEPA is depicted in Figure 1.

According to Clauzel (1997) "the Pointe Sable Environmental Protection Area contains natural resources that support the local and national economy and development process, and some ecosystems are nationally and internationally significant". A diversity of flora and fauna can be found within the PSEPA. Espeut (2006) posits that 5 endemic species of herpetofauna are found in the PSEPA, the most noteworthy of which are 2 species found exclusively on the Maria Islands: the Saint Lucia Racer snake (*Llophis ornatus*) and the Maria Islands Whiptail Lizard (*Cnemidophorus vanzoi*). Satney and Chase (2008) also purport that there are 56 families of plants and 166 species of birds, six of which are endemic species. Resources within the PSEPA are not only limited to those of biological significance. The PSEPA also boasts sites of historical

importance including the Moule a Chique Lighthouse, Amerindian sites at Pointe de Caille and Anse de Sable, ruins of factories and buildings associated with sugar cultivation and roads and structures remaining from the US military base established during the World War II. In 2002, the Nature Conservancy conducted a Threat Analysis for three protected areas in Saint Lucia. The PSEPA was one of these protected areas under investigation. The report highlighted critical threats identified by stakeholders as: inappropriate agricultural practices; feral livestock; pollution (solid waste, effluents, non-point source pollution); deforestation (mangroves); inappropriate fishing practices; inappropriate development practices; inadequate enforcement; inappropriate extractive practices; invasive species (The Nature Conservancy 2002).

Goals and Objectives

Monitoring Goal — To determine the extent to which the people in the Vieux-Fort Community are aware of (a) the Pointe Sable Environmental Protection Area (PSEPA) as a protected area and (b) the various current and potential livelihood opportunities which exist in the area.

Objectives —

- i) To determine the level of awareness of the existence of the PSEPA,
- ii) To determine the current and potential livelihood opportunities which exist within the PSEPA, and
- iii) To determine the number of households currently benefiting (economically) from the PSEPA.

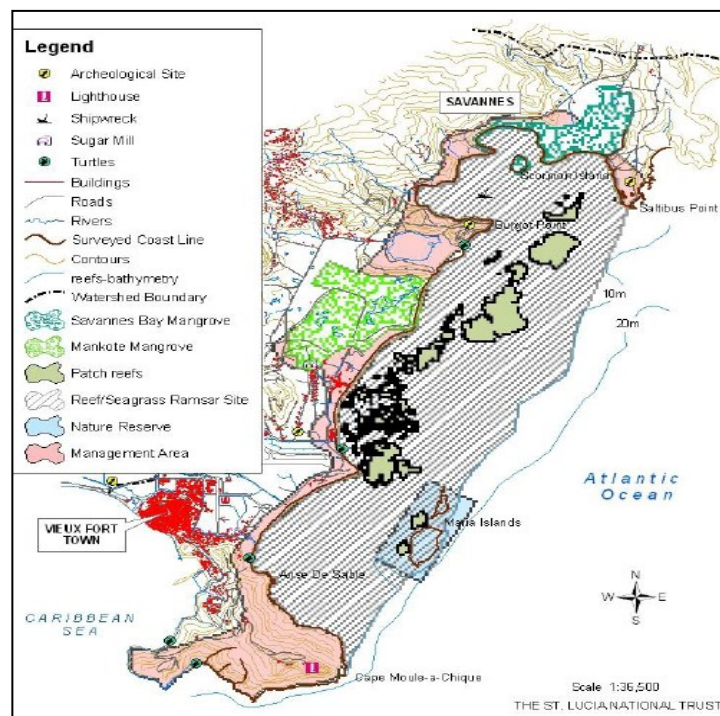


Figure 1. Map showing the Pointe Sable Management Area.

METHOD

SocMon Training

The Socio-economic monitoring by Caribbean Challenge MPA Managers (Caribbean Challenge SocMon) training workshop was held at the Juliette's Lodge Hotel, Vieux Fort, Saint Lucia, from January 16th – 20th. This workshop was facilitated by Ms. Maria Pena and her assistant Ms. Katherine Blackman, both from the Centre for Resource Management and Environmental Studies (CERMES) at the University of the West Indies (UWI), Barbados. Dr Patrick McConney was also present to provide some technical support, due to his wealth of knowledge on and experience with SocMon. The main objective of the workshop was to introduce participants to SocMon principles and techniques in an effort to build capacity in socio-economic monitoring.

Approximately twenty (20) coastal managers from various governmental ministries, departments and organizations throughout Saint Lucia, received training in socio-economic monitoring. Among the trainees were representatives from the Fisheries Division, the Saint Lucia National Trust (SLNT), the Soufriere Marine Management Area (SMMA), the Pitons Management Area (PMA) and the Sustainable Development and Environment Division (SDED).

SocMon Team

During the training workshop the SocMon Team was established. The selection of the team was based on:

- i) Skills required to accomplish the specialized tasks,
- ii) Skills possessed by the individual members, and
- iii) In some cases, the organisational affiliations of team members.

During the SocMon workshop, preliminary or reconnaissance site visits were undertaken by the team.

Key Informants

During the SocMon workshop, the SocMon Team identified possible key informants. According to the SocioEconomic Manual for Coral Reef Management (2000) key informants are *people with rank, experience or knowledge who can provide extensive insight on socio-economic conditions*. Thus these persons can provide interviewers with common, shared and specialized knowledge. These key informants were chosen primarily because of their involvement in activities (livelihood related or otherwise) within the PSEPA. In addition, team members recognized that it was both illogical and impractical to interview all community members within the study area, thus these key persons were specifically selected based on their knowledge of the area, length of time they resided in the area, and the employment and recreation activities they participate in within the area (Table 1). In some instances, all the key stakeholders were not interviewed either because they were not available or because the information received was becoming repetitive as data saturation point had been reached.

Surveys of Households

Household surveys were conducted using questionnaires with precise, highly structured questions ranging from the simple dichotomous questions to the multiple response questions. Likert scale questions also enabled respondents to express a wide range of attitudes from strongly agree to strong disagree. The area surrounding the Pointe Sable Environmental Protection Area was divided into three major sections: Vieux Fort town area, the La Tourney area and the Savannes Bay/Aupicon area. Thirty-eight (38) households were surveyed from each area giving a total of 114 surveys. This number of households was selected based on the overall number of households surrounding the PSEPA and the recommended sample sizes provided in the SocMon Caribbean Guidelines.

Table 1. Key informants identification and location.

STAKEHOLDER (1° and 2°)	LOCATION OF STAKEHOLDER	KEY INFORMANTS FOR STAKEHOLDERS
Fishers	Savannes Bay Vieux-Fort Fisheries Complex Good Will Fishermen's Cooperative	Mr. James Daniel, Other fishers Mr. Lambert Vitalis Fishers at Complex and Lobster Pot Mrs. Charlery
Charcoal producer	Mankote Mangrove	Magdaline Nelson and potential tour guides
Seamoss producer	Pierrot	Lina Francis
Horseback riders	Vieux-Fort	Vincent Clarke, Lucius Clovis, Ron Stephens, Horse- back riders on beach
Wind surfer	Anse du Sable	JolienHarmsen, Wind/Kite surfers
Kayaking	Vieux-Fort	Kayakers in Vieux-Fort
Arts and crafts	Vieux-Fort	Mrs. Nethelia James Craft vendors on beach Painters
Vieux-Fort household residents	Vieux-Fort town, La-ressource, Belle Vue, Pierrot, Grace	Residents

Two interviewers were assigned to each section resulting in a total of six interviewers. All interviewers were Advanced Level students attending the Vieux Fort Comprehensive Sixth Form. Prior to the household surveys, interviewers attended a Surveys and Data Analysis Workshop held at the Saint Lucia National Trust, Southern Office on August 29th, 2012. There the students were schooled on Field Data Collection, Sampling Techniques and Data Entry. This workshop was facilitated by Ms. Bethia Daniel. With the understanding that the sample must be representative of the entire population, the method of random selection was chosen. After drawing a sketch map of the area, interviewers went to every fifth house on the map. The surveys were conducted from August 30th, 2012 to September 07th, 2012. A thorough review of documents containing information about the variables under consideration was undertaken. This information was also used in combination with data obtained from the surveys to create a more holistic and representative picture of the PSEPA.

RESULTS

Profile of the Pointe Sable Environmental Protection Area

Permanent habitation within the Pointe Sable Environmental Protection Area is negligible. However, most dwellings are found around the inland and coastal communities of the eastern and southern areas of the town of Vieux-Fort, including the communities of Belle Vue, Aupicon, Savannes, Beausejour, Moule-a-Chique, Retraite, Pierrot, Cacao/Vigé, Bruceville, La Tourney and La Ressource.

According to the 2010 Population and Housing Census Preliminary Report, the total population of Vieux Fort is 16,284 distributed as 5,740 households, with a population density of 964 and an average household size of 2.8. This shows a 10.4% increase in total population from 2001 (14,754 in 2001) and a 38.5% increase in the number of households (4,144 in 2001). The 2001 poverty profile of Saint Lucia indicated that the PSEPA is *Middle Class Average* with one small *Low Class* area and one small *Poor* area. Moule a Chique is categorized as *Middle Class* because the few homes on the slopes (outside the proposed boundary) are upscale. Vieux Fort is *Middle Class* except for Bruceville which is *Low Class*. Most of Savannes Bay is classed *Average* except for a small part which is classed *Poor* (Espeut 2006). This confirms that the PSEPA falls somewhat in the middle of the scale; not too rich but not too poor.

According to an unemployment study conducted for the districts of Saint Lucia in 2004, the district of Vieux Fort has the highest rate of unemployment on the island ranging from 25 – 32%. This is an alarming increase from the averaged 16.1% recorded in the 2001 Population and Household Census with different rates for males (15.1%)

and females (17.4%). However, despite the relatively high unemployment levels, the standard of living in Vieux Fort is high, due to supplemental income received by overseas relatives. The main economic activities undertaken within and near the PSEPA are fishing, tourism, charcoal production and agriculture. A number of fishermen also supplement their livelihoods by maintaining small farms. Seamoss farming takes place to a lesser extent at the northern end of the Bois Chadon Beach.

Guiding Development in the PSEPA

Household Demographics — More than half of the respondents (55%) were males implying that 10% more males than females were interviewed in the household surveys. The ages of the respondents were approximately normally distributed. The majority (32%) were between the ages of 20 – 39 years, while a minority (7%) were 60 years and over. A more or less youthful population was surveyed. The majority of respondents (39%) possess a Secondary Education, followed by Tertiary Education (32%) which includes Post-Secondary as well as University Education, and then Primary Education (25%). Only 4% had no formal education.

For a vast majority of respondents (74%), stated that between 0 – 3 persons over 16 years old reside within their household. This indicates that most of the interviewees have very young families. This could also indicate that in most of the households that were interviewed, the children have not reached the age where they can earn an income to supplement the family's present income.

Livelihood Activities — Figure 2 depicts that an overwhelming majority (45%) of respondents within the PSEPA are unemployed. Public/Civil Servants and self-employed persons are the secondary most prominent type of employment with 15% each. Public Servants included nurses, teachers and policemen, while self employed persons worked as vendors, bus drivers, salesmen and shop keepers. Also noteworthy is that an almost equal percentage of respondents are involved in agriculture, construction and tourism/hospitality. It is rather surprising however that only 4% of respondents work as fisherfolk.

Only a minority (22%) of respondents have an alternative form of income. This implies that most respondents have no other means of supplementing and enhancing their salaries. Those who do have additional means are mainly involved in agriculture (8%), fishing (12%), tourism (16%) or are self employed (20%). A few respondents indicated that they were self employed as charcoal producers and seamoss farmers and still others indicated that they were involved in touristic related activities like boat tour operators. These results indicate that persons may leave the PSEPA for their 'main form of income' but utilise natural resources from the PSEPA for supplementary income.

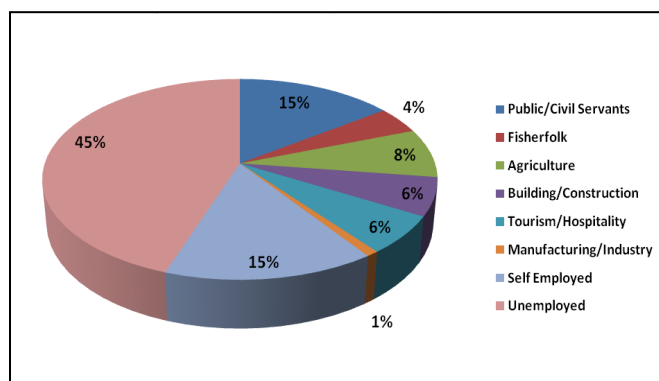


Figure 2. Primary occupation of respondents.

Current and Potential Livelihood Opportunities in the PSEPA — Question 11 was a multiple response question that asked respondents to select the income generating activities that they (the respondent and his/her family members) were involved in within the PSEPA. Ten out of the 114 respondents were not involved in any of the income generating activities within the PSEPA. None of the respondents are involved in seamoss farming, indicating that this is a rapidly dying trade (Figure 3). The activity which most respondents are involved in is fishing (24%), though this only represents approximately one-quarter of the population. To a much lesser but more-or-less equal extent, persons are involved in vending, charcoal production, and tour-guiding; 8%, 7% and 6% respectively. The involvement of interviewees in water-sports (1%) and hospitality (1%) is rather surprising.

More data on the alternative means of income could not be obtained as a large number of respondents ignored that question. Responses given to alternative methods of earning a living in the PSEPA were placed in one of five categories:

- i) Tourism (including eco-tourism),
- ii) Business or commerce,
- iii) Vending,
- iv) Agriculture and fishing, and
- v) Charcoal production.

Most persons thought that the best alternative form of livelihood from the PSEPA is tourism (55%). This is followed by vending (34%) and agriculture (17%). A small percentage of respondents saw business (9%) as a viable alternative, and only 1% of respondents saw charcoal production as an option.

Majority of the respondents were opposed to changing their current way of making a living from the PSEPA. 88% of respondents stated that they were not interested in changing their current livelihood. Reasons stated for their answers were mainly; satisfaction with current employment, too risky and simply no interest in anything else. The

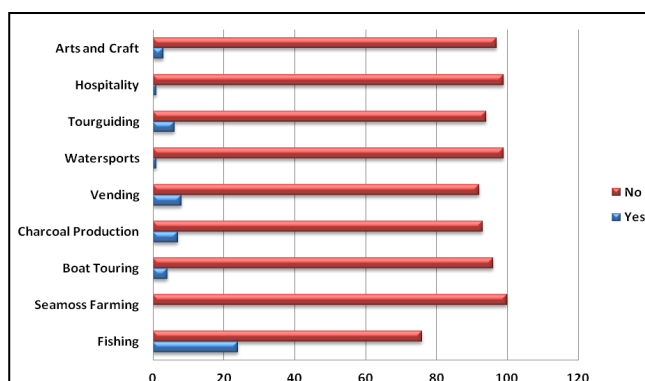


Figure 3. Income Generating Activities that you are involved in.

small percentage who did respond in the positive gave reasons such as increased income and self development.

Respondents also agreed that many plans and initiatives are needed to facilitate the development of new livelihood opportunities in the PSEPA. These include:

- i) Government intervention (assistance) and initiatives,
- ii) Financial aid,
- iii) Training opportunities and education, and
- iv) Hotel development.

They also saw stricter regulations and legislations, absence of political will, lack of finances, unplanned development, destruction of wildlife and other natural resource, crime and natural disasters as factors that would hinder or limit the alternative livelihood opportunities in the PSEPA.

A vast majority of respondents (80%) believe that there would be changes in the livelihood opportunities in the communities surrounding the PSEPA if there were to be an increase in tourism. The most significant change that respondents see is that of increased opportunities for employment (56%). Closely linked with increased job opportunities is economic and social growth and development (28%). Many respondents indicated that they would be interested in becoming shop owners, working in the hotels and restaurants or even work as tour guides if tourism were to become one of the main economic activity of the PSEPA. They also saw this as providing routes for foreign exchange (10%) and still others were glad that their communities would now have *nice roads and big hotels* (development) (7%). Two respondents however, indicated that an increase in tourism in the PSEPA would have negative effects on livelihood opportunities of residents. Pollution leading to environmental degradation, restricted access to the beach, and designation of no fishing or no-take zone would all hamper employment prospects in the PSEPA.

Level of Awareness of the Existence of the PSEPA

Understanding of an Environmental Protection Area (EPA)

— There is a disheartening reality that almost three quarters (71%) of the residents of the PSEPA do not have an understanding of what an Environmental Protection Area (EPA) is. The remaining 29% that have received information on an EPA have a mixed to good comprehension (Figure 4). The 29% of respondents who do have a knowledge, appear to understand that EPAs are for the protection of natural and cultural resources and for the protection of marine and coastal resources. They also understand that this may not be an area for swimming, tourism, and recreation. However, there seems to be some misunderstanding over whether an EPA is to be a no-take zone, an area of restricted access and an area for the sustainable use of resources (Figure 4).

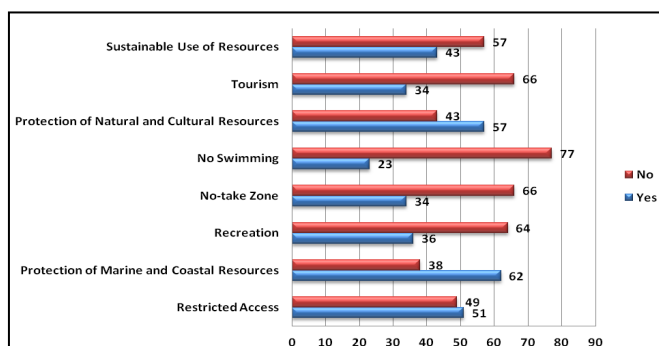


Figure 4. What does an EPA mean to you?

Existence of the PSEPA — Again less than half of the population (46%) has knowledge of the existence of the PSEPA. However, Figure 5 shows those persons that do have knowledge of the PSEPA, appear to have a thorough understanding of what comprises the PSEPA. It is important to note, however, that over 54% of persons did not know that the PSEPA included historically and culturally important sites while almost everyone (96%) knew that the PSEPA included the Maria Islands. Of the persons who are aware of the existence of the PSEPA, less than one quarter (24%) have heard of the Ministry responsible for the management of the PSEPA. The two Ministries which respondents thought were responsible for the management of the PSEPA; the former Ministry of Agriculture, Land, Forestry and Fisheries and the former Ministry of Physical Development and the Environment.

Presently, there is no single ministerial responsibility for management of the PSEPA as a number of ministries, departments and organizations share this responsibility. The PSEPA was legally declared under the Physical Planning and Development Act, 2004, so the Ministry of Physical Development, Housing and Urban Renewal has some measure of responsibility. In addition, much of the lands in the PSEPA are crown property so there are management

responsibilities for the Crown Lands Department. Then there are the marine and coastal areas which give the Fisheries Division some responsibility. There is also the Mankote Mangrove which is also of interest to Fisheries, but it is also a RAMSSAR site, so the Forestry Division has interest. Furthermore, the Saint Lucia National Trust owns Maria Islands but they are wild life sanctuaries, giving shared responsibility for the Trust and Forestry.

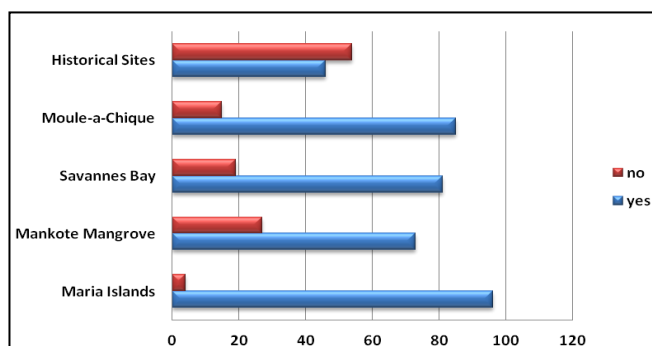


Figure 5. What comprises the PSEPA?

Protecting the PSEPA versus Development in the PSEPA

— For question 5, respondents were proposed with five statements to which they could either strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with. Majority of respondents (75%) strongly agree that the Maria Islands should be protected since they are the home to the St. Lucia Whiptail Lizard. Similarly, 60% of respondents strongly agree that the Mankote Mangrove should be managed because of its importance to the environment. In addition, most respondents believe that there should be some restriction as to where fishers are allowed to fish. In addition 33% of respondents strongly disagree with the statement that fishers should be allowed to fish anywhere and 31% disagree. These statements demonstrate that respondents are concerned about the protection of the areas that comprise the PSEPA and also the importance of the controlled harvesting of the fishery resource. The statement that hotel development should be encouraged along Sandy Beach, meets with mixed opinion. Majority of respondents (33%) strongly disagree with the statement, while 27% strongly agree. However most respondents (46% strongly agree and 25% agree) support eco-tourism.

Legislation Governing the PSEPA — Almost half of the respondents (47%) believe that the PSEPA was legally declared in the 1980s. An equal numbers of respondents (27%) believe that the PSEPA was legally declared in the 1990s and the 2000s, respectively. The PSEPA was legally declared under the Physical Planning and Development Act, 2004, so most persons had the incorrect understanding. When asked whether they knew of any particular rules and regulations that govern the PSEPA the majority of respondents (65%) answered in the affirmative. Some of

the regulations highlighted include: no littering, no sand mining, no driving on the beach, no use of explosive/toxic substances for fishing, no fires on islands, no destruction of wildlife and the designation of restricted areas.

Figure 6 reveals that most respondents (64%) are familiar with rules and regulations that protect and manage the Maria Islands. This corresponds closely with the previously highlighted trend, where most respondents knew that the PSEPA included the Maria Islands. Generally, respondents appear to be very knowledgeable about the Maria Islands, perhaps because they are so obvious and visible. However, the same cannot be said about the other areas. 77% of respondents do not know of rules governing the management of Savannes Bay, while 57%, 52% and 52% did not know of rules and regulations for the Mankote Mangrove, Sandy Beach, and fishing, respectively. Once again, the majority of respondents (61%) believe that people comply with rules and regulations pertaining to the Maria Island (Figure 7). Alarming, however, the vast majority of respondents do not believe that persons comply with the rules and regulations that govern the other areas and activities within the PSEPA. As many as 77% of respondents believe that regulations protecting and managing Savannes Bay are disregarded. The other percentages; 76% for Sandy Beach, 67% for Mankote Mangrove, and 61 % for fishing, are not every encouraging either. It appears that much work needs to be done in the areas of education, law enforcement and monitoring (Figure 7).

Key Informant Surveys

The results presented in this section involve information obtained from key informant interviews conducted to supplement and corroborate the household surveys. These interviews were carried out on a one on one basis, at the availability of the key informant. A number of key informants were initially identified. However, due to circumstances beyond the control of the SocMon Team only 7 of these persons could be interviewed. They are as follows: Mr. Cyril Saltibus – Saint Lucia National Trust Director, Southern Office; Mr. Christo Williams – Community Member; Mr. Hardin Jn Pierre – Fisheries Department; Mr.

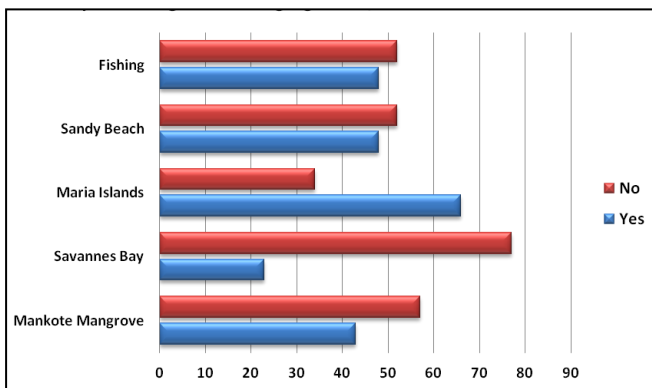


Figure 6. Familiarity with rules and regulations for protecting and managing areas/activities in the PSEAP.

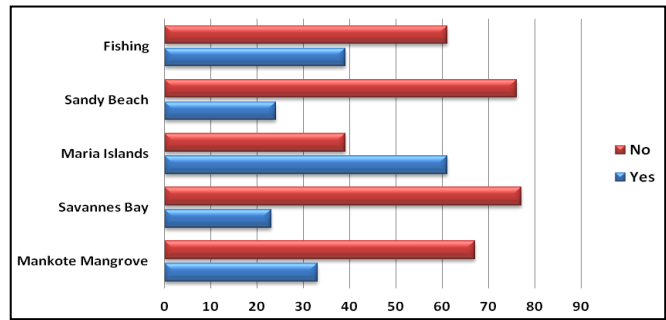


Figure 7. Compliance with rules and regulations for protecting and managing areas/activities in the PSEPA.

Vincent Clarke – Horseback Riders Company (presently setting up business); Hayley Moses - Horseback Riding Company (already established); Jolien Harmsen - Manager of Reef Restaurant and Nethelia James – Arts and Crafts. Key informants were very knowledgeable about the Point Sable Environmental Protection Area. They demonstrated a strong understanding of the areas that comprise the PSEPA and the fact that it is a protected area.

As previously observed in the literature review and household surveys, a plethora of activities takes place within the PSEPA. These include: fishing, horse-back riding, seamoss farming, sightseeing, water sports, camping, charcoal production, tours, bird watching, craft production and vending, beach parties and sea bathing. A few illegal activities also take place in the PSEPA. These include:

- i) Sand mining,
- ii) Harvesting sea urchins out of season,
- iii) Slaughtering sea turtles
- iv) Unregulated cutting of mangrove for charcoal production
- v) Drug trafficking, and
- vi) Noise pollution (loud music) during the early morning hours when turtles are trying to nest.

The job opportunities underscored by the key informants were in agreement with those previously highlighted in Sections 3.1, 3.2, and 3.3. When asked of other ways that persons could earn a living in the PSEPA, the following potential livelihood opportunities were highlighted: rental of beach equipment; increased local vending of crafts and food; local water-sporting events; scuba diving and snorkeling; mangrove tours and better organized tours

Mr. Hardin pointed out that various techniques were used to harvest the fishery resource. Techniques included fish pots, cast nets (lapavi), hand lines, trolling lines and beach seines. Mr. Clarke emphasized that horseback riding is a fairly new activity within the PSEPA and hopes to get his business in operation in the near future. According to Mr. Hardin, pot fish can be priced at \$7.00 per pound while lobster is valued at \$15.00 per pound. The market for these resources includes hoteliers, tourists and the general public.

While pot fish are sold at least twice for the week, the sale of lobster depends on the amount that is harvested, the demand and the time of year. Hardin also posits that the fishery resource most valuable to him is the lobster, with most of his income being made of the sale of these species. The interview with Hardin did not address larger pelagic species or their seasonality.

Though Mr. Clarke is in the process of setting up his new business in horseback riding, he already believes that his target audience would primarily be tourists and then locals. He also envisions this to be a very lucrative business, functioning in the future as his main form of income. Mr. Haley Moses who currently operates a horseback riding company, states that he charges \$20.00 EC for locals and \$40.00 US for tourists. He attests that this is a very successful business and emphasises that it is also very valuable to him, as it allows him to employ persons who would otherwise find it very difficult to find work.

Reef Restaurant Manager Jolien Harmsen confirms that she operates her business all year around for 14 hours a day. She states that it is as valuable to her as “bread and water”. Conversely, art and craft producer and vendor, Nethalia James, states that her trade is seasonal in nature and depends heavily on major special events. The value of the products depends largely on production time, quality of raw materials/product, availability of materials and customer requests. She wishes that there would be greater promotion of her product at sales outlets at established hotels and restaurants as a functional dependable market is very important for her business.

DISCUSSION AND CONCLUSION

Level of Awareness of the PSEPA

Less than half of the population that live within or near to the PSEPA is aware of its existence. The persons that do know of the PSEPA, however, seem to be very knowledgeable about the Maria Islands and the regulations that govern its management. However, the other areas – Mankote Mangrove, Sandy Beach, Moule-a-Chique, and especially Savannes Bay – were less understood. Most persons have a fair idea of the Ministry responsible for the Management of the PSEPA. However, the phrasing of this question may have led respondents to believe that interviewers are looking for a single answer. In addition, most respondents did not know when the PSEPA was legally declared.

This is a strong indication that there is a dire need for greater education on the PSEPA, its importance, components, and rules and regulations that govern its management. The education level of a community has implications for community development and coastal management. Persons in this area are *fairly well educated*, majority of whom have a Secondary Education. Thus, information on environmental regulations, importance of coastal resources, development and this SocMon Report can be presented to the residents in a variety with of forms which would further eliminate possible misunderstanding for the information.

The majority of person that live within the PSEPA fall between the age-range of 20 to 49 years. This means that much work can still be done through education and increased awareness to effect change in future generations and instil a sense of responsibility. When training is undertaken in a youthful population, it is more likely to be adopted.

Current and Supplementary Livelihood Opportunities

An understanding of the socio-economic profile of an area is paramount to decision making. Almost half of the persons that live within the PSEPA are unemployed. This validates the information provided by the 2010 Population and Housing Census Preliminary Report, that Vieux Fort is one of the communities with the highest rate of unemployment in Saint Lucia. In addition, our results demonstrate that most persons that live within the PSEPA do not earn a living directly from the PSEPA, as a majority of them are public/civil servants. Other forms of livelihood within the PSEPA include tourism (hotel and restaurant workers), fishing, agriculture, vending, arts and craft production, construction and business. Figure 3 indicated that once thriving trades, like seamoss farming, is currently practiced on such a minor scale that it is almost non-existent. While previous studies done in the PSEPA indicated that seamoss farming was widely practiced, our research indicated the contrary. By contrast, the alternative forms of income generation do include the PSEPA and its resources. While only a small percentage of persons (22%) have an alternative form of livelihood, the majority of them 22% are involved in fishing. Others include vending, charcoal production, and tour guiding (Figure 3).

These results indicate that while the majority of households do not depend on the PSEPA for their main form of employment, they do depend on the PSEPA for their supplementary incomes. Thus, there needs to be instruction on the sustainable harvesting of these resources. A thorough understanding of sustainable harvesting techniques whether it is in fishing, charcoal production, or art and craft production, would allow persons to benefit economically from the PSEPA while permitting its effective and controlled management.

Potential Livelihood Opportunities

Respondents are generally satisfied with their present state of employment. Those who are discontented are apprehensive of change because of the risks involved in venturing into unfamiliar waters. A vast majority of respondents believe that there would be changes in the livelihood opportunities in the communities surrounding the PSEPA if there were to be an increase in tourism. Respondents are in agreement that greater hotel development should be encouraged along the PSEPA. However, the form of tourism that respondents are interested in is ecotourism.

Two potential livelihood opportunities emerge from these results – ecotourism and art and craft production. Ecotourism is aptly defined as responsible travel to natural

areas that conserves the environment and improves the well-being of local people." (TIES 1990) and involves uniting conservation, communities, and sustainable travel. According to respondents, those who implement and participate in ecotourism activities would: minimise impact; build environmental and cultural awareness and respect; provide positive experiences for both visitors and hosts; provide direct financial benefits for conservation; provide financial benefits and empowerment for local people and raise sensitivity to host PSEPA's political, environmental, and social climate. A number of income-generating activities would fall under ecotourism which include: tour-guiding, horseback riding, boat operators, snorkelling, wind surfing and kayaking. Respondents believe that if more hotels and restaurants are developed in the PSEPA with this ecotourism theme, then together we would achieve the true meaning of sustainable development.

There is the potential for developing a craft industry without negatively impacting on the environment. As visitors, both foreign and local, spend time in the PSEPA, they may wish to purchase souvenirs to remember their visit, which will create a market for high quality art and craft items. Thus, the possibility of training in craft production should be explored. Though this is available in St. Lucia, the training centres are not particularly near to Vieux Fort. It should be possible to operate a craft training programme in Vieux Fort for unemployed young men and women who have the aptitude.

A number of positive results would emanate from increased tourism in the PSEPA. Closely linked with increased employment due to job creation, is socio-economic development and improved standard of living. However, respondents do not think that the area is ready to embrace this change just yet, as they believe that much still needs to be done by the Government of Saint Lucia to provide financial aid, training opportunities, and education. Respondents emphasised that if they are equipped with the necessary tools, they are willing to move forward.

Despite limited knowledge of the PSEPA, majority of respondents strongly agreed to its continued protection and management. The Maria Islands should be protected because of its biodiversity, the Mankote Mangroves should be protected because of its environmental importance and the practice of fishing should be controlled with the designation of specific fishing areas. This demonstrates that persons are willing to take ownership of what is theirs and see that it remains in existence for future generations. Research has shown that when there is *stakeholder buy-in*, initiatives like establishing an EPA will more likely be successful. Coastal managers should take advantage of the interest of the people and work in collaboration with them to bring about the successful protection and management of the PSEPA. It is anticipated that this report will inform policies and guide legislation for the continued protection of the Pointe Sable Environmental Protection Area. It is also believed that the report will depict a true representa-

tion of people's level of awareness of the PSEPA and thus indicate their level of involvement in its protection.

LITERATURE CITED

- Arthurton, A.L. and K. McDonald. 2010. Establishing a socio-economic monitoring program for the Narrows to inform marine conservation and decision-making in St. Kitts and Nevis. [Unpublished]
- Bernard, D., N. Hamilton, D. Samuel, C. Ramessar, and L. Moss. 2009. Socio-economic monitoring by Caribbean fisheries authorities for Rose Place, St. Vincent.
- Central Statistics Office, Saint Lucia. 2010. GIS and Census Mapping in St. Lucia.
- Central Statistics Office, Saint Lucia. 2011. 2010 Population and Housing Census, Preliminary Report.
- Clauzel, S. 2010. To Determine the Socio-Economic Value and Cost Benefit of both the Existing and New Livelihoods Sub-Projects in the Pointe Sable Environmental Protection Area (PSEPA).
- Espeut, P. 2006. Opportunities for Sustainable Livelihoods in One Protected Area in Each of the Six Independent OECS Territories, for the OECS Protected Areas and Sustainable Livelihoods (OPAAL) Project.
- Issac, C.J. 2010. An evaluation of socio-economic conditions and environmental interactions on a section of the east coast of Grenada.
- Leslie, J. 2010. Socio-economic Monitoring in Oistins, Barbados.
- Ministry of Physical Development, Environment, and Housing, Government of Saint Lucia. 2009. Pointe Sable Environmental Protection Area, Management Plan: 2009 - 2014
- Pena, M. and P. McConney. 2010. Socio-economic Monitoring by Caribbean Fishery Authorities Final Technical Report.
- St. Louis, A., D. Theophile, J. Defoe, R. Price, and R. Lewis. 2009. Socio-economic monitoring assessment of coastal management in the Colihaut, Dublanc and Bioche villages of Dominica.