Assessment of Additional and Alternative Livelihood Options in five Marine Protected Areas

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The views expressed in this report are those of the authors and do not necessarily reflect the views neither of the national country organisations nor of the international organizations involved (among them GOPA, COFAD, GIZ, BMZ, CARICOM, CARPHA).

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<th>Full Form</th>
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<tr>
<td>AAL</td>
<td>Alternative and/or Additional Livelihood</td>
</tr>
<tr>
<td>CARICOM</td>
<td>Caribbean Community Common Market</td>
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<td>CARPHA</td>
<td>Caribbean Public Health Agency</td>
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<tr>
<td>CBO</td>
<td>Community-Based Organization</td>
</tr>
<tr>
<td>CBT</td>
<td>Community-Based Tourism</td>
</tr>
<tr>
<td>CEHI</td>
<td>Caribbean Environmental Health Institute</td>
</tr>
<tr>
<td>CERMES</td>
<td>Centre for Resource Management and Environmental Studies</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GEF</td>
<td>Global Environment Facility</td>
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<tr>
<td>GIDC</td>
<td>Grenada Industrial Development Corporation</td>
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<tr>
<td>HH</td>
<td>Household</td>
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<tr>
<td>JICA</td>
<td>Japan International Cooperation Association</td>
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<tr>
<td>LAMA</td>
<td>Local Area Management Authority (SSMR, Dominica)</td>
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<tr>
<td>LAMP</td>
<td>Local Area Management Project</td>
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<tr>
<td>MPA</td>
<td>Marine Protected Area</td>
</tr>
<tr>
<td>OECS</td>
<td>Organisation of Eastern Caribbean States</td>
</tr>
<tr>
<td>OPAAL</td>
<td>OECS Protected Areas and Associated Livelihoods</td>
</tr>
<tr>
<td>PIT</td>
<td>(National) Project Implementation Team</td>
</tr>
<tr>
<td>PMU</td>
<td>Programme Management Unit</td>
</tr>
<tr>
<td>PRA</td>
<td>Participatory Rapid Appraisal</td>
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<td>SEPMMA</td>
<td>South-East Peninsula Marine Management Area</td>
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<tr>
<td>SIDS</td>
<td>Small Island Developing States</td>
</tr>
<tr>
<td>SKN</td>
<td>St Kitts &amp; Nevis</td>
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<tr>
<td>SMMA</td>
<td>Soufriere Marine Management Association/ Area</td>
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<td>SSMR</td>
<td>Soufriere - Scotts Head Marine Reserve</td>
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<tr>
<td>SRDF</td>
<td>Soufriere Regional Development Foundation</td>
</tr>
<tr>
<td>SVG</td>
<td>Saint Vincent and the Grenadines</td>
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<tr>
<td>TNC</td>
<td>The Nature Conservancy</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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1. Introduction

The region of the Western Indies and the Gulf of Mexico is a recognised marine and coastal biodiversity hotspot. At the same time, the Caribbean is one of the world’s eco-regions extremely affected by excessive resources over-use and negative environmental impacts from climate change. The coastal marine ecosystems of the Caribbean, and in particular its coral reefs are already today among the most threatened at a global scale. In this respect, most affected are in particular the 15 coastal and Small Island Developing States (SIDS) forming the Caribbean Community (CARICOM). In most cases, their essential economic sectors like tourism and fisheries and thus their economies as a whole are highly dependent on the intactness and productivity of the coastal and marine environment, both in terms of direct resources use as well as regarding the use of services deriving from these environments. Local communities and authorities, fishermen and other coastal resource users, all of them base their income and livelihood largely on coastal and marine resources and ecosystem services. In this context, an effective management of a Marine Protected Area (MPA) cannot be sustainable without the full support from and cooperation with all the stakeholders concerned, and particularly, with the main resources users, the local communities.

Most MPAs in the Caribbean, including the five focus MPAs supported by the CATS Programme struggle to provide or ‘enable’ within their boundaries and adjacent area for sufficient livelihood options to ‘their’ communities. In most case this is because MPA Management Entities are not aware of what these additional and alternative livelihoods (AAL) are or could be. This consultancy is expected to provide such information on local AAL options for the five focus MPAs covered in the assessment, and more importantly to provide recommendations for prioritised AAL. The intention is to provide initial inputs to form a baseline. Additional research will need to be carried out to contribute further information towards the sustainable livelihood options.

The five focus MPAs of the Programme are: Soufriere and Scotts Head Marine Reserve in Dominica (SSMR); Molinière/ Beauséjour Marine Protected Area in Grenada (MBMPA); South-East Peninsula Marine Management Area in Saint Kitts and Nevis¹ (SEPMMA, St. Kitts & Nevis); Soufriere, Canaries and Anse la Raye Marine Management Area in Saint Lucia (SMMA); and South Coast Marine Conservation Area in Saint Vincent and the Grenadines² (SCMCA).

This STE consultancy is part of the CATS Programme (Caribbean Aqua-Terrestrial Solution) and specifically its Programme Component 2 ‘Management of Coastal Resources and Conservation of Marine Biodiversity’. It will contribute to the Component’s Objectives 1 and 2: ‘The sustainable management of the 5 focussed MPAs under agreed management plans and integrating among others climate change and gender aspects’ and ‘The implementation of sustainable financing mechanisms as part of MPA management plans’.

The work was undertaken for a period of 2 months and was divided in three phases: an initial one-week home desk phase, a five-week field phase visiting the five focus MPA countries and a three-week home desk phase.

This report will describe the methodology used to meet the expected outputs, the itinerary and the challenges met. It will be followed by five AAL options chapters, one for each country, describing the method used, presenting the stakeholders met and a brief livelihood asset in terms of natural, social, physical and financial capitals, the AAL options findings and finally, the recommendations on how to support the development of these.

¹ Possibly to be renamed The Narrows Marine Reserve (NMR) in the process
² Possibly South-Coast Marine Reserve (SCMR)
2. Methodology

To reach the objectives of the study, it was necessary to collect a wide range of information related to the communities’ current and suggested AAL. Indeed, a recommendation of AAL Options can only be done from an understanding of human, natural-resources, financial, physical and social assets. Equally important are assessments of environmental processes, of the vulnerability context with a focus on socio-economic trends and of environmental shocks which are main elements affecting people’s livelihoods. The sustainable livelihoods framework by DFID\(^3\) and presented in schematic form below is central to the assessment processes in this study.

Figure 1: The Sustainable Livelihoods Framework

![Sustainable Livelihoods Framework](image)

Source: DFID. Sustainable Livelihoods Guidance Sheets. Section 2.1

An AAL strategy cannot be implemented without adhering to people’s visions, aspirations and hopes as they are the main stakeholders of the process. In this study, using Participatory Rapid Appraisal methods (PRA) communities were asked to reflect on livelihood options and where they would like to see themselves in the future.

For each country, a brief AAL overview is prepared:

- **Vulnerability Context:** It includes the trends, shocks and seasonality. It frames the external environment in which people exist. The factors that make up the **Vulnerability Context** are important having a direct impact on people’s assets and options open to them in pursuit of improved livelihood outcomes. We will focus on economic trends, and natural shocks which are the main elements affecting people’s livelihoods.

- **Livelihood Assets:** The livelihood framework identifies five core categories of livelihood assets or types of capital\(^4\) upon which livelihoods are built. The approach is founded on the concept that people require a range of assets to achieve positive livelihood outcomes — especially for the most vulnerable, whose access to any given category of assets tends to be very limited. We will focus mainly on natural, social and financial capital. As part of natural capital, we will describe the natural assets of the area, the communities’ dependency on the natural resources, the perception of the MPA and the attitude towards conservation and

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\(^3\)Department for International Development

\(^4\)Although the term ‘capital’ is used, not all the assets are capital stocks in the strict economic sense of the term. The term ‘capital’ is used because this is the common designation in the literature.
management. The financial capital denotes the financial resources that people use to achieve their livelihood objectives. We will describe people’s main occupations and their main sources of income as well as people’s savings and loans where such information is available. The social capital focuses on people’s trust and ability to work together for example in production groups or cooperatives.

In most cases, the more successful income generating activities are built on traditional skills and knowledge.

**Figure 2: The level of risk in Livelihood Strategy**

|----------------------|-------------------------|-----------------------------|---------------------|---------------------|

**The following methodical steps were defined to assess AAL options:**

**Step 1:** Gathering of secondary data and information - A literature review examining data on
1. Socioeconomic profiles
2. Information on MPAs and their status
3. MPA structure and management issues
4. Economic opportunities available in the area
5. Existing livelihood assets
6. Livelihood vulnerability

The majority of assessments was related to MPAs and their management, biodiversity, environmental threats, resource use (community groups), perception and attitudes towards use-regulations and conservation of resources, socioeconomic profiles, environmental policies and regulations.

Data collection was done during an initial desk phase. However, as information sources from the countries were scarce, data collection had to be continued throughout the field phase.

**Step 2:** Initial meeting with the national Project Implementation Team (PIT) in each country: The PITs in the country already represent a large panel of key stakeholders enabling the collection of baseline information and to schedule additional, individual follow-up meetings and interviews if necessary.

**Step 3:** Visit of the MPA with a Focal Point in each country: The aim of the site visit was an overview of the local context, the boundaries of the MPA, the economic activities already in place and the communities’ livelihoods.

**Step 4:** Structured interviews with key stakeholders (a list of the key stakeholders met can be found in Annex as well as the list of key questions): Key stakeholders included the public sector (Ministries of Fisheries, Forestry and Environment, Agriculture, Physical Planning, Sustainable Development, Tourism, etc.), the Private Sector (Hotels and Resorts, Restaurants and shops, vendors, dive operators, etc.), other non-profit organizations and Village Councils.

**Step 5:** Community Meetings: Although methods varied between countries, whenever meetings with the communities were possible, two methods were used, 1. The Focus Group Discussion and 2. The Transect Walk.

- The Focus Group Discussion (FGD) refers to a focus group as a special qualitative research technique in which people are informally interviewed in a group-discussion setting. FGDs were organized with fishermen, farmers and other community groups. Different methodologies based on Participatory Learning Methods (PALM) were used as well like the Seasonal Calendar and the Vision Tree (Annex).
- The Transect Walk is a method frequently used in countries where meetings are generally difficult to schedule. It has proven to be more efficient for this type of consultancy. Transect

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5 Neuman (2003: 396)
walks were feasible only when a local coordinator, someone close enough to the communities, was available. The method is less pointed, thus requiring taking the time to listen to a variety of other than the ones actually in focus.

**Step 6:** Sites visit: The purpose of this step was to visit what is called ‘success stories’, or at least demonstration or pilot projects of some success in each country, if such could be possibly replicated in the area of the focus MPAs.

*Depending on country mission itineraries, step 4 to step 6 could be done in a different order.*

**Step 7:** Cross-check the findings between the communities’ needs, aspirations, interviews with key stakeholders, the literature review and the feasibility and sustainability of the AAL options. The sustainability and viability of the AAL options were ranked in an AAL matrix.

**Step 8:** Ranked recommendations for Alternative and Additional Livelihood Options in the vicinity of the MPAs.

**Table 1: Matrix - Feasibility assessment of the Alternative and Additional Options**

<table>
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<th>AAL 1</th>
<th>AAL 2</th>
<th>AAL 3</th>
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<tr>
<td>1-Technical skill required or capacity-building easily achievable</td>
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<td>2-The Community’s role</td>
<td>Support, willingness</td>
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<tr>
<td></td>
<td>Community already organized in group, cooperation,...</td>
<td></td>
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<td>3-Available resources</td>
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<td>4-Simplicity</td>
<td></td>
<td></td>
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<td>5-Timeframe</td>
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<td></td>
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<tr>
<td>6-Ecological sustainability, resources sustainability</td>
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<td></td>
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<tr>
<td>7-Social Sustainability</td>
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<td></td>
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<tr>
<td>8-Economic sustainability</td>
<td>a-Beneficiaries from the coastal communities of the MPA</td>
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<tr>
<td></td>
<td>b-Number of direct/ indirect beneficiaries estimated</td>
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<td></td>
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<tr>
<td></td>
<td>c-Revenue generated</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>d-Level of investment</td>
<td></td>
<td></td>
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<td></td>
<td>e-Market assessment</td>
<td></td>
<td></td>
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<td>9-Institutional sustainability</td>
<td></td>
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<tr>
<td>10-Total</td>
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H = High; M = Medium; L = Low

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6 Including the triple bottom-line approach (equal weighting to socio-economic, environmental and financial considerations given)
# 3. Itinerary

| Calendar Day (Nov-Dec) | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | Until the 6.01.14 |
|------------------------|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------|
| Week day               | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M | T | W | T | F | S | S | M |
| Initial Home desk Phase| X | X | 0 | 0 | X | X | T | T |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Briefing SLU           |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Saint Lucia            |   |   |   |   |   |   |   |   |   | 0 | 0 | X | X | X | T |   |   |   |   |   |   |   |   |   |   |   |
| Dominica               |   |   |   |   |   |   |   |   |   |   | X | X | 0 | 0 | X | X | T |   |   |   |   |   |   |   |   |   |
| Saint Kitts and Nevis  |   |   |   |   |   |   |   |   |   |   | X | X | 0 | 0 | X | X | T |   |   |   |   |   |   |   |   |   |
| Saint Vincent and the Grenadines |   |   |   |   |   | X | X | X | 0 | 0 | X | T |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Grenada                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X | X | X | 0 | 0 | T |   |   |
| Second Home desk Phase |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X | X | X | 0 | 0 | T |   |   |   |   |   |   |

X: Working day; 0: Day off (week-end); T: Travel Day
4. Challenges

This assignment started with a five-day desk phase to prepare the methodology, collect secondary data and to plan ahead for the country field-mission phase. The consultant was asked to work in close collaboration with the CATS Programme Component 2’s National/MPA Project Implementation Teams (PIT) in all countries. Despite numerous E-mails and calls by CATS PMU and by the consultant and although this working mode had been agreed with the PITs, only very limited information was provided. Thus, the Consultant had to resort to reports/ assessments/ evaluations provided by CATS on recent projects by other donors and on Internet research. It would have been a far more efficient mission if more first-hand information would have been available to the Consultant prior to the field phase. This lack was indeed an obstacle to overcome.

A draft methodology was prepared and submitted to the country PITs and CATS C2 PTA at the end of the desk phase.

The field phase of the mission was dedicated to visiting the five Focus MPA Countries. The limited time available in each country, in combination with the communication ‘reluctance’ from some countries was a challenge as it did not allow much flexibility to schedule meetings. Things take time to be implemented and people (communities) need time before speaking in confidence. However, with the exception of Grenada, draft meeting itineraries were agreed 15 days before arrivals in each countries. However, since most meetings were not be planed ahead far enough (more than 15 days), some were only confirmed once arrived in the countries during the initial PIT meeting. Therefore some key stakeholders were not available or if they were, could not spend as much time as would have been necessary. In other cases, stakeholders seemed to be quite reluctant to provide information (e.g. Ministry of Tourism in SVG). At times, interviews were difficult to organize without having sent a formal request before (e.g. Tour Operators in Dominica). Also in some cases, meetings organised and/or managed by PITs were only attended by few stakeholders or (e.g. Saint Kitts and Nevis).

In many instances, it was difficult to use PRA Tools because of limited time spent with stakeholders. A certain saturation with meetings with the communities was obvious in some countries (e.g. Dominica and Grenada). In Dominica, a scheduled meeting with the SSMR fisherfolk was not attended at all.

Regional air travel in the CATS C2 region was challenging and overly delays did in one instance cause the cancellation of a stakeholder meeting in SKN.
5. Country Chapter - Options for Additional or Alternative Livelihood for Coastal Communities – Soufriere – Scotts Head Marine Reserve (SSMR), Dominica

5.1. Introduction
The Commonwealth of Dominica is a small island of 751km², situated between the French Territories of Guadeloupe to the north and Martinique to the south. The island is home to 73,000+ people, the majority of whom reside, commute and work along the narrow and often steep coast-line. The major towns and habitations are concentrated in the narrow coastal belts because of the steep topography of Dominica, dominated by a chain of mountains which forms a central ridge, with the highest peak, Morne Diablotin (1,730m). Dominica is well-known as the ‘Caribbean’s Nature Isle’ for its numerous natural assets. Dominica’s mountains, rainforests, freshwater lakes, hot springs, waterfalls, and diving spots make it an attractive ecotourism destination. Whale watching has become very famous in Dominica and marine turtles are breed along the coast.

The waters around the island offer good visibility, dramatic drop offs, walls, caves, canyons, pinnacles and wrecks, and make Dominica one of the top three dive locations in the Caribbean. Over 60% of the island is still under forest cover, 25% of which is protected. Dominica’s expanse of valleys, hills, mountains, flora and fauna has also earned it international recognition through registration of one World Heritage Site listing (Morne Trois Pitons National Park) with UNESCO.

Apart from its extensive terrestrial nature parks system, the country has established two Marine Protected Areas (MPA): Cabrits National Park on the North West and the Soufriere/Scotts Head Marine Reserve (SSMR) on the south-west coast. The MPAs were established to preserve an abundance of fish life and very diverse reefs ecosystems, threatened by over-fishing, coastal development and land-based sources of pollution (World Resources Institute 2012). There is an urgent need to find alternative and additional livelihoods for communities displaced or disadvantaged by the establishment of a marine park to ensure its sustainability.

We will focus on SSMR: First, we will explain the methodology during the field phase of this consultancy before presenting a brief livelihood assessment, necessary to implement any Alternative and Additional Livelihood Option. Secondly, the findings on AAL Options will be described before giving recommendations for their sustainable development.

5.2. Presentation of the context of the MPA
Soufriere Scotts Head Marine Reserve (SSMR) has been designated a Marine Reserve in 1998. SSMR is about 6-7 km² in size and comprises three communities: Soufriere (800 inhabitants), Scotts Head (1,200 persons) and the village of Gallion. The first two villages are coastal and connected by the main coastal road, while the third one is located uphill, overlooking the SSMR. This MPA was developed to avoid user conflicts between traditional users (fishermen) and the watersports operator.

In Dominica, the Management of Marine Parks falls under the Fisheries Department. SSMR is managed by the Local Area Management Authority (LAMA) made up of the Fisheries Division, community fishermen, village councillors and private sector (Dominica Watersports Association). The reserve is divided into four management zones: recreation, diving, nursery and fishing priority area. No anchoring is allowed anywhere in the MPA and permanent moorings are available for dive boats. Its day-to-day management is carried out by 2 rangers.
The SSMR is regarded as one of the best diving and snorkelling sites in the Caribbean. Situated within an underwater volcano, it has unique features that can attract many ecotourists. The reserve is facing several environmental issues from both human and other impacts: coastal erosion (climate change impact) and overfishing are some of the major threats. Illegal inshore fishing (spear guns, fish traps, etc.) practices are still noticed, especially in no-fishing areas. Garbage is a growing environmental concern as there is no garbage disposal, so they tend to spread all over the reserve.

5.3. Description of the methodology used
Dominica was the second country visited after Saint Lucia. The field work lasted from the 21st until the 28th of November. It started by an introductory meeting with some members of the PIT board (see list of the stakeholders mentioned below) at the Fisheries Division in Roseau. As the interviews couldn’t be planned ahead, Mr Magloire and Mr Johnson (LAMA Chair) took care of scheduling the necessary appointments for the field work.

A boat trip was organized to get an overview of Soufriere Scotts Head Marine Reserve. Then, a meeting with the communities was planned by the Chairman of the Soufriere Scotts Head Village Council, through the Community Radio Station. However, although the message was delivered a long time ahead and the meeting scheduled in the late afternoon after everyone’s occupations, very few people participated in the meeting. To amend information gathering, transect walks were thus additionally conducted in the three communities (Scotts Head, Soufriere and Gallion), together with a member of each community or a Fisheries Officer. People encountered in the area of SSMR were informally and opportunistically interviewed. Sampling socio-economic groups, fishermen were consulted in Scotts Head, farmers in Gallion and small-businesses owners in Soufriere.

Based on the advice received from the members of the PIT, three site visits were carried out in ecotourism businesses classified as national ‘success stories’: Mero Beach, Jungle Bay and the Indian River. Finally, several individual consultations (see list below) were conducted with each of the key stakeholder. The methodology used for the interviews was the same for all countries, using semi-structured techniques. The list of key questions can be found in Appendix 2.

Regarding the literature review, documents and data concerning the SSMR and livelihoods were collected mainly from web sources during the initial home-desk phase, as well as from the Fisheries Division, Dominica Discovery Authority and from the Ministry of Agriculture.
## 5.4. Stakeholders met

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Last name</th>
<th>First name</th>
<th>Position</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisheries Division</td>
<td>MAGLOIRE</td>
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<td>17672665291</td>
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<tr>
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<td>Manager (LAMA Chairman)</td>
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<tr>
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<tr>
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<td></td>
</tr>
<tr>
<td>Discover Dominica Authority</td>
<td>PIPER</td>
<td>Colin</td>
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<td>17674482045</td>
</tr>
<tr>
<td>National Development Foundation of Dominica (NDFD) Limited</td>
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<tr>
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<tr>
<td>National Parks Authority</td>
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<td>David</td>
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<td></td>
</tr>
<tr>
<td>Witchchurch Travel Agency</td>
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<td>Tours Supervisor</td>
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</tr>
<tr>
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<td>Jonathan</td>
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</tr>
<tr>
<td>Indian River – Tourism Business</td>
<td></td>
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<td>Manager</td>
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<td>17674453333</td>
</tr>
<tr>
<td>Mero Development Committee</td>
<td>PRINCE</td>
<td>Josephine</td>
<td>President of the Mero Development committee – member of the Dominica Tourism Association</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.5. The Vulnerability Context of Livelihood Development

Being in the Atlantic Hurricane belt, Dominica is often impacted by hurricane conditions including strong winds, generally accompanied by heavy rainfall and storm surges in coastal areas (GEF 2012). Climate change projections in Dominica could have serious impacts on various socio-economic sectors and natural systems, with further implications for the tourism industry. It would seriously undermine communities’ livelihoods.

- The agriculture sector is highly vulnerable to weather conditions and to external events affecting commodity prices (e.g. Hurricane Dean destroyed over 90% of the area under banana production in 2007);

5.6. Livelihood Assets

Socioeconomic overview: Levels of unemployment and poverty in the immediate surroundings of an area with abundant harvestable natural resources can be an indicator of the threats and challenges an area will face. This indicator does thus also apply to the choice and implementation of Alternative and Additional Livelihood options. In 2008, Dominica had one of the lowest per capita GDP rates of Eastern Caribbean states. Scotts Head Marine Reserve is part of St Mark Parish, which is the poorest one in Dominica with 31% of all Dominica’s poor households. Among the three poorest communities in Dominica Scotts Head is one. Migration of young people to urban areas in hope of finding a better situation is a big issue for the area.

5.6.1. Natural Assets

✓ Marine resources dependency
- There is still a high dependency on the marine resources, especially coming from the coastal communities (Soufriere and Scotts Head). Even if the people from the village of Gallion are farmers, they also fish for their own consumption.

✓ Perception of the MPA and attitude toward conservation and management
The communities are well-aware of the marine reserve and its rules and regulations. However, they feel the MPA is not a good thing for them as it hasn’t supported either the fishermen or the other inhabitants, proving the non-existence of management. They have the feeling that the MPA is only benefiting the tourism operators.
- Overfishing and illegal fishing practices are often reported in the area;
- People from the three communities are not invested in the SSMR and seem quite reluctant in contributing to the management of the marine reserve;
- There is a lack of community ownership towards management;
- A low conservationist mind-set has been generally noticed in the area.

5.6.2. Social Assets

Dominica has difficulties in getting community consensus. Increasing political issues divide the communities in SSMR. Moreover, people do not want to work together, in group or cooperative. Leadership, entrepreneurship and ownership are lacking. A hand out mentality seems to be a big issue in Dominica. Over the years the composition of village council became politicised, distracting community collaboration. These elements contribute to the erosion of social capital leading to conflict and sense of cohesion issues. It could be a strong limiting factor for the implementation of any AAL option in Soufriere Scotts Head area.
5.6.3. Financial Assets
Main occupation: Around the SSMR as along many Caribbean coasts, fishing, farming and tourism are key social and economic activities.
Income Generating Activities are diverse but fishing is the major economic activity in SSMR. Men also work as bus/taxi drivers, construction workers, masons, carpenters, farmers, civil servants, or obtain tourism-related jobs (e.g. tour guides, dive guides, snorkel guides, restaurants/bars). Women are more involved in small businesses like retail shops. All activities are carried out all year round except for all tourism-related jobs which are seasonal. The cruise ships season lasts from October to May and scuba-divers come all year except from June to August.
The overall community perception is that the month of September usually is the hardest economic period of the year causing the most financial difficulties.
- Fishing and farming are the traditional economic activities in Soufriere, Scotts Head and Gallion. But people are hard pressed to diversify their income earnings
- Fishing is still the most important local income source, providing more than half of their household earnings.

5.7. Organisational Structures and Processes
- The National Development Foundation of Dominica Ltd. provides support to community members to develop small and medium-size businesses. Applicants can get a loan at a very low interest rate;
- An Agro-processing Sector Policy was formulated in July 2002 and a number of specific measures were identified to boost the agro-processing output;
- The tourism sector seems to be one of the Government’s priorities, focussing on community-involvement through the slogan “Tourism is everybody’s business”. Community-tourism is specifically targeted in Dominica’s Tourist 2010 Policy. The Tourism Master Plan 2005-2015 formalized the growing interest in Dominica to become a sustainable tourism destination. The ‘Tourism Master Plan Strategy’ includes the creation of some 3,000 new jobs in the sector over the next ten years.

5.7.1. The Fisheries Sector in Dominica and in the Area of the SSMR
The fisheries are primarily artisanal and supplying local demand (including the tourism sector) and are thus important to national food security. The fishery industry is focused on migratory pelagic species but there is some fishing of demersal species on the west coast.
Fishing is the traditional occupation of the communities at Soufriere and Scotts Head, particularly at the latter. The Dominica Fisheries Division currently estimates that there are about 125 active fishers registered in the SSMR. Fishers are 37 years old on average and live within households of about 5 persons. The poverty assessment states that poor families rely on inshore fishing since they have no resources to fish offshore. This could lead to overfishing and depletion of fish stocks in the nearshore waters. Although the Fisheries Division is encouraging the use of long lines and FADs, these are beyond the means of the poor. Fishing is very socio-culturally embedded into the SSMR. Most of the fishers fish because they like it and it gives them independence. Even if there is one fishing cooperative, the fishers remain a fairly disorganised group. Indeed, the St Marks fishing cooperative was reportedly not operating efficiently, effectively or collectively. Except for a few leaders, the majority of fishers appear not to have learned enough about the benefits of collective action to play active roles in the cooperative and ensure its success.

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7 James, C., P. McConney and R. Pomeroy. 2006. "Case study analysis of coastal resources co-management in the Caribbean (...)"
5.7.2. The Tourism Sector

5.7.2.1. The tourism sector in Dominica

Tourism has developed more slowly in Dominica than on neighbouring islands mainly because the country offers few beaches. Nevertheless, Dominica’s mountains, rainforests, freshwater lakes, hot springs, waterfalls, and diving spots make it an attractive ecotourism destination.

Out of 22 Caribbean islands, Dominica had the fewest visitors in 2008. It receives about 75,000 stay-over tourists yearly. Most (about 40,000) stay with friends and relatives. Less than 25,000 are non-Dominica related visitors who are attracted by the nature, culture and dive tourism products. About 3,000 are dive tourists. Although stay-over tourist numbers are small, Dominica attracts a significant number of cruise visitors (about 300,000 in 2005), which is contradictory to the image of Dominica as an ecotourism destination. Cruise ship stopovers have increased following the development of modern docking and waterfront facilities in the capital. The main markets are the Caribbean (mostly from Barbados), the United States, Europe and Canada.

In recent years, community tourism in Dominica has received significant support through the Community Tourism component of the EU-funded Ecotourism Development Programme (ETDP). Thirteen small and medium-sized community projects have received support under the Ecotourism Development Programme – focussed on human resource development, destination marketing, institutional strengthening, product development, and community tourism (Laurent, 2006).

- Weaknesses
  - Limited infrastructures, restricted and inconvenient airlift;
  - Skills deficiencies and service standards in the tourism sector: there is no training facility to provide basic skills and very limited product offer in terms of variety, quantity and quality;
  - Lack of adequate human and financial resources;
  - Poor development of local tourism packages;
  - Insufficient marketing: with the exception of scuba dive, the product is poorly packaged and distributed (Few foreign tour operators include Dominica in their tour catalogues).

- Strengths
  - National Tourism Strategy orientated toward the development of ‘niche tourism’, especially ecotourism and community-based tourism;
  - The growing demand for ecotourism activities and products;
  - The international reputation of Dominica as a ‘nature island’ and as one of the top dive destination.

5.7.2.2. The tourism sector in the Soufriere Scotts Head Area

SSMR has acquired an international reputation as a dive site. Dive tourism grows continuously in popularity in the area, ranked as one of the top dive destinations in the world. The annual Dive Fest hosted by Dominica Watersports Association contributes to increase its popularity. Of the eight dive operators in the island, two are located inside the marine reserve: Champagne Reef and Nature Island Dive (90% of their dives are normally done in SSMR).

Regarding tourism infrastructure, there is almost no hotel, resort or restaurant of any international standard in the area. Few local restaurants are located along the coast in Soufriere and Scotts Head none of them meeting minimum requirements to be including in a tour package for international visitors. Some apartments can be rent, mainly in Scotts Head and some homestays have been set up.

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8 Tourism Master Plan 2005-2015
recently at the starting point of the Waitukubuli National Trail, in Scotts Head. There is one 5-star hotel in the area but working without any involvement of the communities.

There is however an interesting project going on with the rehabilitation of ‘Bois Cottlette Estate’, the oldest surviving estate on Dominica. It will be converted in an organic farm, offering tours and tasting sessions of local products among other services, potentially providing some direct and indirect employment for the communities in the area.

The Waitukubuli National Trail Project (WNTP), funded by the European Union and the Government of the Commonwealth of Dominica, comprises a real economic opportunity for the communities, if well managed and promoted. This trail of 184km will cross the island along the north-south axis and of its 14 segments, 2 or 3 are located in the area, with the peninsula at Cachacrou as the starting point. Two tour guides have already been trained in Soufriere by the Dominica State College.

Regarding craft production in SSMR, it is a very underdeveloped sector. Some craft production is found in Soufriere and Scotts Head, none in Gallion, and current handicraft items for sale are not of high quality and far from standards internationally demanded.

- Even if the tourism sector is increasing in Dominica and especially in the South of the island where SSMR is located, people don’t benefit much from tourism as very little community-based initiatives are developed and very few local people are employed in the tourism sector.
- The area abounds of natural and cultural potentialities for the development of ecotourism or community-based tourism products. The cross-island hiking trail and Soufriere hot springs (properly managed) are part of these numerous livelihood opportunities.

5.7.3. The Agriculture Sector

Dominica is known as the ‘Bread Basket of the Eastern Caribbean’ (Invest Dominica 2012). Bananas and other staple crops dominate Dominica's economy, and nearly one-third of the labour force works in agriculture. The agricultural sector provides about 60% of the food needs of the Dominican population. Banana used to be the primary agriculture product but the government has diversified the agricultural sector by promoting the production of citrus, cocoa, flowers and vegetables.

The coastal area surrounding SSMR is very dry, severely limiting its agricultural productivity. The soil type and terrain (very shallow and stony) in Scotts Head does not support any form of agricultural production. Besides, there is no much land available, and most of the land is private. Soufriere has some agricultural areas in the valley but Gallion is the farming village. Crops include sweet potatoes, plantain, figs, coconut, and pineapple, cocoa. They also breed animals like pigs or sheep but at local-scale. One person still produces cattle milk whereas 20 years ago, there were plenty of dairy cooperatives. Crab production is one of their main livelihoods in the village of Gallion. The community organizes an annual ‘crab fest’ at the end of November.

- Agriculture and livestock have seriously declined in the Soufriere and Scotts Head area;
- Value-addition and food processing are part of the strategic planning of the Agriculture Department and could be an option for the farmers who are not interested in moving from their traditional activity.
5.8. Analysis of the Alternative and Additional Livelihoods Options

An assessment of Additional and Alternative Livelihood (AAL) was done using PRA methods during a community-group meeting in Soufriere and during transect walks in SMMR where informal interviews were conducted.

5.8.1. Main findings

From community interviews:

- Peoples’ needs and aspirations are not for new Income Generating Activities but on strengthening already existing ones;
- Direct benefit from AAL into the improvement of community social standards is seen as highly important
- People generally have very few ideas of what else they could do to improve their economic situation;
- In addition to fishing, tourism-related jobs are the main AAL options people are interested in;
- Fishermen, particularly the older generation are not in favour of ‘alternative’ livelihoods but instead, in the development of sustainable fishing activities.

From the Tree Vision, PRA method⁹:

<table>
<thead>
<tr>
<th>People’s vision</th>
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<tbody>
<tr>
<td>Development of micro-tourism facilities: bars and restaurants along the waterfront, one restaurant in Gallion</td>
</tr>
<tr>
<td>Art and craft/Souvenirs shops</td>
</tr>
<tr>
<td>Fish events like weekend seafood and music recreational events</td>
</tr>
<tr>
<td>Development of ecotourism and community-based tourism products like farm tours, boat tours with the fishermen to see how they fish, how they work, the scenery,...),</td>
</tr>
<tr>
<td>Development of soft adventure activities (zip lining, kayak tours, hiking with the services of tour Guides inland and in the sea)</td>
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<tr>
<td>Water taxi services</td>
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<tr>
<td>Glass-bottom boat services</td>
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<tr>
<td>Horse riding</td>
</tr>
<tr>
<td>Fruit processing</td>
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<tr>
<td>Yacht mooring</td>
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<tr>
<td>Promotion of SMMR as much for the locals as for the international visitors</td>
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<tr>
<td>FAD Fishing</td>
</tr>
<tr>
<td>Development of new technologies in fishing</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>People’s skills as fishers, farmers, construction workers, etc.</td>
</tr>
<tr>
<td>The St. Mark Fishermen’ Cooperative</td>
</tr>
<tr>
<td>The nature-based resources and the landscapes: marine resources, hot-springs, some historical sites like Soufriere’s church, wildlife, sunset in Scotts Head,...</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Enabling conditions (support needed)</th>
</tr>
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<tbody>
<tr>
<td>Technical support: specialized trainings in the different sectors they would like to be involved (like in customer service, hospitality, accountability, business management,...)</td>
</tr>
</tbody>
</table>

⁹See Appendix 1
- A dedicated training centre or programme in the area, to facilitate the communities’ participation
- Support to write grant proposals
- Material support for boat safety, the water taxis or any other tourism business they would like to set up
- Financial support (from local and external agencies), the Government is highly required to support them

The people’s needs and aspirations could be classified in sector or sub-sectors:

1. **Tourism sector**: the majority of people’s answers are related to this sector, including the art and craft production;
2. **Fisheries sector**: FADs, development of new technologies in fishing
3. **Agriculture sector and agro-processing sub-sector**: fruit processing

According to the level of information collected, the feasibility assessment could be done for two prioritized AAL options: the deployment of the FADs and the development of ecotourism and community-based tourism businesses. The latter one will be assessed as a community-based tourism centre from which tourism activities and services will be offered.

**Table 2: Matrix - Feasibility Assessment of the AAL options in Dominica**

<table>
<thead>
<tr>
<th>Indicator of sustainability</th>
<th>AAL 1: FADs</th>
<th>AAL 2: the development of a CBT Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Technical skill required or capacity-building easily achievable</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>Support, willingness</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>Community already organized in group, cooperation</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>2-The Community’s role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Available resources</td>
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<td>M</td>
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<tr>
<td>4-Simplicity</td>
<td>H</td>
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<td>5-Timeframe</td>
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<td>6-Ecological sustainability, resources sustainability</td>
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<td>7-Social Sustainability</td>
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<td>8-Economic sustainability a-Beneficiaries from the coastal communities of the MPA</td>
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<td>H</td>
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<td>b-Number of direct/indirect beneficiaries estimated</td>
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<td>10-Total</td>
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H = High; M = Medium; L = Low
5.8.2. AAL option 1: Fish Aggregating Devices (FAD)

Fish Aggregating Devices (FADs) were first introduced to Dominica in 1987 but Dominican fishermen did not understand the concept for years. After continued persistence of the Fisheries Division, the fishermen began to be supportive. JICA selected Dominica as the first country for the implementation of the FADs deployment project in the region, and as tools for sustainable development, management and conservation of large pelagic resources in the region.

The sites for the 5-year pilot project have been determined. This AAL option makes use of traditional fishing skills as it’s still a fishing activity, targeting different fish with different gears. Although fishermen mentioned they would support the project, awareness is still to be generated towards the fact that they will have to pay the FAD licence. Although the pelagic resource seems to be abundantly available, fish stock assessments to check the ecological sustainability in the long term still need to be done before their implementation. From different analysis, the economic sustainability of the FADs has been evaluated. Specific cost/benefit analysis would be required but the cost of the FADs should be met rapidly by the revenue generated. The institution is totally ready to support this AAL through the Fisheries Division mainly, very active and working closely with the Japanese International Cooperation Agency on this project.

5.8.3. AAL option 2: A Community-Based Tourism (CBT) Centre

From all ideas that came up consulting the communities it is proposed to develop a CBT centre, which would provide courses in several tourism-related skills like running community bars and restaurants using fresh and local products (fish, fruits, vegetables), organising and conducting boat trips, hiking (loops would be offered from the Waitukubuli National Trail along the coast or cultural ones in the communities, farm tours), snorkelling rental services, souvenir shop,... It would enable to generate larger economic benefits - from direct and indirect employments – than isolated initiatives. However, it would also require more time to be implemented and more technical, material and financial support, mentoring and an appropriate monitoring system (see recommendations). Nevertheless, the business would use as much as possible the local skills: it would target first, the people willing to be committed, second, the ones who have the basic capacities to run the businesses (boat trips would be provided by young fishermen; farm tours by farmers;...). The less capital demanding activities would be privileged and the ones providing larger benefits and distributing the benefits to a greater number of local people. Community-based Tourism activities (Excursion tours, inland and at sea) and micro-tourism facilities (restaurant, souvenir shop) would link visitors with a number of different services, thus providing direct and indirect employments in the area. The Government has limited (human and financial) resources but it would greatly support this initiative.
5.9. Recommendations

- Strengthening the communities’ traditional livelihoods in a sustainable manner, instead of developing alternative or/additional ones because the communities – especially fishers and farmers – are not willing to be converted. As a reminder, the risk of sustainability is greatly increased when it’s based on traditional skills.
  - For the fishers, developing activities linked with sustainable fishing practices; the youngest ones could be trained as boat tour guides
  - For the farmers and fishers (mostly in Gallion), developing value-adding products and food-processing; the youngest farmers could be trained as farm tour guides

- Extensive studies will have to be conducted to deeply assess people’s needs and aspirations as this AAL assessment gave only brief indications. [As a reminder, an Alternative Livelihood Strategy can only be sustainable if it takes into account people’s needs and vision.]; feasibility study, socio-economic viability, cost benefit analysis, market assessment, etc.

Taking into account those preliminary elements, it could be recommended to support the implementation of:

- In the short-term: FADs
- In the short and medium term: Ecotourism and CBT businesses
- In the medium and long-term: Agro-processing, value-adding products

Recommendations for the development of FADs

- Development of an appropriate mechanism to finance the management and maintenance of the FADs
- Implementation of a suitable data collection system around the FADs
- Fish stock assessment to check the ecological sustainability of the project
- Additional financial resources for their deployment would be needed as the JICA pilot sites have been identified and they are not located in SSMR area
- Technical support related to their management, monitoring and evaluation system

Recommendations for the ecotourism, agro-tourism and CBT businesses

The development of this option has to be thinking in several phases:

- The easiest businesses to implement have to be considered in the short-term, requiring the least capacity-building, based with the communities’ skills and willingness, as well as the least capital intensive ones, with no damage on the environment,...
- The ones requiring more human and financial resources could be developed in the medium and long-term
- The ecotourism and community-based tourism businesses would be developed as a complementary source of income as tourism is seasonal. It cannot be thinking as a full-time activity. As an additional livelihood for the communities, it would decrease the risk of unsustainability as the communities would keep their traditional livelihoods, pressuring less the natural resources thanks to their source of income improvement.
- It could be suggested to start with the development of ecotourism products like quality nature walks. The potentialities are there, the National Trail in place offers a good start, some tour guides have been already trained, and training resources exist in the country.

Some recommendations for the development of the CBT businesses are as follows:

- To formalize a tour guide association
To create short loops from the first two segments of the Waitukubuli National Trail, for them to be accessible for the cruise-ship visitors (over 50 years old in average)

- To develop public-private partnership
- To develop appropriate capacity-building
- To promote it locally, regionally and internationally
- A community-based tourism centre could be developed as a second step, after having checked the sustainability of the different ecotourism activities and services that would have been developed in SSMR. It could provide significant direct and indirect employments if it’s properly managed.

These AAL options would not be successful before the resolution of the challenges that SSMR is facing. Their suitability and sustainability will depend on:

- The enhancement of communities’ ownership
- The confidence in each other
- The enhancement of communities’ entrepreneurship
- The improvement of local management bodies with a real leader to provide the adequate guidelines to empower the communities
- The resolution of political conflicts
- The assistance provided for people to get the appropriate skills to implement small businesses. The training resources are there but the linkages between the communities and the entities are missing
- The development of appropriate financial mechanisms such as micro-credit and the support for them to apply for loans or grants
- Public awareness campaigns for the local people to be proud of what they have and for them to start taking care of their environment
- The development of public-private partnership
- The development of a brand for SSMR with ecotourism products well identified and typical to the area
5.10. Conclusions - Dominica

Designated in 1998 to preserve coastal and marine resources, and to avoid user conflicts between traditional and the growing number of watersports users, SSMR is today subject to important threats from both human and other impacts: irresponsible fishing practices (overfishing and illegal practices), land-based pollution and coastal erosion to climate change. And this marine reserve is located in the poorest parish in Dominica, explaining the communities’ vulnerability and their high dependency on natural resources. The MPA is not approved by everyone as the primary resource users feel they have been losing since its establishment. A lack of community entrepreneurship and ownership with a kind of ‘wait-and-see’ approach and a lot of political matters could be seen as major challenges for the success of any AAL option in SSMR.

This Alternative and Additional Livelihood assessment allowed us to get an overview of people’s needs and aspirations through a community’s meeting and transect walks conducted in the three communities during the field work. Whether it is for one community or another, people have very little idea in terms of AAL development, apart from the development of new fishing technologies and tourism-related jobs. From a pre-feasibility assessment, the deployment of the FADs appears to be the most suitable option in the short-term; and the development of ecotourism and CBT businesses should be considered as an option in the short-medium term. Dominica is very advanced in the FADs as it has been chosen as the first pilot country for the JICA project.

Regarding the second option, it totally meets people’s expectations and thus, it would be easier to implement with the support from the communities. Moreover, it’s fully in line with the National Tourism Strategy, seeking to pursuit ‘niche tourism’ such as ecotourism to contribute significantly to growth, employment.

Easy projects to implement are highly recommended, requiring low capacity-building and investment and distributing the benefits to a greater number of local people. Excursion activities could be prioritized, linking visitors with a number of different services, like boat trips, farm tours, natural and cultural walks taking the advantage of the existing segments from Waitukubuli National Trail – loops could be developed in SSMR area. Even if it would not require a lot financial support, the communities don’t have the capacities to develop these kinds of initiatives by themselves. Therefore, their success would greatly depend on the technical assistance provided, external but internal one is crucial, during all the process of their implementation. Communities will depend on leadership setting up small businesses. Enhancing ownership of the communities through public awareness or improving LAMA’s management performance and confidence by the community are some of the prerequisites for their development. If extensive studies have to be done to develop an appropriate AAL strategy in SSMR with a proper feasibility study, economic and environmental viability, cost-benefit analysis, market assessment and so forth, it would be recommended to start by resolving the internal issues like the poor social capital, the management capacity of LAMA, because otherwise no AAL option would be efficient in the area.
5.11. Bibliography


5.11. Appendix

Figure 4: Map of the Structure and Product Development Plan

6. Country chapter - Options for Additional or Alternative Livelihood for Coastal Communities in Grenada

6.1. Introduction

The State of Grenada consists of three main islands - Grenada, Carriacou and Petit Martinique, located at the southern end of the Grenadines in the south-Eastern Caribbean Sea. The island of Grenada is the largest with a land area of approximately 344 km² and an estimated population of 110,000. The islands are of volcanic origin with extremely rich soil. Grenada's interior is very mountainous, with numerous small rivers and beautiful waterfalls flowing into the sea. The island is also known as the "Island of Spice" because of the production of nutmeg and mace crops of which Grenada is one of the world's largest exporters. Grenada is located on the southern edge of the hurricane belt and three hurricanes caused unprecedented damage to the country in fifty years, tearing down 95% of buildings, decimating the nutmeg plantations which are the island's main source of employment and income for hundreds of farmers, and ravaging large tracts of Grenada's pristine rainforest and coral reef.

Since then, the government has kept looking increasingly to tourism development while struggling to balance conservation with economic development in its efforts to recover the island's economy. Grenada’s marine and coastal environment and associated species are under constant threat from stressors such as rapid and unplanned development, particularly within the tourism sector; land-based pollution, sediment runoff from cleared land, overfishing, and in particular, climate change related coral bleaching and disease are some of resulting impacts from these various development activities on the marine resources. That is why the Government of Grenada has decided to focus on the establishment of a National Marine Protected Areas System.

The focus of the CATS Programme of support is the Molinière-Beauséjour MPA. Since its launch in 2010, the management of the MBMPA has never been able to properly 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. 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. They also reported that the establishment of the MPA has generated benefits only to the tourism businesses, not to the communities. Assessing the feasibility of alternative livelihood options for persons displaced due to MPA management or simply to improve earnings of community members is important and would be key factors for a successful sustainable management of the MPA.

The report presents briefly the context of the MPA and then describes the methodology used during the consultancy. It includes a brief livelihood assessment as the basis for presenting analysis of the AAL options and some recommendations for their implementation.

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10 based on the 2007 Census report
6.2. Presentation of the context of the MPA

The Molinière-Beauséjour MPA was gazetted in 2001 by the Fisheries (Marine Protected Areas) Order. The Molinière-Beauséjour MPA is located only 3 miles (5 km) north of St. George’s. The total area covers just 0.23 sq. miles (60 hectares). The main settlements bordering the MPA from South to North - Grand Mal, Mt. Moritz, Molinière, Happy Hill, Beauséjour, and Brizan. These six communities, according to the 2001 population census have a combined population of 3,340 persons.

The main purpose for the establishment of the marine protected area in the Molinière-Beauséjour coastal area was thus to provide a management framework to reduce user conflicts (in particular among fishermen (seine vs towing nets) and between fishermen and charter boats) as well as protect coral reefs and associated resources. Coral reef, reef fish, mangrove, rocky shore, seagrass beds and sandy beaches with marine turtles nesting sites in Beauséjour are some of the main natural resource values.

The resources within the MPA are heavily used: coastal fishing, beach recreation, scuba-diving and snorkelling, sailing and yachting, sand mining,... triggering many threats to the marine resources like overexploitation, illegal fishing activities, beach erosion, pollution, litter on the beach, insecurity,...

The MPA has 4 zoning areas: Fishing priority, Marine Park, recreational area and yacht mooring area with regulations associated to each zone in the MPA. Line fishing is forbidden in marine park and yacht mooring area; whereas spear fishing is forbidden in those two plus in the fishing priority area.

There are few mooring buoys at various sites to prevent boats from anchoring on the reef. Two rangers are assigned to patrol the area. An MPA coordinator was appointed in 2009 to ensure the management of the MPA and contribute to the elaboration of the management plan.

6.3. Description of the methodology used

Grenada was the last country visited. The field work lasted from the 10th until the 15th of December. It started with a meeting with the MPA coordinator, Mr Roland Baldeo, and other members of the management board including Dr. Dottin and Mrs Ogilvie from ‘People in Action’ to discuss livelihood mapping in Grenada. It was decided by some members of the PIT Board that collaborative community meetings should be conducted between the AAL consultant and People in Action. This first meeting was directly followed by a brief introductory meeting with the members of the PIT board (see the list of the stakeholders mentioned below) at the Fisheries Division in Saint George’s.
Unfortunately, very few members attended this meeting. The presentation of the field work was done, the methodology was explained and the itinerary was reviewed (see the draft sent by the MPA coordinator below). However, because of some miscommunication between the consultant and the MPA coordinator, the meetings with the key stakeholders weren’t scheduled. Therefore it was very difficult because of the very busy agenda and the Christmas season to schedule a meeting for the following days.

Moreover, Mr Baldeo wasn’t feeling well and couldn’t come to work and was unable to assist in coordinating the field work. Dr Dottin replaced him at last minute and made the necessary arrangements and appointments for the field work. Of three community meetings planned, only two took place; the one with the fishermen had to be cancelled due to the fact that a political meeting was organized at the same time and at the same venue. It was reschedule for the following day along with one scheduled with the farmers. However, none of the fishermen came and just 5 farmers attended the meeting. The day didn’t seem to be well chosen because the farmers had to prepare themselves for the market, taking place early the next day. The meeting with the community groups was the one gathering the most participants (around 20) and the only one for which PRA tools could be used (see appendixes).

A terrestrial visit of the MPA was done with the ranger Cecil Mc Queen to get an overview of its boundaries, local and socioeconomic context. Then, the consultations were conducted with the stakeholders listed below, with a mixed gathering of private operators, public entities and NGOs.

Literature review was gathered mainly during the home desk phase. Nevertheless, some additional data were collected from the CFO, People in Action and the Grenada Tourism Board.

### 6.4. Stakeholders met

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### 6.5. Vulnerability context (shocks-trends-seasonality)

Grenada is a small, open, developing country vulnerable to external shocks and natural disasters. It lies in the path of the North East Trade Winds and although located south of the hurricane belt, the country is vulnerable to tropical storms, occasional hurricanes and storm surges. Grenada was hit by major hurricanes in the last fifty-five years. For instance, in 2004, Hurricane Ivan caused unprecedented damage to the country, decimating the nutmeg plantations which are the island’s main source of employment and income for hundreds of farmers.

Climate-related events and climate change are already impacting livelihoods through reductions in fishing, extended dry periods which make it costly for small farmers to irrigate, smaller crop-size compared to the past, as well as a greater prevalence of crop pests and diseases which affect productivity.

ษา Climate change is a serious and substantial threat to the economies of the country (including tourism, agriculture, fisheries and water resources), the livelihoods of communities and the environments and infrastructure across the island.
6.6. The Livelihood Assets

6.6.1. Natural assets
Rocky shores, beaches and cliffs make up a picturesque landscape and offer a nice view from the sea. The coral reef and the underwater sculpture park make Molinière a unique and internationally renowned diving and snorkelling attraction. The presence of petroglyphs near the Beauséjour River is a very strong cultural asset for the area as they are one of the few remainders of the Amerindian culture left by indigenous people. There is also lots of history in the area.

✓ Perception of the MPA and attitude towards conservation and management:
Most people who consider that the MPA has been beneficial say that beaches are cleaner and healthier for bathing; fishing is improved; there is less sand mining and resource degradation. Many see that tourism has increased and that fisheries conflict are reduced but no revenue is generated for the communities. People are optimistic about the future benefits of the Molinière-Beauséjour MPA as most of them believe the area will benefit them in the future.

✓ Dependency on marine resources: From a census done for the MPA management plan, it has been reported that 62% of respondents use the Molinière-Beauséjour MPA as a source of seafood and it is the main source of fish for 40% of respondents’ households.

✓ Main threats on the marine resources:
- Marine wildlife poaching: marine turtles are still hunted all year round as the regulations are not enforced. Turtle hunting is allowed by the regulation but there is a close and an open season, which are not adhered to. People eat the eggs and the meat because it is traditional.
- Illegal fishing activities like spear fishing which is not effectively controlled damages coral. Coral are also threatened by anchorage and climate variability and change (storm surges and hurricanes).

❖ The marine resources have declined over the past years and will still decrease because of the coral damage, over exploitation, noncompliance with the regulations and natural disasters.

6.6.2. Social assets
A certain ownership from the communities has been noticed and reported from the stakeholders met. People seem to work collaboratively. For instance, several underwater and beach clean-up campaigns were conducted with the collaboration of local people. This contribution rendered these areas more attractive and developed ownership. In Molinière, people clean up the beach voluntarily, organizing themselves in turns. People seem quite entrepreneurship, like the small restaurant set up from a local initiative without any external support. Moreover, people have started to work in groups. Several community groups exist in Molinière, Beauséjour, Happy Hills. Fishermen Cooperatives are in place and a farmer organization, mainly represented by farmers from Mount Moritz, has just been registered.

❖ Unlike other islands in the Lesser Caribbean, the communities in Molinière-Beauséjour MPA seem to have a strong social capital. Some have a business mind-set and they have started to understand the importance of working in groups. The social capital would be an advantage for the success of the AAL options.

6.6.3. Financial assets
The communities from the MPA are affected by a very high rate of unemployment, especially for the ones living in Molinière and Beauséjour.
The most common types of occupations are farming and fishing, (see the figure below ‘Household Members main occupation). Farming is the primary occupation in Brizan and Mt. Moritz. Traditional Seine Fishing is reported in Happy Hill and Beauséjour communities.

The meeting with the community groups revealed some gender differences in terms of occupations. The women seem to be more involved in farming and fishing, small businesses (shops, sewing etc.) and very few in tourism-related jobs; whereas the men are committed to farming, poultry, livestock, and fishing, construction-maintenance and boat building.

Figure 6: Household members main occupation

Source: extract from MPA Management Plan

- The fishing activity taking place in the Molinière-Beauséjour MPA is small scale and semi-subsistence. Most if not all people fish for their own consumption
- Reef fish contributes to the support of local communities’ food security and livelihood
- The importance of the fishing activity for local communities’ livelihood and subsistence is declining potentially due to the depletion of the resources
- The fishermen have started to move away from the fishing activities to construction jobs because of the depletion of the resources. Migration affects the area; this is particularly impacting on the young people because of the limited prospect for future employment.

We didn’t focus on the human or physical assets for this report. However, it seems important to comment on the education level both formal and informal, as it could influence the AAL strategy. It was noted that:

- The fishermen have a higher level of education in the Molinière-Beauséjour area than in other parts of the country. Many attaining the secondary level.
- The informal level of education and skills is important: the Molinière-Beauséjour communities’ occupations are numerous and diversified (see the paragraph of the financial asset). They are farmers, fishermen, agro-processors, traders, caterers, construction workers and craft makers.
6.7. Organisational Structures and Processes

This section includes the private and public organizations that implement policy and legislation, deliver services, purchase trade and any other functions that affect livelihoods. The idea is not to provide an exhaustive listing of these institutions but to highlight some organizations that seem to have interesting programs for the development of AAL options.

✓ The Grenada Development Programme provides small business funds at the lowest interest rate. This fund was launched on Sept. 2013 and could provide a loan up to 25,000USD, without targeting a specific sector.

✓ The Grenada Industrial Development Corporation: GIDC is the investment promotion agency of the Government of Grenada. It provides assistance to SME’s through its Business Development Division:
  - Free diagnostics for small businesses to identify their technical assistance requirements, such as assistance with product development, marketing, costing and pricing, productivity and financial tools. Assistance is also provided to register a business, prepare business stationery and marketing material and access credit.
  - It has developed a training programme to enhance small-businesses managers’ skills in business management, marketing techniques or to develop entrepreneurship in Grenada.

✓ The Ministry of Economic Development, Trade, Planning & Cooperatives works with the communities:
  - To assist them in the promotion of their products. It focuses on ‘biological’ products and sensitizes people because they usually think products from abroad are better quality;
  - To improve the standards. They seek funding to provide training for the local people. They try to improve the sanitary issues and to make the communities ready to export regionally and internationally;
  - To find markets, for fish and agro-processed products.

As the main economic sectors in the Molinière-Beauséjour MPA are tourism, agriculture and fisheries, it is important to give a brief overview of their strengths and weaknesses.

6.7.1. The Tourism sector

6.7.1.1. The tourism sector in Grenada

Tourism is the main growth sector since the 1980s, and plays an important role in the overall economic diversification strategy. It has made great strides with the building of an international airport (in the 1980s), the construction of two large hotels and additional guest houses since the 1990s and more recently a cruise terminal to accommodate large cruise ships.

The Ministry of Tourism is in charge of the policies and regulations, while the ‘Grenada Tourism Board’ is in charge of the technical advices. The latter one will soon become the ‘Grenada Tourism Authority’, giving to it more independency and latitude to raise fund.

Tourism is seasonal. The high season lasts from December to April. The main tourism markets are the States, Canada, UK, the Caribbean and Greater Europe. The visitors from the cruise ships are the most numerous ones, notwithstanding the decline in that sector since 2009, with arrival 343,000 declining to 243,000 in 2012\(^\text{11}\). The 117,000 stay over were registered in 2012 also represents a decline of the previous years. Nevertheless, the average length of stay has slightly increased over the

\(^{11}\) Source: Annual Statistics from Grenada Tourism Board
last decade. Market driven approaches suggest the need to attract 50,000 to 25,000 more persons to the island to create a vibrant market.

=> Cultural Heritage Tourism has become one of the fastest growing segments of tourism industry
=> Land amenities are highly demanded by international visitors
=> Scuba-diving and yachting are increasing sectors

▷ No mass tourism is promoted, the development of ecotourism and community-based tourism is highlighted in the Grenada Tourism Board Strategic Plan.

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism is seasonal</td>
<td>Positive image of the island</td>
</tr>
<tr>
<td>Tourism sector is in decline</td>
<td>Direct flights from the States (New-York, Miami) and UK</td>
</tr>
<tr>
<td>Craft sector is going down and need lots of improvement (innovation, quality)</td>
<td>Grenada’s diversity of ecosystems and marine resources</td>
</tr>
<tr>
<td>The products don’t meet international standards</td>
<td></td>
</tr>
<tr>
<td>Lack of public funds</td>
<td></td>
</tr>
</tbody>
</table>

6.7.1.2. The tourism sector in Molinière-Beauséjour MPA
The MPA is a one of the main recreational area in Grenada. It is particularly well-known for snorkelling and scuba-diving. Snorkelling is mostly practiced in Dragon and Flamingo bays on relatively shallow reefs; diving is also practiced in these two bays, plus in Grand Mal and on a ship wreck located off Molinière Point. The 6 dive operators based in Grenada use the MPA for their dives. The World’s first underwater Sculpture Park in Molinière-Beauséjour MPA has increased its reputation. All day-charter boats, yachts (10 yachts per month) and 4 catamarans organize day snorkelling trips. Kayaking, canoeing and sailing are occasionally done in the MPA and a glass-bottom boat also operates in the area. The beaches, especially the beach of Molinière - the main entry point of the MPA, are actively used by international visitors and by the locals for recreational activities during the week-end: swimming, playing football, picnicking.

▷ The MPA is used by most of the tourism operators in Grenada and by the locals. Apart from some boat charter trips and a local restaurant on the beach of Molinière, there is very little economic benefit generated for the communities as most of the operators are located outside the MPA and almost no tourism business is being operated by local from the surrounding communities.

6.7.2. The Fisheries sector
Like the other islands in the Lesser Caribbean, the fishing activity is artisanal and largely at the level of subsistence. In the MPA, the fishing activity is small scale and semi-subsistence. Fishing is not the main occupation for the communities and they seem to have changed their practices over the years: people used to fish with boats while they now mostly fish from the shore. Rocky shores are used for subsistence line fishing. The Marine Park Area and activity restrictions within the MPA have affected people dependent on certain types of fishing. For example, due to the prohibition of spear fishing within the MPA, spear fishers now have to travel further to spearfish, increasing their operation costs; and seine fishermen are restricted to a certain area within the MPA. These financial pressures may result in decreases in household income.

Some illegal activities are still noticed in the MPA and the actual management of the MPA doesn’t have enough resources to prevent them from taking place.
6.7.3. The Agricultural sector
For many years, the country depended on agriculture for income, employment and output, but there was a shift in the 1990s to tourism and telecommunications services. This sector was once dominated by the traditional export crops of cocoa, nutmeg and bananas. The plummeting of world nutmeg prices in 1991 for instance obliged the country to diversify its products. Today fishing and non-traditional crops are the key sub-sectors; there is also an emerging agro-processing sub-sector that is being supported by an increasing number of small agro-processors.
In the MPA, about 200 people are involved in farming in the area. There are farmers who practice farming as their main occupation and while there are for who farming is one of several occupations. Side jobs in construction work or teaching. The income earned out of agriculture force them to seek a livelihood elsewhere.
The farmers usually grow short crops (vegetable, cash crops, and peppers) and long term crops (coco, banana, nutmeg). A cooperative is about to be registered, encompassing around 40 farmers from the area.
Some of the challenges which the farmers expressed concern about are:

- Lack of proper Irrigation (the water is there but the access is the issue);
- The lack of affordable transportation: the distance to market is a big issue. They have the roads but only 1/20 has a car
- Marketing: lack of local facilities to handle the produce outside of the capital which results in increased cost and travel time from field to market.

To maintain and improve their quality of life, the communities may pursue livelihood diversification strategies to support their household. Their traditional livelihoods dependent on natural resources are not sustainable and a source of risk because they are impacted by seasonal and cyclical fluctuations.

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.

6.8. Analysis of the Alternative and Additional Livelihoods Options
The description of the AAL options will be analysed first from the findings during meetings with the community groups, second, from the consultations and the literature review. Finally, the recommendations will be based from the information cross-checked.

6.8.1. Findings from the meeting with the community groups
The Tree Vision tool (see annexe) was used to put forward people’s needs and aspirations, as well as their strengths and enabling conditions to achieve their vision. The participants were divided within three groups before they exposed their findings to all the participants. The findings are summarised as follow:

<table>
<thead>
<tr>
<th>Vision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dive shop</td>
</tr>
<tr>
<td>Community-Tourism centre where catering will be provided with local fruit and vegetables, fresh juices will be offered</td>
</tr>
<tr>
<td>Cosmetology</td>
</tr>
</tbody>
</table>
Restaurant on the main beaches, especially in Dragon’s bay
Solar panel boat
Glass-bottom boat
Boat Building centre
Tour Guides
Snorkelling rental
Water Sports and water Tours
Ecotourism activities like turtle watching, iguana watching tours, bird watching, etc.
Aquaculture
FAD Fishing

**Strengths**

People’s skills as fishers, farmers, boat builders, caterers, skippers, etc.
Community Groups and Organizations; fishers cooperative
The nature-based resources: the beaches and access to them, the land, historical sites, marine resources, wildlife (birds, marine turtles, iguana,...)

**Enabling conditions (support needed)**

- Technical support: specialized trainings, (provided by ART – Agency Rural Transformation,) scuba-diving, rescue dive, first aid,..., bird watching, financial training programmes, mooring training, training in languages
- Material support: diving equipment, irrigation equipment, farming inputs
  A jetty in Beauséjour Bay ; accessibility to Flamingo Bay ;
  Infrastructure road improvement
- Financial support (from local and external agencies), the Government is highly required to give some support
  Sculpture park management (BNTZ, People in Action,...)

They were requested to choose the alternative and additional livelihoods options they would like to implement in the short term:

- Dive shops and the community-tourism centre were prioritized, as much as any other tourism-related activity.

It should be noted that very few fishermen attended the meeting thus, we have hardly collected information about their point of view. However, from the representatives of the community groups, we believe that fishing would remain a significant livelihood but tourism and fishing could both contribute to provide alternative livelihoods to local communities if they are sustainably managed. Some additional ideas could be:
- Boat trips run by fishers for diving or for fishing as a recreation, and educate them on fish and fishing.

**6.8.2. Findings from the meeting with the farmers**

The tree vision wasn’t used as only 5 farmers attended this meeting. According to the participants, the farmers are not interested in doing another activity, they want to remain farmers but basically, they would like to improve their working conditions.

A lot of support is needed: technical, material, financial to meet people’s need. For instance, they need pumps to have better system irrigation in the area; and the presence of an extension officer with the qualification required to train them in new agricultural technologies. They need cluster
farmers to have easier access to funding; storage for them to sell their products directly in the area, etc.

To summarize the findings from the communities

- AAL options are mainly focused on tourism related jobs. Very little ideas emerged from the groups;
- People seem to have great expectations and are interested enterprises such as dive shops, but they are not well aware of the constraints of such a business and of the demand;

6.8.3. Findings from the consultancies and the literature review

Two factors appeared to be very important for the sustainability of the AAL in the MPA:
- The AAL options would have to be built as much as possible on the communities’ traditional skills;
- They would have to be very low capital demanding

Several AAL options have been mentioned: aquaculture, the Fish Aggregating Device, Fish-processing and the development of community-based tourism businesses.

- Aquaculture: some projects started in the 90’s with FAO. The main issues for the development of aquaculture sites in Grenada (like in other islands in the Lesser Caribbean) is the cost of feed and the supply for juvenile stock. FAO is trying to look at one country that could provide the production of juvenile and feed for the other ones.
- The FAD: one pilot project funded by JICA is done in Glenville. It is a five year project. It will run until 2018. JICA would not fund the FADs in Molinière. Additional funds will be needed, but the financial support could be easily found, according to the CFO. If the resources are found, it should be implemented next year. The technical skills are there as trainings were given by JICA experts. Regarding the beneficiaries, 20 boats could be involved – it is to say – 40 to 50 fishermen- reaching mainly people who are involved in line fishing. One of the constraints the Fisheries would face is the traffic in the area that could destroy the FADs. They would need to submerge the FADs which are more costly.
- Fish-processing: very few data have been found in this sub-sector. However, lots of constraints would make it hardly sustainable, at least, in the short term. The resource (in terms of secondary products (fish filet, fish-fingers) and the technical skills are available. But a proper fish-processing organization has not been formed yet. Several trainings were provided by the Japanese. The market is here: there is a huge demand for the yachts and hotels. However, no market assessment has been done so far.
- Development of community-based tourism businesses: there are lots of expectations from the communities in the MPA to implement this kind of businesses and it could be justified by the fact that they see many tourist operators coming to their area, exploiting it, earning money without any or very little benefits accruing to the local people. Extensive studies will need to be done on ecotourism and community-based tourism potential in the MPA. Nevertheless, we could retain these ecotourism/CBT AAL options for the area:
  - A community-tourism centre from where community-based tourism activities and services will be offered at the international standard: a restaurant with local and fresh food; a souvenir shop with local craft production, food-processed; naturalist/cultural tours either terrestrial ones to discover the wildlife (iguanas tours, bird watching tours, marine turtles watching...) and cultural life or marine ones; snorkelling rental gears; canoe rental.
Or each of these activities and services could be offered separately according to the technical and financial support found

- Agro-tourism offering farm tours with the taste of local products and the opportunity to experience rural life.

**Table 3: Strengths/Weaknesses analysis**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agro/Fish-processing</strong></td>
<td>The resource availability&lt;br&gt;The market availability, especially for the spices (cinnamon, ginger) and coconut oil&lt;br&gt;The land availability&lt;br&gt;Government support through the Ministry of Trade, Agriculture and Fisheries&lt;br&gt;Could target Farmers and Fishers in the MPA</td>
<td>Not enough supply of coconut&lt;br&gt;The cost of energy is very high&lt;br&gt;Lots of research and development are still required&lt;br&gt;No capacity to export&lt;br&gt;Need cluster of farmers (6-7 manufacturers working together) but people are distrustful&lt;br&gt;Lack of public funds&lt;br&gt;High investment =&gt; need equipment&lt;br&gt;The beneficiaries won’t be necessarily the coastal communities</td>
</tr>
<tr>
<td><strong>Aquaculture</strong></td>
<td>FAO support, research and development in process&lt;br&gt;Government support through the Ministry of</td>
<td>High cost of feed&lt;br&gt;Lack of supply for juvenile stock&lt;br&gt;Fishermen won’t be targeted because it is a farming process&lt;br&gt;Lots of external technical support required&lt;br&gt;No land available for aquaculture site within the MPA boundaries&lt;br&gt;Not an AAL option in the short term with no benefit expected before the mid or long-term</td>
</tr>
<tr>
<td><strong>FADs</strong></td>
<td>Pilot project already done in the country&lt;br&gt;Technical skills available in Grenada and in the region&lt;br&gt;Fishermen Cooperative already registered&lt;br&gt;Fishermen are target&lt;br&gt;Could be easily implemented&lt;br&gt;Benefits provided in the short-term&lt;br&gt;Socially sustainable&lt;br&gt;Low investment, Low cost</td>
<td>Financial support required&lt;br&gt;Fish stock assessment required&lt;br&gt;Submersion of the FADs required in the MPA because of the boat traffic.</td>
</tr>
<tr>
<td><strong>Ecotourism/CBT businesses</strong></td>
<td>Lack of ecotourism/CBT businesses in the area</td>
<td>Tourism is in decline in Grenada&lt;br&gt;Skills shortage (lots of training</td>
</tr>
<tr>
<td>Resources available: marine and terrestrial wildlife, with strong cultural assets in the MPA</td>
<td>required) Financial support needed Further studies required: cost/analysis, market assessment, carrying/Capacity, etc.</td>
<td></td>
</tr>
<tr>
<td>Ecotourism demand is increasing in the Caribbean The communities are highly supportive, so is the Government Evidence of commitment by the communities Capacity-building could be fully supported locally, Training centres in place in Grenada Socially sustainable CBT businesses would be based (partly) on traditional skills and knowledge No too capital intensive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4: Matrix - Feasibility Assessment the AAL options in Grenada

<table>
<thead>
<tr>
<th>Indicator of sustainability</th>
<th>AAL 1 FADs</th>
<th>AAL 2 Ecotourism/CBT businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Technical skill required or capacity-building easily achievable</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>Support, willingness</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td>Community already organized in group, cooperation,...</td>
<td>H</td>
</tr>
<tr>
<td>2-The Community's role</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>3-Available resources</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>4-Simplicity</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>5-Timeframe</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>6-Ecological, sustainability, Resources sustainability</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>7-Social Sustainability</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>8-Economic sustainability</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>a-Beneficiaries from the coastal communities of the MPA</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>b-Nb of direct/ indirect beneficiaries estimated</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>c-Revenue generated</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>d-Level of investment</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>e-Market assessment</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>9-Institutional sustainability</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Total</td>
<td>H=11; M=3</td>
<td>H=5; M=8; L=1</td>
</tr>
</tbody>
</table>

H = High ; M = Medium ; L = Low

The application of a tourism model built on the assets of the community in a holistic manner can be the vehicle to create growth and a sense of ownership towards conservation. The development of community owned tourism brings about direct earnings for communities.
Table 5: Level of support missing for the development of these AAL options

<table>
<thead>
<tr>
<th>AAL option</th>
<th>Technical Support</th>
<th>Financial Support</th>
<th>Institutional support</th>
<th>Other kind of support</th>
</tr>
</thead>
<tbody>
<tr>
<td>FADs</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Ecotourism/CBT Businesses</td>
<td>++</td>
<td>++</td>
<td>+</td>
<td>++ (communities support; studies: cost/analysis; market assessment)</td>
</tr>
<tr>
<td>Agro-Fish-processing</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>+++ (research and development, equipment, market assessment)</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>+++</td>
<td>+++</td>
<td>+</td>
<td>+++ (research and development, equipment)</td>
</tr>
</tbody>
</table>

6.9. Recommendations

In short term, FADs and the ecotourism/community-based tourism businesses should be prioritized in the Molinière-Beauséjour MPA.

In the medium term, aquaculture and agro/fish-processing could be supported

- Ecotourism/community-based tourism businesses
  Businesses being very low capital demanding should be prioritized as a start for example:
  ✓ The implementation of a Nature trail along the coast: the coast is very scenic and could allow the visitors to discover its marine and terrestrial biodiversity through a pathway. This pathway could be developed as a second phase equipped with signs on the fauna, flora or cultural sites found on the way. It should be short as the tourists coming over are in average around 40-50 years old and as the cruise-ship visitors are important (they require short-expeditions to be done during the day).
  ✓ The development of wildlife terrestrial tours like iguana tour, botanical tour, bird watching, marine turtle watching, etc.
  ✓ The development of boat tours within the MPA. The fishers could use their own boats (even if they would need to conform to new safety and security standards to bring the visitors within the MPA to either to do snorkelling or to experience fishing, with traditional local fruits/foods offered during the tour.
  ✓ The development of a ‘fish event’ like the fish-fest in Gouyave or a ‘sport-fest’ like the ‘dive-fest’ in Dominica

The implementation of those products and their sustainability would require, among others:
>> The identification of the persons interested in being trained as a tour guide.
>> Trainings in biodiversity could be provided by the national specialists; while the customer services could be provided by the Hospitality Training Centre; the entrepreneurship and business management skills could be provided by GIDC
>> Assistance from the public entities like the Grenada Tourism Board in developing quality products
>> A strong willingness from the participants would be necessary for the success of the business as apart from the official trainings, they would need to learn by themselves.
>> Cooperative establishment: Cooperatives and clusters are recommended to address the inherent constraint of the small size of business units. A cooperative with a leader to make the linkages between the public entities and the communities
>> Access to capital and financial support: the difficulty that the poor have in raising finance for productive activities because of their low incomes, the Alternative GPRS recommends policy reforms and interventions which would make the existing financial institutions more responsive to the needs of the poor.
>>Micro-finance schemes
>> Credit Unions have a special role to play in encouraging and mobilizing the savings of the poor
>> Feasibility studies for the design of the trails
>> Cost/benefit analysis and market assessment: further studies have to be conducted to check the economic sustainability of these businesses.

Carrying-capacity analysis: defining limits of acceptable change consistent with the MPA objectives may be more realistic but requires close monitoring and evaluation of the vulnerable resources.
>> Promotion/marketing campaign with the design and publication of brochures, flyers, posters
>> Public/Private Partnership to support the marketing of those products at the local, national and international level
>> Public awareness: for the communities to stop harvesting marine turtles or iguanas, to preserve their biodiversity and clean up their environment

It is recommended that the people targeted to develop these ecotourism businesses would carry on their main activities. Ecotourism could be considered as additional revenues, the time their economic social and environmental sustainability would have been assessed.

Recommendations for the Fish Aggregating Devices
The technology for the deployment of the FADs is already well-known in the Caribbean as JICA has started pilot projects all over the Lesser Caribbean countries.

>> The FADs should be financially supported in the MPA as it could potentially involve around 20 boats and targeting 40 to 50 fishers who could see economic benefits in a very short term
>>Technical support is needed to find the way to moor them below the surface
>>Fish stock assessment will be required to ensure the ecological sustainability of the FADs
>>Policies, law enforcement

Recommendations for the Agricultural Sector:
>>Promoting the application of Sustainable Farming and Appropriate Technology
>>Research and Development on particular products – e.g. cut-flowers, breadfruit, sugarcane, and herbs - which could give rise to a number of products that have a significant domestic market and high value niche export markets

>>Improvement in marketing of agricultural produce
>>Development, implementation and enforcement of a Lands Policy
>>Facilitating security of land tenure

Access to Capital and Cooperatives
Cooperatives and clusters are recommended to address the inherent constraint of the small size of production units, offering the possibilities to obtain economies of scale in many areas of production and marketing.

*Access to green energy*  
Prioritization of the development of solar energy - given the significantly lower capital outlay and its potential to make individual businesses and households self-sufficient in energy.
6.10. Conclusions - Grenada

The Molinière-Beauséjour marine park has been established since 2001 but it had to wait till 2010 to get a proper management structure and plan. Therefore, its coastal and marine environment has been seriously damaged by overfishing, land-based pollution and by other natural impacts like coral bleaching. The need for the development of Alternative and Additional Livelihood options is becoming more and more crucial to guarantee the sustainable management of the MPA. Thanks to several communities’ workshops conducted during the field work phase, we could assess people’s needs and aspirations, their strengths and the enabling conditions to achieve their vision. It was suggested to develop agro and fish processing, aquaculture, Fish Aggregating Devices, a boat building centre, ecotourism activities like boat trips, bird watching, turtle or iguana watching tours, and services like dive shops, tour guides snorkelling equipment rental or a community-based tourism centre including a restaurant and bar, souvenir shops and the ecotourism activities and services above.

The fishers and farmers who practice fishing and farming as their only source of income are not interested in moving from their traditional activities. For the rest of the community, it has been found that they have basically high employment expectations from tourism-related jobs.

The AAL options analysis enabled us to recommend the deployment of the FADs and the development of ecotourism/CBT businesses in the short-term, whereas aquaculture and fish-processing should not be a sustainable option in Molinière-Beauséjour MPA before the mid-long term, because their implementation required quite a lot of research and development. However, the FADs would target the fishers and it’s an initiative based on fishers’ traditional skills, thus decreasing its risk of un-sustainability. Research for appropriate material is required and financial support, but its cost would be met by the revenue generated in a short period of time. Regarding the ecotourism/CBT businesses, very low capital demanding projects are recommended, as well as the ones requiring the least capacity-building. Some suggestions could be to focus on the nature trails with the services of tour guides, boat trips and even if it was suggested during the mission, the development of a community eco-lodge could be an option to assess in further detail. All of these projects would require a strong commitment of local communities, as well as leadership. Public-private partnership would also be a key success factor.

In general, none of these AAL options should be implemented without having done extensive studies on their feasibility, cost-benefit analysis, market assessment, and carrying-capacity; including the development of an AAL strategy specific to Molinière-Beauséjour MPA and an AAL action plan for the short, medium and long-term. It is also important to consider the implementation of an ongoing mentoring, monitoring and evaluation programme. Indeed, a solid assistance program and an entity (like the establishment of a non-profit organization) would definitely enhance the sustainability of the AAL options.
6.11. Bibliography

6.12. Appendix

Figure 7: Draft Itinerary sent by the MPA coordinator in Grenada

<table>
<thead>
<tr>
<th>Day / Date</th>
<th>Time</th>
<th>Meeting</th>
<th>Venue</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday Dec. 10th</td>
<td>11:15 AM</td>
<td>Pick up at Int. Airport by MPA Vehicle. Check in at Hotel</td>
<td>LIAT Flight # 361DHB-300, From Saint Vincent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3:30 PM</td>
<td>Courtesy Call on Chief Fisheries Officer</td>
<td>Fisheries Division-Melville Street, St. George’s</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4:30 PM</td>
<td>Meeting with the Moliniere / Beausejour MPA Stakeholders Co-Management Board and the Project Implementing Entity PIT</td>
<td>Fisheries Division Conference Room, Melville Street, St. George’s</td>
<td></td>
</tr>
<tr>
<td>Wednesday Dec. 11th</td>
<td>5:00 PM</td>
<td>Meeting with community groups from the Moliniere/ Beausejour, Happy Hill villages</td>
<td>Sunset View Conference Room, Grand Mal, St. George’s</td>
<td></td>
</tr>
<tr>
<td>Thursday Dec. 12th</td>
<td>5:00 PM</td>
<td>Meeting with Fishermen from the Moliniere/ Beausejour, Happy Hill villages</td>
<td>Sunset View Conference Room, Grand Mal, St. George’s</td>
<td></td>
</tr>
<tr>
<td>Friday Dec. 13th</td>
<td>9:00 AM</td>
<td>Meeting with the Parliamentary Representative for St. George’s North West</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:00 AM</td>
<td>Meeting with Permanent Secretary responsible for Forestry &amp; Fisheries and other Ministry officials</td>
<td>Ministerial Complex, Tanteen, St. George’s</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3:00 PM</td>
<td>Meeting with the Moliniere / Beausejour MPA Stakeholders Co-Management Board and the Project Implementing Entity PIT</td>
<td>Fisheries Division Conference Room, Melville Street, St. George’s</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6:00 PM</td>
<td>Meeting with Farmers from the North West Constituency.</td>
<td>Sunset View Conference Room, Grand Mal, St. George’s</td>
<td></td>
</tr>
<tr>
<td>Saturday Dec. 14th</td>
<td>TBD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunday Dec. 15th</td>
<td>TBD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday Dec. 16th</td>
<td>11:35 AM</td>
<td>Departure from Grenada</td>
<td>To Trinidad</td>
<td></td>
</tr>
</tbody>
</table>
7. Country chapter - Options for Additional or Alternative Livelihood for Coastal Communities in Saint Kitts and Nevis

7.1. Introduction

The Federation of St. Kitts and Nevis is a federal two-island nation located in the West Indies. The smaller island of Nevis lies about 3 kilometres southeast of St. Kitts, across a shallow channel called ‘The Narrows’. The islands are volcanic in origin and have large central peaks covered in tropical rainforest. The surrounding flatter terrain is where the majority of people reside on both islands. The federation has an estimated population of 49,898 (2010), including approximately 12,000 people on Nevis. And this population is heavily dependent on the natural resources, either inland or coastal ones, for its local livelihoods. Coastal ecosystems and water resources in particular, are already facing serious pressures from increasing (and sometimes poorly planned) development and poor land management practice. Coastal fisheries have declined sharply in recent years and the reefs have been seriously damaged. Anecdotally, fishers have reported smaller catches of conch, lobster, and large pelagic and demersal fishes. Coastal development, unsustainable fisheries practices, land-based sources of pollution, climate variability and change are some of the major threats to the marine ecology of the islands. For example, an increase of coral bleaching events, weakened coral structure and widespread mortality are noticed due to the increase of temperatures.

To alleviate these stresses and the vulnerability of marine areas and the ecosystem services they provide, it is recommended that St. Kitts and Nevis explore the feasibility of establishing fish sanctuaries, through the declaration of community-based marine protected areas, and a strategy that should also provide opportunities for alternative livelihoods and technologies for public education. The South East Peninsula Marine Management Area (SEPMMA) is in the process of being designated as a marine reserve and meanwhile the Government is working on its establishment, the federation is looking at alternative and additional options for the communities who would be affected by the MPA designation. This chapter will do a brief livelihood assessment to understand better the local context through the vulnerability context, the natural, social and financial assets especially. It will allow us to define the strengths and weaknesses that could impact the AAL strategy. The alternative and additional livelihood options found along the literature review and the consultations with key stakeholders will be presented, before ending with the writing of some recommendations for project activities and intervention toward the development of prioritised AAL.

7.2. Presentation of the context of the MPA

There are no legally declared MPAs in St Kitts only proposed sites. Some preliminary work was done by TNC and CERMES MarGov (Marine Resource Governance in the Eastern Caribbean) to help to guide the Government’s commitment under the Caribbean Challenge Initiative (CCI) to protect 20% of its coastline by the year 2020. Despite the country’s commitment under the CCI and the fact that terrestrial national parks are already in place, no marine protected areas have been officially established in the federation so far.
The Department of Marine Resources is the primary Government agency responsible for the development MPAs in St. Kitts and Nevis with the South East Peninsula Marine Management Area (SEPMMA) being the proposed site for the MPA under the project. The design of its boundaries is still in process with the Department of Physical Planning.

Given the significance of this marine area to the socio-economic livelihood of the nearby town, it is highly desirable that this proposed marine protected area accommodates a mixture of uses under a common management plan, such as fish stock propagation areas, turtle nesting beaches, tourism, recreational and fishing zones (see the draft of the proposed areas above).

Its boundaries would include a large number of natural assets, like fringing coral reefs, lobster Spawning Grounds in ‘The Narrows’, turtle nesting beaches, salt ponds listed as Importance Bird Areas (IBAs) and supporting a variety of bird species. The proposed SEPMMA is, however, threatened by the numerous environmental impact, namely, siltation from ghauts (dry gullies), degradation of salt ponds (e.g. the Great Salt pond) through marina construction, overfishing and the impact of land based sources of pollution.

7.3. Description of the methodology used

The Federation of Saint Kitts and Nevis was the third country visited. The visit included three working days from the 28th of November to the 4th of December 2013. The use of participatory approach tools was not appropriated in the case of SKN. We focussed instead our work on face-to-face interviews and meetings with key stakeholders.
A first meeting was scheduled on the first day of arrival with the members of the PIT Board. Unfortunately, it had to be cancelled and postponed because of the flight delay. A meeting took place with the Director of the Marine Resources, Marc Williams. His fisheries assistant, Kharim
Saddler, was responsible for coordinating the rest of the field work. A field trip of the area was done, including the Fisheries complexes, the South Peninsula area, the aquaculture proposed sites and so on. Efforts to schedule the interviews with some members of the PIT Board and other key stakeholders met with little success due to their non-availability during the very busy Christmas season. As a result very few consultations were done during the field visit. A meeting scheduled in the Fisheries Conference room had only one person (Mr Kenneth, see his position below) in attendance as a result the multi-stakeholders meeting was transformed into a face-to-face interview. Below is the list of the persons met during the field visit.

An additional literature review was conducted at the Fisheries, the Department of Physical Planning and Agriculture.

7.4. Stakeholders met

<table>
<thead>
<tr>
<th>Organization</th>
<th>Last name</th>
<th>First name</th>
<th>Position</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1869 467 1385</td>
</tr>
</tbody>
</table>

7.5. The Vulnerability context

Like most of the islands in the Caribbean, Saint Kitts is highly affected by climate change. Indeed, St. Kitts is already experiencing some of the effects of climate variability and change through damages from severe weather systems and other extreme events. Among the climate modelling projections for St. Kitts are an increase in average atmospheric and Sea Surface temperatures; a decrease in average annual rainfall, and the potential for an increase in the intensity of tropical storms.

Moreover, the majority of the infrastructure and settlements are located on or near the coast, increasing their vulnerability to climate related events such as storm surges and wind damage from storms and hurricanes. Coastal and marine ecosystems are particularly vulnerable to landslides and erosion exacerbated climate change. The impact on biodiversity by projection indicates that with 50 m of erosion, 79% of turtle nesting sites would be affected and with 100 m of erosion, 82% of all the
resorts in St. Kitts and Nevis would be affected, jeopardising the islands’ popularity as a tourist destination.\(^\text{12}\)

- Climate change and variability would highly impact the natural resources and the main socio-economic sectors and communities’ livelihoods. Therefore preparedness for disasters and climate change adaptation become common goals.

### 7.6. The livelihood assets

In 2005, St. Kitts and Nevis had the 3rd highest per capita GDP in the Organisation of Eastern Caribbean States (OECS). However, according to a poverty study of St. Kitts, 16.0% of households and 30.5% of individuals are poor\(^\text{13}\). The poor are largely unskilled or lacked educational qualifications (57% of the poor have no educational certification at all). Persons living in poverty and those vulnerable to falling below the poverty line collectively make up 60% of the population (statistics of 2007). This is an important consideration when looking at the economic vulnerability of the population.

It has to be noted that St. George is the parish with the highest percentage of the poor in St. Kitts, with a rate of 30.9%. (This parish comprises the capital, Basse-Terre and the area of SEPMMA).

- Poverty data are important in planning the management of the SEPMMA, taking into account the fact that close linkages have to be done between the degradation of the natural environment and poverty.

#### 7.6.1. Natural assets

- **Marine Resource Dependency**
  
  In the federation there is a very high dependency on land and forest resources by the inland communities and the same holds true for the coastal communities that rely heavily on the coastal and marine resources. Males being more involved in fishing are directly more dependent than women on coastal natural resources for livelihood and subsistence. The amount of fish caught in St. Kitts and Nevis is decreasing each year. Overfishing is one of the reasons for the depletion of the resources. Hunting marine turtles is still common in the area.

  - The high level of dependency on the natural capital, especially on the marine resources, requires the identification and development of alternative livelihoods prevent the collapse of the ecosystem and the depletion of the resources. Adjustments in the livelihood practices often required changing the communities’ habits (the fishers have carried on this tradition for several generations), can be quite a challenging undertaking.

- **Perception of the future MPA and attitude towards conservation**
  
  Most of the fishers from coastal communities have quite a negative perception of the idea of a marine protected area they believe that its establishment meant their likely exclusion from traditional fishing grounds and catch. Moreover, many are under the misconception about the sustainability of the fisheries believing that the ocean and its supply of fish are ‘endless’.

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\(^\text{12}\) Caribsave Report

\(^\text{13}\) Poverty means that their monthly expenditure was less than the cost of meeting their minimal food and other basic requirements. The Poverty Line was EC$280.05 per month or EC$3,360.60 per annum for an individual.
A constant dialogue and awareness campaigns are needed to change their mentality and way of thinking.

7.6.2. Social Assets
The communities in Saint Kitts and Nevis do not seem ready either to work together or to form cooperative groups. Three fishermen cooperatives exist but they are not functioning very well. It has been reported that it is common to see just one person doing all the work. People feel they cannot trust or rely on each other. That is probably one of the reasons why the cooperatives have not been functional so far.

- The poor social capital assessed in St. Kitts has to be taken into account in the implementation of any AAL option. Their sustainability could be challenging if the social capital is not improved.

- As there are no clearly demarcated zones Incidents of conflicts between users continue in particular between the fishermen and the water sport operators e.g. jet-skies owners.

7.6.3. Financial assets
In Saint Kitts and Nevis, the main sectors of employment are construction and the services sector. Manufacturing, wholesale and retail trade (which is also driven by tourism), construction, and banks and insurance are the largest contributors to the economy. Males dominate the construction sector; whereas more females are employed in the tourism sector, and especially the hotel sub-sector. In an effort to boost the economy, the Government of St. Kitts and Nevis have developed a programme to diversify the agricultural sector and stimulate sectors, such as tourism, export-oriented manufacturing, and offshore banking (RLB, 2010).

Regarding the parish of Saint George, the communities are involved in a number of livelihood activities, including domestic/household help, self-employed (vendors) artisans (craft making) and in the health services, tourism, cottage industries, light manufacturing and agricultural sectors (both farming and fishing). Fishing is a full time and sole occupation for most of the fishers. The few who do otherwise are typically engaged in farming.

Fishing is a male dominated activity; the men go fishing while the women tend to the commercial side of the business such as vending in the market. Based on these income sources, it is evident that residents depend heavily on various natural resources for their livelihoods.

Regarding people’s household incomes, there is a heavy reliance on remittances (support received, from relatives overseas). Communities in addition practice several adaptive and income generation strategies to deal with the harsh economic realities. These include securing where possible bank/credit union loans or monies from informal partnership saving schemes such as “sou-sou”. The fishermen in general tend to be more spend-thrift than frugal. They spend the money they earn straight away with little regard to the idea of saving for possible difficult times in the future.

- People are involved in a multitude of livelihood activities to support themselves and their families that are greatly dependent on natural resources.

- No indication of average incomes has been reported but it seems that fishing is quite a profitable activity for the fishermen; a fact that could make it quite difficult to get buy-in to change of any unsustainable practices that they have been traditionally involved carrying out.
7.7. Organisational Structures and Processes

7.7.1. The importance of tourism in the national economy
The tourism is responsible for 4.2% of the employment in St. Kitts. It has replaced the sugar industry, the traditional mainstay of the economy until the 1970s, and it increased steadily over the years. According to the Caribbean Tourism Organisation (CTO), the stopover visitors declined from 140,500 in 2005 to 93,000 in 2009; whereas cruise ship passengers increased from 215,000 in 2005 to 450,550 in 2009 (St. Kitts and Nevis has been added to the itinerary of a number of large cruise ships from 2010). In recent years, this sector has become more dependent on cruise ship passengers (i.e. 83% in 2009 compared to 59% in early 2006). This is a concern since stay-over tourists spend more money on the island than cruise ship passengers. The average length of stay is increasing (9.6 nights per stay), with 50% of the tourists staying in hotels and 41% in private residences. At the same time, Very few guest-houses options are offered to the tourists in the country. Upmarket tourism is targeted by the Government as the luxury hotels and resort complexes reveal. But still, the number of hotel rooms is not sufficient in the country to provide enough incentive for large commercial airlines. Three dive shops are located in St. Kitts and one in Nevis but the dive operators have noticed a decline in their activity over the years.

❖ The stopover visitors stay mainly in hotels and resorts, which provide them with everything they may need, the hotels therefore receive the lion’s share of the tourism revenue. As a result, very little of this revenue actually reaches the surrounding communities, despite the growth in tourism.

7.7.2. The fishing industry
Like all the islands in the Caribbean, the fishing industry is artisanal, comprised of around 350 persons in St. Kitts and 300 in Nevis. In St. Kitts; less than 20% of these are full time fishers. They usually have secondary income sources such as farming. Fishing is a very traditional occupation or lifestyle, and the average age of fishermen is currently 50 years plus. It is a male dominated enterprise (see the financial capital paragraph).

Coastal pelagic catch accounts for over 40% of the landings, but there is also a significant demersal and reef fishery effort. Conch and lobster (the main export products) are significant components of the fisheries.

Conservation is already practiced by fishers who allow fishing grounds to replenish stocks of fish by ceasing to harvest in those areas at various times during the year. This, along with market demand, influences their fishing strategies. However, not all fishers are involved in this informal fisheries governance and do not share this practical conservation vision a fact which has contributed the near depletion of the conch fisheries in Nevis.

❖ Fishing is an important part of the culture and economy of St. Kitts and Nevis,
❖ The type of gears used for fishing are very destructive and significant overfishing is evident
❖ Given the age of most fishers, it would be difficult to find an appropriate AAL activity
❖ The St. Kitts Department of Marine Resources is currently promoting the use of alternative fishing methods, such as horizontal and long-line fishing to reduce fishing pressure on near shore areas and to ensure the health of inshore nurseries and the coral reefs around the island.
7.7.3. The Agriculture sector

The closure of the sugarcane industry in St. Kitts and Nevis in 2005 signalled a significant change in the agricultural landscape of the Federation, which depended on this crop for its prosperity for a period of 350 years. Therefore, the Government has developed ‘The Government’s Adaptation Strategy’, which is an intensive diversification programme that has resulted in increased production of non-traditional crops, livestock, fruits and vegetables. However, this sector is in decline because of the high level of public debt, the high cost of imported food to meet local needs, the low wages paid for farm work or the agricultural land shortages because of the small physical size but also due to competition for land with tourism, housing, services and other facilities.

There are currently several competing economic interests for limited land, especially in St. Kitts. Farmers are not sure about the priority being given to land for agricultural activity. This has limited agricultural development, especially for farmers who want to expand their operations. Moreover, most farmers do not own their properties. That is one of the reasons why local farmers do not appear inclined to undertake long-term investment in land improvement which would be critical for the sector.

Support is provided in the areas of cultivation, propagation, farm management, organic composting and post-harvest handling. The Agriculture Department with the Republic of China (Taiwanese) conducted research on various food crops and exposed local farmers to the current technologies and the emerging tools in agriculture.

7.8. Analysis of the Alternative and Additional Livelihood options

The literature review and the consultations with key stakeholders in the Federation of Saint Kitts and Nevis enabled us to find three alternatives and additional livelihood options for the communities: the Fish Aggregating Device (FAD), the aquaculture and the ecotourism, community-based tourism related employment. The data collected allowed us to complete the indicator matrix below.

Table 6: Matrix - Feasibility Assessment AAL options in Saint Kitts and Nevis

<table>
<thead>
<tr>
<th>Indicator of sustainability</th>
<th>AAL 1 FAD</th>
<th>AAL 2 Aquaculture</th>
<th>AAL 3 Ecotourism/Community-based tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Technical skill required or capacity-building easily achievable</td>
<td>H</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>Support, willingness</td>
<td>H</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Community already organized in group, cooperation</td>
<td>M</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>3-Available resources</td>
<td>H</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td>4-Simplicity</td>
<td>H</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>5-Timeframe</td>
<td>H</td>
<td>M</td>
<td>M</td>
</tr>
</tbody>
</table>
The Fish Aggregating Device project as already started in Saint Kitts and Nevis. A pilot project has been started by JICA that expected to last for the next 5 years. The Department of Marine Resources would like to deploy 8 to 10 FADs but will require additional financial support. The FADs target larger fishes: tuna, marlin. Therefore, it would probably need time for the fishermen to move from reef fish catches to the pelagic ones. However, as they would not move away from their traditional skills (fishing), the risk of un-sustainability (see the diagram in the General Methodology Chapter) for the implementation of this AAL is considered to be low.

Fishers fully support this FAD initiative (more than 70% of the fishers) because they believe will be more lucrative and will reduce the need to go to sea as often. A fishing cooperative already exist which makes it easier to organize this livelihood programme and to channel technical or financial support. The marine resources are highly available; however, it would be necessary to conduct fish stock assessments to measure that the impacts of the FADs on the fish population (ecological sustainability and sustainable yields). The technology could be fully supported locally with the main stakeholders having been trained by JICA experts.

Regarding the timeframe, it has been evaluated that the catch of the fish from the FAD would be more important than the catch from the reef fish. Thus, the benefit from the FAD will be seen in a short period of time. The FAD could be considered as socially sustainable as it contributes somehow to the improvement of the fishermen communities’ lives in terms of food security, work and living
conditions. But at the same time, capacity-building and training would be necessary for the fishers to adopt more sustainable reef fishing practices.

Regarding the economic sustainability, the beneficiaries are the communities living along the coast that are already involved in the fishing activity. 30 to 40 fishers are already involved in the FADs, especially in St. Kitts thanks to a constant dialogue to encourage fishers to move away from the reef fish. The FADs programme aims to involve at least 50% of the fishermen, especially the reef fishermen. It has been evaluated that the revenue generated will recover the cost in the short-medium term.

The Government is fully supportive of the FADs Programme in St. Kitts and training has been provided by the Fisheries division. Financial support is required to implement 5 or 6 additional FADs. The Government is currently in discussion with JICA to give financial support of 10,000 USD for their implementation. The Government is very proactive and is committed to finding the donors to provide them with any needed inputs.

**7.8.2. The aquaculture initiative**

The Government of St. Kitts and Nevis has identified food security and poverty reduction as key priorities following the closure of the sugar industry in 2005. Aquaculture has been identified as a means of alleviating the Federation food security concerns and an ‘Aquaculture Development Strategy 2013-2023’ has been elaborated by an international consultant in 2012 with proposed sites.

The SKN ‘marine fish farming model’ would suggest coastal land aquaculture and offshore marine aquaculture sites. The first one would combine the production of juvenile marine fish in land-based facilities during the hurricane season, whereas the second one would be dedicated to the grow-out farming in the sea in traditional, circular plastic cages during the calm season. As there is no history of marine fish farming in SKN it is suggested to establish two demonstration farms. Suitable sites have been identified by the consultant based on specific parameters (slope, distance to the nearest road and power supply...; bathymetry, exposure to wind and waves for the offshore aquaculture sites) In St Kitts, Canada and Conaree are regarded as having the best potential and are recommended for a land based locations (See annexes). In Nevis, a few sites have been identified with Dog Bay being the regarded as having the greatest potential.

The cage farming sites should be located along the Caribbean Seacoast i.e. to the west of the islands, as it is leeward from the trade winds and would be downstream (current) from the land based juvenile production.

The pre-feasibility assessment matrix suggest that given the similarity between aquaculture and traditional it is quite possible attract traditional farmers into the industry more so than the traditional fishers and especially the older ones. The aquaculture programme should nevertheless seek to attract both the traditional fishers and farmers. For the former the focus should perhaps be on the next generation of fishermen.

Very little is known regarding the level of community interest and support there is for aquaculture, however, it is suggested that getting the information be given priority in the development of the

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aquaculture strategic plan, which should establish four aquaculture zones and create the legal and institutional framework for the people to be involved.

The strategic plan suggests the organization of cluster farmers instead of cooperatives. The term ‘cluster farmer’ refers to modern ‘small-scale’ farmers operating privately- and family-owned farming activities as opposed to corporate, investor-owned farms operating mainly through hired-in staff. The advantages of clustering can include: sharing common infrastructure costs, better access to bulk prices for feed, access to extension services, market access through consolidated volume and consistency; sharing the costs of certification schemes, etc. However, quite a lot of external assistance (international consultant/or FAO) would be required for training in aquaculture governance, policy guidelines and marine fish farm operational management respectively.

Regarding the available resources, the islands have public land areas lying ‘idle’, originating from the sugar cane farming which could be very suitable for land based Aquaculture Zones. But the Fish feed pellets need to be imported. An opportunity for additional livelihood in the supply of fish food could be thought of in the future.

The Phase 1 of the Aquaculture Development Strategy started in 2013 and will last until 2016. It is dedicated to the preparation and introduction to aquaculture, with an enabling and supportive legal and policy framework. Therefore, the benefits receive would not be felt until the start before the second phase, in 2017. However, the first beneficiaries from the pilot project with the implementation of a demonstration site could start benefiting from aquaculture within a month, if the financial support is found.

According to the specialists, there would be no negative ecological impacts and the initiative is environmentally sustainable.

It is estimated even if it is difficult to estimate it is anticipated that the aquaculture programme could initially employ approximately 120 persons in the Federation.

The Government of St. Kitts and Nevis in particular the Department of Marine Resources is willing to support aquaculture development. The Department of Marine Resources would provide training support called ‘Aquaculture Basic Training Course’. However skill gaps suggest the need for capacity building is needed for key officers in the areas of aquaculture governance and marine fish farm operational management.

In addition, there would be the need for federal agreement on the establishment of a regulatory and legal framework between both islands. The DMR mandate does not include any aquaculture lands on Nevis which has its own decision structure/self-governance structure, guidelines, acts and codes. Ministerial roles and responsibilities between both islands are also different posing potential challenges of setting up a joint aquaculture programme.

### 7.8.3. The development of the ecotourism/CBT businesses

Very few elements regarding the tourism development strategy have been collected during the consultancy because the key stakeholders weren’t available for interviews. However, the development of ecotourism or community-based tourism products has been identified as an AAL option from the consultancies done during the field visit.

As notified above, the communities currently benefit very little from the tourism development. There is almost no ‘nature-based’ tourism activity in Saint Kitts, apart from the trails in the Central Forest...
Range National Park, while the SEPMMA abounds with natural assets to be discovered. Given the steady growth in the global ‘eco-tourism’ market, including in the Caribbean, further studies should be done to explore the development of additional nature/ecotourism products. Those products could include boat trips, rental of snorkelling gears, nature trails along the coast, eco-lodges and guesthouses, development of craft shops and local products, etc.

According to the product developed, the AAL is more or less built on traditional knowledge (local products, craft) but most of them require the development of new skills, increasing the risk of a lack sustainability if the programme is not well monitored. Craft vendors do sell their products but individually and at a very local scale. No ecotourism cooperative or community group is organized so far to develop this kind of initiative.

The potentialities do exist and studies would need to be conducted to determine carrying-capacity and environmental impact assessment once the ecotourism projects are clearly identified.

Special attention should be paid to the adherence to ecotourism principles so as to:
- Minimize impact
- Build environmental and cultural awareness
- Provide support for conservation
- Provide financial benefits and empowerment for local people

The economic benefits to local communities in particular should be felt within a short period of time if the ecotourism businesses are locally owned and operated by residents.

Priority should be given to starting with simply, feasible, high quality goods and services initiatives. This would reduce investment recovery/breakeven time.
Prioritized AALs options

The FADs as an AAL was ranked with highest score according to the indicators of sustainability.

- It should be the most suitable option in the short-term for Saint Kitts and Nevis, as:
  - The main beneficiaries would be the reef fishermen, and 50% of the total number will be targeted
  - The technical capacity is well-known in the federation
  - The level of investment is quite low
  - An immediate return on investment is feasible in the short run
  - The FADs are fully supported by the Government

7.9. Recommendations

- A detailed livelihood assessment should be conducted once the MPA declared, using participatory approaches to assess the communities’ needs and aspirations [An Alternative Livelihood Strategy can only be sustainable if it takes into account people’s needs and vision], capacities, and so on.
- A second and longer consultancy would be required to develop an Alternative Livelihood Strategy for the MPA, with an alternative livelihood action plan for the short, medium and long-term;
- Extensive studies on the AALs options suggested (apart for the FADs) are required on feasibility assessment, market assessment, cost benefit analysis, carrying-capacity, ecological impact assessment.
- The legislative/regulatory framework should to be established to support the development of these AAL options

It has to be prioritized:

- The AAL options built on traditional skills or at least, consistent with the local skills;
- The ones targeting the reef fishermen
- Fishing related activities for the eldest fishermen as they wouldn’t have the skills, the educational background or the willingness to be converted in a different activity
- Low capital requirements
- Benefiting from the Government’s support
- The ones providing benefits (wages, income) to the owners within a relatively short period of time and all year round

- In the short-term: the Fish Aggregating Devices
- In the medium and long-term: the ecotourism, CBT businesses and the aquaculture

Specific recommendations by AAL options

For the FADs:
- Studies on fish stock assessment;
- Development of a monitoring and Evaluation program;
- Training and public awareness for the fishers to curtail destructive practices and encourage a shift of fishing effort from reef to pelagic fisheries;
- Strengthened fisher organisations to become more resilient and autonomous

For the aquaculture project:
- It should target fishers who also do farming
• It should target young fishers/farmers (both males and females) as they would be easier to convert and to be trained.

Research and Development
• Extensive research and development
• Adopt the recommended aquaculture development strategy incorporating any new finding from extensive research and development
• Detailed business plan should be elaborated, which includes the functions, services, products and the possible income generation in short, medium and long term;
• Prior to the establishment of any aquaculture operation a proper site assessment should be conducted to evaluate suitability based on its environs;
• Assessing the potential and impacts of marine and freshwater aquaculture at an ecosystem level;
• Potential carrying capacity studies need to be carried out

Training and Capacity Building
• Training farmers and fishers in aquaculture techniques and financing for aquaculture enterprises
• Building fishers capacity in leadership, management, mentoring and computer skills

For the ecotourism/CBT businesses:
As a new sector to be implemented it is recommended that the following approach be adopted:
• Conduct a feasibility study, including the institutional and legislative framework
• Conduct a market survey to assess people’s needs and aspirations
• Develop an ecotourism strategy
• Identify people’s capacities and willingness to move into tourism-related jobs
• Focus on ecotourism activities and services consistent with traditional skills, and requiring the least capacity-building
• Identify leaders and implement an assistance programme for enterprise development
7.10. Conclusions – Saint Kitts and Nevis

The South East Peninsula Marine Management Area (SEPMMA) has not been established as a marine park yet, despite the growing need for the development of an appropriate marine management system and protection of the nation’s marine resources. The local population and growing tourism industry are reliant on a limited natural resource base that is already suffering from the effects of coastal erosion, saltwater intrusion and habitat fragmentation. Overfishing, eutrophication and siltation impact the island’s coral reef. The small size of the island of St. Kitts makes it very vulnerable to the impacts of climate change, which would highly impact the natural resources and undermine greatly the main socio-economic sectors and communities’ livelihoods.

The Government of Saint Kitts has already initiated some projects, targeting the fishermen and the farmers, which is in keeping with plans to establish a formal marine protected area system. From our pre-feasibility assessment study, only the Fish Aggregating Device initiative seems to be suitable and sustainable in the short-term. The other AAL options suggested seem to be promising areas however more information and analysis are required to determine their feasibility. They could be considered as medium and long term options. The FADs should involve at least half of the fishermen to put less pressure on reef fish and a fish stock assessment is recommended. Implementation of the FADs is easy and the benefits are tangible and with a short turnaround time on investment. Financial support is required for their deployment and for maintenance of the system.

At the same time, public awareness campaigns and vocational school educational programs are recommended to enhance people’s awareness on the necessity to preserve their environment. Political support is also important to protect public lands from inappropriate development such as occurred recently in the South East Peninsula where the last patches of mangrove forest were cleared in favour of a large resort.

Particular attention was been paid to the aquaculture project with a strategic plan being developed by an international consultant with potential sites identified. But the federation still faces many difficulties for the aquaculture to be successful in the short-term. Extensive development researches could support its implementation.

Ecotourism is also a promising area and it would be a lot easier to develop than the aquaculture project. But again, appropriate studies are recommended to be carried out in SKN to do a deeper livelihood assessment and identification of people’s needs and capacity; an appropriate feasibility study for the implementation of ecotourism or CBT businesses, including the economic and commercial viability, technical and social feasibility, socio and ecological impacts related to these projects, expected benefits and redistribution method of the benefits.
7.11. Bibliography

7.12. Appendixes

Figure 9: Map of suitable zones for coastal aquaculture in St. Kitts

Figure 10: Map of Offshore suitability for Cage farming

Source: Aquaculture Development Strategy for St. Kitts and Nevis
8. Country chapter - Options for Additional or Alternative Livelihood for Coastal Communities in Saint Lucia

8.1. Introduction

Part of the Lesser Antilles, Saint Lucia is located north/northeast of the island of Saint Vincent, northwest of Barbados and south of Martinique. Very rugged, the island is more mountainous than many other Caribbean islands. It covers a land area of 617km² (238sqmi) and has a population of 174,000 (2010). The agricultural sectors, which used to be dominated by the banana industry, have been replaced by tourism as the most vital sector to St Lucian economy. This volcanic island comprises a lot of tourist attractions such as rainforests, Pigeon island national park, a drive-in volcano, Sulphur Springs, the famous and majestic twin Peaks "The Pitons" and a world heritage site in Soufriere. Its biodiversity is very important in terms of flowering plants, birds, with several endemic species. The coastal and marine resources are very diverse, with most of the diverse reefs found along the West coast especially around Soufriere.

To preserve its marine biodiversity, the Government of Saint Lucia has designated three Marine Protected Areas: the Soufriere Marine Management Area (Smma), the Canaries/Anse La Raye Marine Management Area and the Point Sable Marine Management Area. We will focus on the Smma in this chapter. The coastal area of Soufriere has traditionally been an important fishing zone for fishers using pots/traps, seines, lines and gill nets. However, the MPA establishment caused the displacement of some of the fishers, compromising at the same time their livelihoods. Moreover, the fishers had the feeling that economic benefits were primarily going to the tourist operators using the area and that in spite of being the traditional users they being side lined. Therefore, almost 20 years after its designation, the need for employment has not lessened and there is still an urgent need for alternative livelihoods for the surrounding communities of Smma. It would be the only way to guarantee the sustainable management of this marine protected area.

This chapter will do a brief livelihood assessment to understand better the local context through the vulnerability context, the natural, social and financial assets especially. It will allow us to define the strengths and weaknesses that could impact the AAL strategy. The alternative and additional livelihood options found along the literature review and the consultations with key stakeholders will be presented, before ending with the writing of some recommendations for project activities and intervention toward the development of prioritised AAL.
8.2. Presentation of the context of the MPA

Declared in 1995, SMMA has originally been created to prevent the increasing user conflicts and the several environmental issues that started to be noticed in the area. Located in the South-West of Saint Lucia, it extends over 12 km and presents a succession of beaches and cliffs, with the Soufriere bay at the centre. SMMA is managed by Soufriere Marine Management Association (NGO) with the ultimate goal: “to contribute to national and local development, particularly in the fisheries and tourism sectors, through the management of the Soufriere coastal zone” (SMMA, 1999 a). This Association comprises all the agencies which have a demonstrated management function in the Area. The MPA has 5 different zones: marine reserve, yachting, recreational, fishing priority, and multiple uses areas. The Reserve is funded in part by visitor fees for diving, and yacht mooring. SMMA is often cited as one of the best practice case study for the region in terms of the zoning scheme and consultative approach in zonal schemes. The MPA has received various awards, especially for its co-management success initiative, comprising government organisations, non-governmental organisations, community members and resource users.

Apart from its marine biodiversity that attracts many visitors for snorkelling, diving, and other recreational activities, SMMA encompassed many other natural and cultural assets. Many of these assets are under threat; these include illegal and overfishing, overuse of some dive sites, sedimentation or sewage from the Soufriere watershed; user conflicts (yachting/fishing, diving/fishing). Addressing these threats constitute important goals of the SMMA.

8.3. Description of the methodology used

Saint Lucia was the first country visited. The field work lasted 4 working days from the 15th - 21st of November 2013. The work done consisted mainly of meetings and semi-structured interviews (see list of the key stakeholders met below). Time did not allow for Participatory Assessment session with the communities in Soufriere. Unfortunately there was not enough time to plan field work during the initial home-desk phase. Therefore the meeting had to be scheduled with the key stakeholders once in the country.

Basically, the work was organized as follows:
1-Briefing with CATS PMU the next day of arrival to further detail tasks, activities, outputs and deliverables expected from the consultant. The methodology was discussed and adjusted according to the elements provided by the team. Some more literature reviews were collected in the CATS office.
2-Meeting with the Chair of SMMA Management Board;
3. Face-to-face interviews with key stakeholders;
4. Visit of the MPA and interviews with members of SMMA (rangers, accountant,...) and key organizations working in the area, like Soufriere Foundation, Piton Management Area Office. The list of key questions is indicated in annexe.

8.4. Stakeholders met

<table>
<thead>
<tr>
<th>Organization</th>
<th>Last name</th>
<th>First name</th>
<th>Position</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMMA Management Board</td>
<td>VAUGHN</td>
<td>Charles</td>
<td>Chair of the SMMA Management Board/ General Manager St Lucia Fish Marketing Corporation Limited</td>
<td><a href="mailto:Vaughn.charles@gmail.com">Vaughn.charles@gmail.com</a></td>
<td>(758)456-0170/ (758)285-0976</td>
</tr>
<tr>
<td></td>
<td>Peter</td>
<td>Chief Ranger</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>FRANCOIS</td>
<td>Kerjackie</td>
<td>Ranger</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nicholas</td>
<td>Cleopatra</td>
<td>Accountant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ministry of Agriculture</td>
<td>JOSHUA</td>
<td>Anthia</td>
<td>Farm Improvement Officer</td>
<td><a href="mailto:Anthia.joshua@govt.lc">Anthia.joshua@govt.lc</a></td>
<td>(758)453-2035</td>
</tr>
<tr>
<td>National Conservation Authority</td>
<td>HIPPOLYTE</td>
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<td>General Manager</td>
<td><a href="mailto:david.hippolyte@govt.lc">david.hippolyte@govt.lc</a></td>
<td>(758)459-0278</td>
</tr>
<tr>
<td>Consolidated Food Limited</td>
<td>DEMILLE</td>
<td>Dunstan</td>
<td>Perishables Manager</td>
<td><a href="mailto:dunstan.demille@cflslu.com">dunstan.demille@cflslu.com</a></td>
<td>(758)457-2403</td>
</tr>
<tr>
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<td>Allan-Perry</td>
<td>Project Coordinator</td>
<td><a href="mailto:nice@govt.lc">nice@govt.lc</a></td>
<td>(758)4682177</td>
</tr>
<tr>
<td>The Soufriere Regional Development Foundation (SRDF)</td>
<td>CHESTER</td>
<td>Alexander</td>
<td></td>
<td><a href="mailto:Chesteralexander100@hotmail.com">Chesteralexander100@hotmail.com</a></td>
<td>(758) 459 5212</td>
</tr>
<tr>
<td>Piton Management Area (PMA) Office</td>
<td>DOMINIQUE</td>
<td>Augustine</td>
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<td>(758) 720-8125</td>
</tr>
<tr>
<td>The Nature Conservancy (TNC)</td>
<td>CONSTANTINE</td>
<td>Sherry</td>
<td>Program Manager Eastern Caribbean</td>
<td><a href="mailto:sconstantine@tnc.org">sconstantine@tnc.org</a></td>
<td>(758) 484 2655</td>
</tr>
<tr>
<td>Caribsave</td>
<td>ERISTHEE</td>
<td>Newton</td>
<td>Eastern Caribbean Coordinator</td>
<td><a href="mailto:newton.eristhee@caribsaves.org">newton.eristhee@caribsaves.org</a></td>
<td>(758)7246330</td>
</tr>
</tbody>
</table>

8.5. Vulnerability context

- Climate change: Saint Lucia is not an exception of the rule and like the countries neighbouring, the island is increasingly impacted by the effects of climate variability and change. Already located in the hurricane belt, it is likely to could experience more severe weather systems and other extreme events, as well as more subtle changes in temperatures and rainfall patterns.
The cycle of poverty and vulnerability to climate change is already very apparent in Soufriere. Climate change poses a serious and substantial threat to the livelihoods of communities and the environments and infrastructure across the region.

- Economic trends: In years gone by, Soufriere was known as the “bread-basket” of St. Lucia. In fact, it was in Soufriere that the greatest number of sugar, cocoa and coffee plantations could be found. However, the sugar production started to decline from the late nineteenth century and Soufriere became increasingly cut away from the major commercial development centres of the island.

- The decline in fortunes from agriculture made the area more vulnerable economically - the local economy being more and more dependent on the highly vulnerable tourism sector.

8.6. The livelihood assets

8.6.1. Natural assets

- Marine resources dependency:
There is still a high dependency and pressure on the marine resources. The coastal area of Soufriere has traditionally been an important fishing zone for fishers using pots, traps, seines, lines and gillnets and there are still about 150 fishers registered in Soufriere, from which two-thirds fish on a full time basis.

- Perception of the MPA and attitude towards conservation and resource management:
In the initial stages after the establishment of the SMMS, it was difficult for the organisation to secure the compliance of the fishers and communities with the regulations as the organisation lacked the capacity (human, material and financial means) to enforce them. Currently, illegal fishing and overfishing in the MPA remains a problem for the SMMA.

- The communities have increasingly come to appreciate the role played by the SMMA in the protection the marine resources and the coral reef for the present and the future generation.

- Some of the fishers still think they don’t benefit from the establishment of the MPA and they have been marginalised to accommodate ‘rich, white tourists’ and have called for ‘compensating measures’ or alternative livelihoods to support them.

- Non-compliance with the rules and regulations by fishers from communities adjacent to Soufriere

8.6.2. Social assets
The communities in Soufriere, like elsewhere in Saint Lucia, lack unity and cooperation among members is difficult. Perhaps more so than in other areas, user conflicts are common and difficult to resolve. People are quite distrustful in terms of business and quite hostile to the idea of joining community groups and cooperatives. The existing groups include the Fishermen's Cooperative, St. Lucia's dive association and the Water Taxi Association. Notwithstanding the negative attitude towards social organisation, community involvement and participation in the co management process of SMMA has been seen and successful.

Regarding people’s savings and loans, it has been reported that remittance (money and support from friends and relatives overseas) is an important source of income and support.
The lack of community spirit and limit social capital present a somewhat of a limiting factor for the development of AAL options in Soufriere. Being organised into legally recognise entities (NGOs/cooperatives) is a prerequisite by many donors or funding agencies for giving financial assistance to community-based or small enterprise project. However, it is felt that with an extensive outreach and awareness programme among the local population, that these attitudes could be changed and allowing for the active involvement in community-based initiatives. For Soufriere an effective public sensitization would be necessary to improve the existing social capital and facilitate trust and conflict resolution.

8.6.3. Financial assets
Despite the increasing tourism sector in SMMA, there is still a high rate of unemployment in the area. It results in an increasing trend towards migration from the youngest people especially, to the urban and northern areas where greater employment opportunities tend to exist.

- Soufriere has the highest household size census of the country: 3.6 for a national average of 3.2;
- Soufriere has one of the highest poverty rates in the country (42.5%)

Main occupations and income Generating Activities in SMMA:
Soufriere is a historically agricultural community. Agriculture and fishing are still significant contributors to the economy of Soufriere and the main livelihood of its people, but tourism is the mainstay of the district, employing the majority of the residents directly and indirectly. Employment is supplemented by other medium and small business such as copra manufacturing. Farming and fishing are male dominated professions; tourism related jobs employ both males and females.

In terms of household income, the households would earn income of US $750 per month or less.

Local livelihoods and the use of natural resources:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Use/livelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>Farming/Agriculture</td>
</tr>
<tr>
<td>Waterfalls</td>
<td>Tours/Hike (both locals and tourists)</td>
</tr>
<tr>
<td>Forest</td>
<td>Trails for hiking/Tours (both locals and tourists)</td>
</tr>
<tr>
<td>Marine Biodiversity</td>
<td>Fisheries</td>
</tr>
</tbody>
</table>

Low incomes for HH, especially with a large number of members severely impairs the ability of the household to improve itself, and makes them vulnerable to harsh economic and weather impacts.

8.7. Organisational Structures and Processes

The idea is not to do an exhaustive list of the public or private sectors or organizations in Saint Lucia but to highlight the ones or specific programmes that could have an influence for the implementation of any AAL strategy in SMMA.

15 Caribsave Climate change Risk Profile for Saint Lucia
• SMMA Board of directors: this multi stakeholder’s structure is a model for ensuring the co-management of the MPA and it’s a real advantage for the sustainability of SMMA. Among the members, we find: the Ministry of Fisheries, Tourism, Planning, Soufriere Regional Development Association, St Lucia Dive Association, Hotel and Tourism Association, Soufriere’s Fishermen Cooperative

• The Government is actively encouraging the growth of the marine based tourism sector;
• The Government has also taken steps towards integrating biodiversity issues into the national agenda, with several inter-sectoral committees responsible for the over-sight of national legislation and international multilateral environmental agreements;
• The Government has launched a NICE Programme (National Initiative to Create Employment) in Saint Lucia. The Government has allocated 35 million dollars to execute this programme, benefitting some 2200 citizens. It will invest in training and apprenticeship programmes that will serve as a ready pool of trained and available workers in both the private and public sectors. 60 persons from Soufriere have benefitted under the programme.
• The Ministry of Tourism has created a sub-sector dedicated to the craft production, with the objective of improving the standard of the production;
• The Ministry of Social Transformation has opened several Community Resources Centres where they provide trainings in New Information Technology;
• The Soufriere Regional Development Foundation is a key organization in SMMA, providing lots of trainings and support for community projects.

8.7.1. The Agricultural sector

This sector plays a significant role in the socio-economic development of the nation as a whole, through income generation, foreign exchange earnings, capital investment and food security. However, the decline in the banana industry has negatively impacted people’s livelihoods. This model of economic development with a high dependency on tourism is regarded by the government as being unsustainable and encourages Saint Lucians to grow more of what they consume.

The farmers in Soufriere practice mixed cropping producing a wide variety crops on small to medium size estates. The area was once a very productive area having plantations of banana, cocoa and coconut. According to the results of the 2007 Census of Agriculture, 30% of all individual agricultural holdings were operated by women. The oldest female and male farmers are concentrated in the Choiseul district.

❖ The revitalisation and diversification of agriculture have become a primary goal of the Saint Lucia Government;
❖ The Ministry of Agriculture conducted several initiatives to engage young persons in the agricultural sector and to encourage them to seek careers within that industry (migration of the youngest to urban areas in the North is a big issue)
8.7.2. The Tourism sector

Saint Lucia is one of the fastest growing tourist markets in the Eastern Caribbean. Tourism has been rapidly replacing banana as the main industry in St-Lucia and it has become the major foreign exchange earner for the island since the mid-1990s. Tourism is seasonal, with the high season lasting from December to April. Soufriere becomes rapidly the ‘tourism capital of Saint Lucia with its many unique attractions.

In 2009, the total number of visitors was estimated at 1,010,000 (mainly due to cruise ship arrivals), 7.7% increase from 2008.Visitor arrivals (stay-over) grew at an average annual rate of 6.8% between 1990 and 2000, while cruise ship passengers increased 15% per annum since 1997. And in the last decades, the growth of tourism has appeared in the coastal zones of the island, focussing on the diving and the yachting sectors. Most of tourism activities are shared between the north and south-west of Saint Lucia. An increasing number of day charter boats and water taxis bring large numbers of visitors from the northern, better-developed part of the island, to Soufriere. However, the low accommodation stock available in the area is an issue (only 9% of the country) as it does not allow the visitors to stay longer than a couple of hours in SMMA.

The main operators are mostly not from the area. Two large resorts, four smaller hotels, and a number of guesthouses and restaurants are located in the area. Many of them are focussed on the diving and the yachting sectors. Beaches are also heavily used for recreation either by residents or by international visitors. The locals are mainly employed in the restaurants and shops, or develop small businesses, like local vendors. 45 people have been licensed as vendors by the Conservation National Authority in Soufriere. A weekly community fish festival at Gros Islet is highly popular, street parties among tourists and locals alike. The event supports livelihood activities for cooks, vendors and entertainers in SMMA.

- Although the tourism sector is steadily increasing in Saint Lucia, very few are the communities who benefit significantly from the tourism activity
- Conflicts between users are still reported
- Theft on yachts have been noticed, as well as inadequate involvement of district police and lenient penalties

8.7.3. The fisheries sector

In Saint Lucia, the fisheries sector is an important livelihood activity for many, employing over 2,300 fishers and some 120 fish processors. Approximately 150 fishers are registered in SMMA, from which two-third fish on a full-time basis. The main gears are nets, lines and pots. The fishermen are organized in a cooperative named ‘Soufriere Fishermen’s Cooperative’. The fishers were the users most affected by the formation of the SMMA, through the loss of prime fishing areas. Soufriere fishers have had to contend with the rapid growth in the tourism sector. While the benefits of such tourism accrue to the tourism operators, there has been little direct benefit of tourism expansion to the Soufriere fishers. Nevertheless, the MPA has been successful in terms of increasing the fish stocks in marine reserves and fishing areas and reflection of these increases in fishermen’s catches.

\[^{16}\text{Saint Lucia Tourist Board, 2009}\]
8.8. Analysis of the Alternative and Additional Livelihoods Options

As it was mentioned in the description of the method used, the findings of the AAL options would only come from the literature review and the consultations conducted in Castries and in Soufriere. First, a SWOT analysis will enable to understand better the factors that could boost or limit the development of AAL options in SMMA.

Table 7: SWOT analysis of the AAL options

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Variety of eco-systems and biological species (numerous vascular plants,</td>
<td>- Cost of food (especially ground provisions, plantains and green bananas)</td>
</tr>
<tr>
<td>species of amphibians, birds, mammals and reptiles)</td>
<td>- Lack of access to markets for agricultural products</td>
</tr>
<tr>
<td>- Saint Lucia’s coastal and marine eco-systems</td>
<td>- Lack of access to technology for improved agricultural practices (limited experience in</td>
</tr>
<tr>
<td>- Diversity of landscapes (forests, waterfalls and freshwater systems,</td>
<td>viable agricultural diversification)</td>
</tr>
<tr>
<td>beaches and coral reefs)</td>
<td>- Lack of access to resources for purchasing land and technology</td>
</tr>
<tr>
<td>- The growing tourism sector</td>
<td>- High risk for landslides and consequently its reefs are prone to sedimentation</td>
</tr>
<tr>
<td>- Two airports, an International and regional one with dozen of airlines</td>
<td>- Overuse of certain dive sites</td>
</tr>
<tr>
<td></td>
<td>- Lack of a Marine Police base (coast guard) in Soufriere</td>
</tr>
<tr>
<td></td>
<td>- Noncompliance with rules and regulations of the SMMA, especially by fishers from</td>
</tr>
<tr>
<td></td>
<td>communities adjacent to Soufriere</td>
</tr>
<tr>
<td></td>
<td>- Political issues: The seeming political affiliation of the Soufriere Regional Development</td>
</tr>
<tr>
<td></td>
<td>Foundation in the early years of operation had caused problems of distrust in the community</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>- A World Heritage Site: the Pitons Area</td>
<td>- Climate change with its impacts on soil conditions, soil erosion, land degradation from</td>
</tr>
<tr>
<td>- Many tourist attractions like the Sulphur Springs Park (the most active</td>
<td>flooding, and the increase of crop loss due to high temperatures and changing rainfall</td>
</tr>
<tr>
<td>geothermal area in the Lesser Antilles), Morne Coubaril Estate, the</td>
<td>patterns</td>
</tr>
<tr>
<td>Diamond Falls section of the Soufriere Estate,...</td>
<td>- No water resources management system and back quality of water due to sedimentation,</td>
</tr>
<tr>
<td></td>
<td>sewage (from pit latrines), agro-chemicals and the use of rivers for bathing and washing</td>
</tr>
<tr>
<td>- The picturesque town of Soufriere</td>
<td>- Tourism sector’s vulnerability to natural hazards</td>
</tr>
<tr>
<td>- Dive sites</td>
<td>- Coral cover around Saint Lucia is on the decline, while the growth of macro-algae is</td>
</tr>
<tr>
<td>- The scenic landscapes</td>
<td>increasing.</td>
</tr>
<tr>
<td>- Cultural assets</td>
<td>- Serious financial resource shortage</td>
</tr>
<tr>
<td>- The Fish events like the Gros Islet fish night</td>
<td></td>
</tr>
</tbody>
</table>
The AAL options listed below come from the interviews conducted during the field work. They are based on people’s needs and aspirations, and/or of the Government’s strategies, corporate plans or advanced programs. These Alternative and Additional Livelihood options can be divided into the following sectors or sub-sectors:

Table 8: the AAL options by sector

<table>
<thead>
<tr>
<th>Fisheries sector</th>
<th>FADs</th>
<th>Long-line projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture sector</td>
<td>Horticultural farms</td>
<td>Beekeeping and value-added products (wax, royal jelly, candles)</td>
</tr>
<tr>
<td>Agro-processing sub-sector</td>
<td>Mango-processing and other food processing enterprises</td>
<td></td>
</tr>
<tr>
<td>IT sector</td>
<td>Development of New Technology Information</td>
<td></td>
</tr>
<tr>
<td>Tourism and craft sectors</td>
<td>Naturalist circuits</td>
<td>Boat trips</td>
</tr>
</tbody>
</table>

According to the interviews and the information from the literature review, we are able to assess the sustainability of three of the AAL options suggested: the Fish Aggregating Devices, the Agro-processing and the development of ecotourism, agro tourism or community-based tourism businesses.

Table 9: Matrix - Feasibility Assessment AAL options in Saint Lucia

<table>
<thead>
<tr>
<th>Indicator of sustainability</th>
<th>AAL 1: FAD</th>
<th>AAL 2: Agro-processing</th>
<th>AAL 3: Ecotourism/Community-based tourism products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Technical skill required or capacity-building easily achievable</td>
<td>H</td>
<td>H</td>
<td>M (organizations which can provide trainings like the Soufriere Foundation)</td>
</tr>
<tr>
<td>Support, willingness</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>Community already organized</td>
<td>H (fishermen cooperative)</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>3-Available resources</td>
<td>M</td>
<td>H</td>
<td>H (marine and terrestrial resources, cultural)</td>
</tr>
</tbody>
</table>
8.8.1. AAL option 1: the Fish Aggregating Devices

Thanks to JICA, some FADs were built and deployed off the west coast of the island, including Soufriere. These structures have been supportive in encouraging traditional near shore fishers engage in offshore fishing and have also provided a viable fishing site during the second half of the year when the migratory pelagic is scarce and fishing effort has tended to focus on near shore demersal fish. The location of the FAD wasn’t well-chosen as it was apparently too far away and was lost eventually. However, the matrix of pre-feasibility assessment shows that it could be a viable alternative for the communities in Soufriere:

First, this AAL will target the fishermen who feel most aggrieved over their reduced earnings due to the establishment of the MPA and those involved user conflicts. Second, the technology used is easily built and installed relying on traditional skills and knowledge. It is anticipated that the majority of the
fishermen will support the project, as most of them walk already on FADs and are waiting on their deployment.

Moreover, the fisher folks are already organized in a cooperative ‘the Soufriere Fishermen’s Cooperative’. The resource is available. However, fish stock assessment will have to be done to check the ecological sustainability. The technology can be fully supported locally as the officers from the Fisheries Department are already trained, so are most of the fishermen. The benefits will be received in a short-period of time, directly after having been installed.

The economic sustainability could be evaluated as high: the direct beneficiaries would be the fishermen from the coastal communities, Soufriere mainly, it is to say, the 140 registered ones could be deployed in the FADs. In-depth studies will have to be done on market assessment and revenue generation.

8.8.2. AAL option 2: the agro-processing sub-sector and the products value-added

In Saint Lucia, it exists a range of agro-processed products, including both food and non-food commodities, with the former being more dominant of the two. An important informal micro-level processing sub-sector has developed and exists alongside the more formal and established commercial sub-sector. In Soufriere, potential business opportunities lay in the processing of cassava bread, mango, fruit juices, honey, coconut, apiculture and its value-added products (wax, candles).

The basic expertise and technical skills are available in the area to support these venture however some external support will be required to move from the micro-scale/artisanal level to medium size enterprise. There is no formal cooperative registered for this subsector in the area and this could be a limiting factor in its development.

In the determination of livelihood options and their development, measures to manage and to minimize the environmental impact, especially in regards to solid and wastewater management should be addressed. From a feasibility study¹⁷, a number of food products including juices, spices, sauces and condiments, snacks, semi-processed foods as fruits and vegetables, and some preserves were in high demand and business options targeting these products were feasible given their modest start-up costs. It was felt that some agro-processors of both food and non-food products would be able to source overseas markets, however the perennial problem has been the inability to supply the needed/agreed on quantities timely manner; meeting the required international standards for export and the trade rules and regulations of the recipient country is another of the major challenges faced. Moreover, it has been reported that the Ministry of Agriculture doesn’t provide much support for the development of this sub-sector, neither does the Ministry of Commerce.

8.8.3. AAL option 3: Development of ecotourism, agro-tourism or community-based tourism businesses

Many ideas arose from the consultancies and interviews regarding tourism-related jobs, like the development of soft adventure tours like kayak tours or kayak rental, hiking with the development of nature trails along the coast (bird watching tours,...); boat trips with the discovering of traditional fishing activities; farm tours, souvenir shops, the building of guest-houses or eco-lodges, the implementation of an international fish-event.

These ecotourism businesses would have the advantage of targeting the farmers and the fishermen or anyone else from the communities, males and females.

¹⁷ Source: Report from Thomas Edmund, Technical services to the Agro-Processing sector in Saint Lucia.
8.9. Recommendations

- Extensive studies will have to be carried out in SMMA to do first, a detailed livelihood assessment, using participatory approaches, to assess the communities’ needs and aspirations; second, market assessment, cost-benefit analysis, carrying-capacity, stock assessment. None of this information has been assessed so far;
- The more successful income generating activities is built on traditional skills and knowledge > AAL options consistent with the local skills are recommended;
- The most successful businesses are the ones providing benefits (such as wages or income) to the owners within a relatively short period of time;
- For the fishermen, especially the oldest ones, the AAL options have to be linked with fishing activities.

Taking into account those preliminary elements, it could be recommended to support the implementation of:

- In the short-term: the FADs and the ecotourism, CBT products
- In the medium-term and long-term: agro-processing, value-added products and agriculture; the art and craft sector; the IT sector. A considerable amount of information is missing on these sectors or sub-sectors and it would be recommended to do particularly extensive studies on:

  ✓ Agro-processing and value-added products as the market is there, the distribution systems are organized, people can be trained locally and there is apparent community; however, improved infrastructure and more modern facilities and equipment would be required to improve the safety of operations. Studies on quality Control and Processing, product development and marketing should also be done. While there are many short run challenges in AAL agro-processing it is definitely an option to be pursued in the medium term
  ✓ Horticultural farm seems also to be a promising area in Soufriere and it requires very low skills
  ✓ IT sector seems to be an option for the area as the demand is growing in this sector. It would have the advantage of involving the young people and it would maybe reduce their migration outside the area to find new opportunities;
  ✓ The art and craft sector is one of the priorities of the Ministry of Tourism, which created a portfolio within the Ministry dedicated to its development. While this represents a promising AAL option the quality of the craft produced is too far behind the international standard to consider it as a priority option in the short term.

Recommendations for the development of the FADs
1. Fish stock assessment to check the ecological sustainability of the project;
2. Additional financial support for their deployment would be needed;
3. Technical support related to their management, monitoring and evaluation system

Recommendations for the ecotourism, agro-tourism and CBT businesses priority action
- Development of a nature trail along the coastline of SMMA
- Development of boat trips in SMMA with snorkelling activity in SMMA or the traditional fishing Tours and other activities with the fishermen
- Development of rental services like kayak, snorkelling gears,...

The followings recommendations seem critical for their suitability and sustainability in SMMA
1. It should not be seen as a full-time option but as an additional, complementary livelihood as tourism is seasonal and is a vulnerable economic sector;
2. Development of a cooperative or an ecotourism community-group, with a leader to represent the group and to be the spokesperson;
3. Support from a local entity is highly required to support the communities in the design of the products. A local registered group could play this role as a start;
4. Development of specific ecotourism trainings and the facilitation of their access or the communities;
6. Communication and Public awareness: implement an effective environmental public awareness campaign for the local communities to understand the importance of preserving their natural resources with a specific awareness program for the schools
7. Promoting the partnership between the public and private sectors; enhancing the involvement of the private tour operators into the ecotourism development process
8.10. Conclusions – Saint Lucia

SMMA was established in 1995 to address two major issues: user conflicts between traditional uses and new entrants from tourism and water-based tourism activities (hoteliers, divers, yachting) and the loss of biodiversity and coastal fishery resources.

SMMA is one of the most famous spot, with about 500,000 visitors per year. This is a relatively very high level of visitorship in a MPA, unfortunately, benefits from tourism to the communities are below their expectations. In addition there is the concern that tourism threatening not only their livelihood but also the biodiversity on which it depends.

Some measures were taken to implement AAL options for the communities, like for instance, financing measures to convert the fishermen’s fishing tools by Saint Lucia Development Bank. But there is still much to be done in that area.

Overfishing and illegal fishing practices are still reported as depleting the marine resources. Soufriere has one of the highest poverty rates in the country and the migration of the young people to urban areas is also increasing because of unemployment. Many suggestions of Alternative and Additional Livelihood Options were made during the interviews and consultations with key stakeholders from the fisheries sector, agriculture and agro-processing, IT sector and tourism. Among the ideas, were cited long-line fishing practices, FADs, improvement in agriculture practices, value-added products, horticultural farms, agro-processing, production of high-quality craft items, the development of ecotourism activities and community-based tourism services. From a pre-feasibility assessment, it seems that Fish Aggregating Devices and the development of ecotourism, agro-tourism or community-based tourism businesses would be the most suitable and sustainable AAL options in the short-term; agro-processing would be recommended in the medium term.

The bases for recommending the implementation of these AAL options in SMMA are:

- They target the fishers and the most vulnerable communities (the ones with the highest dependency on natural resources) the farmer
- They are built on traditional skills, decreasing therefore the risk of un-sustainability
- They are consistent with people’s aspirations and should have positive or at least, neutral impact on the environment
- The business could start without being too ‘capital intensive’
- They have already been supported by the local institutions.

Nevertheless, extensive studies are recommended to be carried out in SMMA to do a deeper livelihood assessment and identification of people’s needs; an appropriate feasibility study for the implementation of each AAL options, including the economic and commercial viability, technical and social feasibility, socio and ecological impacts related to these projects and expected benefits and redistribution method of the benefits.
8.11. Bibliography

- Dawn Pierre-Nathoniel, Department of Fisheries, Towards the strengthening of the association: the case of The Soufriere Marine Management Area (SMMA), Saint Lucia. March 2003.
9. Country chapter - Options for Additional or Alternative Livelihood for Coastal Communities in Saint Vincent and the Grenadines

9.1. Introduction

Saint Vincent and the Grenadines lie to the west of Barbados south of Saint Lucia and north of Grenada in the Windward Islands of the Lesser Antilles, with a chain of islands known as the Grenadines located between St Vincent and Grenada. SVG is comprised of thirty four islands. The total land area is 389 km² (150 mi²) with St. Vincent covering 344 km². It’s the largest and the most populous of these islands, with 120,000 inhabitants\textsuperscript{18}. It serves as the nation’s centre of business and government while the smaller Grenadines are major tourist attractions. SVG is having the second highest poverty rate in CARICOM after Guyana, with an annual per capita income of US $1,730\textsuperscript{19}.

St. Vincent has approximately 105 km of coastline which is characterised by black volcanic sand beaches, except along its southern tip where coralline sand beaches exist. The main island is volcanic and mountainous with the highest peak – Soufriere – rising to approximately 1,219 m. The windward side of the island is very rocky and steep, while the leeward side has more sandy beaches and bays.

Natural areas dominate the landscape of SVG: more than 1,150 species of flowering plants, 163 species of ferns, 4 species of amphibians, 16 species of reptiles, 111 species of birds and 15 species of mammals have been identified. To protect its high rate of biodiversity, the Government of SVG has designated 35 protected area sites, of which 10 Marine Conservation Areas were established to also preserve the very important marine eco-system.

Over 500 marine species have been identified, including 12 species of marine mammals. Nine of the legislated MCAs are located throughout the Grenadines while the project site, the South Coast MCA, is the only registered Marine Conservation Area on mainland Saint Vincent.

On the mainland, SCMCA is the area where there is the greatest concentration of attractions, tours and hotels and guest houses. The area is being heavily impacted by sewage, and other land based sources of pollution and as unsustainable fishing practices.

Recognized by the government as an ecological unit of critical importance to the overall socio-economic well-being, of the country, there is an urgent need to provide effective management of the resources while securing sustainable livelihoods for the residents of the surrounding communities and stakeholders in general. The GoSVG is actively working on consolidating SVG’s protected area system to ensure the sustainability of the country’s main economic activities – fishing, tourism and agriculture.

This chapter briefly describes the vulnerability context, livelihood assets and structures and processes, before highlighting the alternative and additional livelihood options suitable for SCMCA along with recommendations for their implementation.

\textsuperscript{18} Census of 2010
\textsuperscript{19} European Commission, n.d.-b; MOHE, 2008
9.2. Presentation of the context of the MPA

Given the importance of the SCMCA to tourism, recreation and fisheries, there have been recent efforts to upgrade the conservation area to a full marine park status under the aegis of the St. Vincent and the Grenadines National Parks and Protected Areas System Plan 2009-2014. The National Parks Authority and the Fisheries Department are the entities having responsibility for Marine Conservation Area Management in SVG.

SCMCA encompasses beaches, historical sites, coral reefs, sea grass beds and has a unique biodiversity, with several islands designated wildlife reserves under the authority of the Forestry Department (similar to Young Island which is also Green Globe awardee). The SCMCA also includes one of the island’s major fish landing site: the Calliaqua Fishing Centre. A popular multi-used area - especially for recreation: yachting, swimming, snorkelling and scuba diving.

SCMCA includes the most widely used recreational beaches on Saint Vincent, namely Indian Bay Beach and Villa Beach. There are several marinas, hotels and restaurants. Most operators of marine based tourism activities are also located in the area. The intense use of the area has resulted in user conflicts among hoteliers, vendors, and bathers and as well as the quality of the coastal resources are being threatened by coastal development due to impact from land based sources of pollution including sewage and from overfishing (ACP Fish II 2012 and Government of St. Vincent, 2012).

According to the estimated data on Fish by landing sites in SVG\textsuperscript{20}; the landed and marketed the weight of fish in Calliaqua has been declined significant within a period of 5 in 6 years from 138,000 lbs in 2007 to about 27,000 lbs by 2012.

The marine resources in South Coast MCA have been heavily impacted by natural (natural disasters and climate change and their impacts, including sea level rise and beach erosion) and anthropogenic factors such as overfishing, illegal fishing (use of illegal gear); speeding; anchor damage to reefs; pollution from land-based sources such as oil from abandoned boats and boat

\textsuperscript{20}Source : Fisheries Division in Kingston, December 2013
engine repair, wastewater discharge, and poor sewage systems; improper garbage disposal and hotel encroachment on the beach. These have been contributing factors to the decline of the marine habitats within the South Coast MCA over the last two decades.

9.3. Description of the methodology used

Saint Vincent and the Grenadines was the third country visited after Saint Lucia and Dominica. The field work lasted from the 5th until the 10th of December, with three effective working days. It started with an introductory meeting with some members of the PIT board (see the list of the stakeholders mentioned below) at the Fisheries Division in Kingstown. Like the other countries, the interviews with the key stakeholders were planned ahead of arrival in the country. The PIT meeting provided the opportunity for setting additional meeting appointments with the stakeholders and key informants as the key persons were in attendance. Mr Andrew Lockhart, the superintendent of the National Parks Authority, was in charge of coordinating this field work.

A field trip around the South Marine Conservation Area was done with the Park Ranger; this provided the opportunity to become more familiar with the area in question and to conduct informal interviews with residents of the communities around Indian Bay Beach and Villa Beach. The interviewees included vendors, a representative from the Tourism Policy Unit, hotel managers, and water taxis operators. A meeting with the Fishers was scheduled over the week-end in the Calliaqua Fishing Centre. But because of some miscommunication, the fisher folks didn’t seem to be aware of it. Instead, informal interviews were held with some volunteers. The rest of the field work was related to semi-structured consultations with various stakeholders (listed below): National Trust, Ministry of Tourism, Forestry, Fisheries Division, National Park Authority, some private operators in the area. These consultations provided us with additional secondary data necessary to complete the work.

9.4. Stakeholders met

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<td>Glen</td>
<td>Chief Executive Officer</td>
<td><a href="mailto:gbeache@discoversvg.com">gbeache@discoversvg.com</a></td>
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9.5. Vulnerability context

Climate variability and change:
Like the rest of the islands in the Lesser Caribbean, St. Vincent & the Grenadines are located within the Caribbean Hurricane Belt and the number of hurricanes has been on a rise over the last few years. For instance, Hurricane Tomas affected the island at the beginning of November 2010, which caused flooding, loss and destruction to several buildings, agricultural plots, livestock and the natural landscape. A severe flash flood followed in April 2011.

SVG is highly subjected to the effects of climate variability and change (severe extreme events, more subtle changes in temperature and rainfall patterns), which make the socioeconomic sectors (like agriculture, fisheries, tourism, biodiversity or water resources) very vulnerable. For e.g., the incidence of vector borne diseases and the frequency of algal blooms will increase and affect the fisheries sector.
The impacts of extreme weather events (e.g. flooding, drought, loss of lands and crops, coastal erosion) exacerbate an already dire situation especially for those persons who have limited resources on which to survive.

**Economic vulnerability:**
- A primary economic vulnerability factor for the agriculture sector in SVG is the over-reliance on bananas for income generation
- SVG’s economy is highly susceptible to exogenous shocks, like external economic events and natural disasters
- The gap between agricultural exports and imports has been widening making SVG vulnerable as a net food importing country

### 9.6. The livelihood assets

#### 9.6.1. Natural assets
SVG has many and diverse natural assets, from the coral reef, sea grass and mangrove systems, petroglyphs, rivers and waterfalls, to beaches and scenic coastlines. The Beaches provides habitat for shore birds, crustaceans and at least two species of endangered marine turtles: the hawksbill and green turtle. Several species of whale have been recorded in the waters of SVG.

The marine biodiversity and splendid beaches within SCMCA each year attracts many visitors who come for snorkelling, swimming, diving, and sightseeing tours of heritage sites such as Fort Duvernette an attraction managed by The National Trust an NGO.

**✓ Dependency on natural resources:**
The communities in SVG seem to be highly dependent on the natural resources for their livelihoods; the fisheries are particularly important as a food source for the coastal communities. “Everyone fish from the earliest age” noted one resident of Villa Beach, but she added that “people eat less fish” because of the depletion of the resource from overexploitation and illegal fishing.

Moreover, people are still dependent on wildlife: they catch iguanas (*Iguana delicatissima*) for their own consumption or sell them along the road. Even if it is listed as ‘an endangered species’ by IUCN, its capture is still authorized by the government during the open season.

- The high dependency on the natural capital, especially on the marine resources, makes it an urgent need to find alternative livelihoods with the huge challenge of changing the communities’ habit (the fishermen practice this activity from generation to generation).

**✓ Knowledge of the SCMCA and attitude toward conservation and resource management:**
A relatively large number of individuals are aware of the SCMCA despite limited public awareness campaigns\(^1\): They are also aware that the SCMCA is a conservation area, its general location and the fact that it is a tourist hub on St. Vincent. People know what a marine conservation area is and they are aware of the conservation regulations, however, they do not know the details of these regulations.

- SMCA is well-known by the communities and the protection of the coastal and marine resources seems to be important to them. The fishermen affirmed knowing about the regulations but some illegal activities are still practiced in the area, especially spearfishing.

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There is no conservation mind-set, like the garbage thrown all over on the beaches shows us. But the communities are not aware of these environmental issues. They need to be educated.

9.6.2. Social assets
Mutual trust and reciprocity could lower the costs of working together. Social capital could also have direct impact upon other types of capital: by improving the efficiency of economic relations, social capital can help increase people’s incomes and rates of saving, by improving the management of common resources (natural asset) and the maintenance of shared infrastructure (physical asset). In SCMCA (and in SVG in general), people seem quite hostile to the idea of working in groups. A few cooperatives do exist but they are not very active or effective. People prefer running a small-individual or family business by themselves, rather than collaborating. People are also not very entrepreneurial in the area.

The social capital could be a limiting factor for the implementation of AAL options in SCMCA as there is a lack of social cohesiveness and a high level of individualism and many persons are not in favour of working in group or in cooperative. There’s also an increasing distrust between the fishermen and the Fisheries Division, and between the private sector and public entities, creating an unfavourable climate for private/public partnership, which is one of the key successes for sustainable livelihoods.

9.6.3. Physical assets
The access by road to the beaches of the Marine Conservation area is not optimal. It could be a limiting factor for local people or visitors who wish to use such public spaces. In addition, while all the beaches are State property, in several instances, the routes leading to and from the beaches are private holdings.

9.6.4. Financial assets
It denotes the financial resources that people use to achieve their livelihood objectives. We will focus on the communities’ occupations and their income earning, and the people’s saving and loans strategy.

- HH’s main occupations: The majority of the communities in the area have different type of occupations, but fishing is the occupation of choice, followed by agriculture, trades, and tourism-related jobs in hotels, restaurants and tour operations.
- Income generating revenues: the main source of income for the communities comes from the fishing activity; the second one from farming. But the households in SCMCA wouldn’t earn more than US $1,000 per month.
- People’s saving and loans: with regards to support systems, people would tend to rely on relatives inside and outside their households and family friends for financial assistance (and for physical help, personal advice).

In the area, household incomes, financial support and security and insurance coverage rates are low;
- Many persons are only seasonally employed and often migrate to other Caribbean countries or industrial nations seeking employment in order to send remittances home to their families;
- General lack of knowledge of financial institutions;
- The most vulnerable people would not borrow money from any financial institutions because either they are unaware of the financial schemes in place or they think the financial systems in place are inappropriate to their needs;

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The most residents in the surrounding communities don’t have the propensity to save, this is especially the case when referring to the fishers. They would rather spend their earnings in one day than saving part of the income in a bank.

9.7. Organisational Structures and Processes

As the report is not a livelihood assessment, the idea is not to draw up an exhaustive list of the institutions, organizations, policies and legislation that shape livelihoods, even if it would be relevant to the development of an AAL strategy. The report instead focuses on an assessment of the three main socioeconomic sectors in SCMCA and highlights the role played by some institutions that may have a significant impact on the development of the AAL options.

The Government accords high priority to agriculture. It is the economic mainstay and it contributes significantly to economic and social development, particularly as it relates to the livelihoods of rural peoples;

The government of SVG places top priority on the conservation and sustenance of its biodiversity (35 existing legally designated protected area sites)

A controlled and carefully managed tourism industry which responds to national development needs is encouraged and supported. Certification and international standards are highlighted in the National Tourism Strategic Plan.

9.7.1. The Agriculture sector

The economy of St Vincent and the Grenadines is based largely on agriculture, which in 2009 contributed 10% of the Gross Domestic Product and employed 26% of the labour force. But facing lots of issues, this sector isn’t attractive for young Vincentians unless there is no other option to acquire money. Banana is still the main crop although its importance has declined significantly, and there has been an increase in the cultivation of root crops such as cassava and sweet potato. The Government has been implementing a series of structural reforms to promote greater investment in the agricultural sector through the restructuring of the banana industry and the diversification of agriculture. The measures include a series of fiscal incentives and farm support services geared towards enhancing the sectors competitiveness and productivity. There is also a programme of support to small scale farmers in production technologies, agri-business management, good agricultural practices and pest and disease control; policy initiatives to address climate change issues, environmental protection, etc. A programme of agro-tourism is also in the pipeline.

☑ Challenges: the diseases affecting the production, the climate change effects (high temperatures, changing rainfall patterns) increase crop vulnerability, threatening the national food security; the current trends of converting agricultural lands to other uses; the poorly equipped and unprepared farmers to face environmental changes make them very vulnerable.

☑ Opportunities: the infrastructure projects, including the construction of the new international airport expected to be ready by the end of 2014, will contribute to the economy.

9.7.2. The Fisheries sector

The fisheries are predominately small scale and artisanal and contributed approximately 2.02% of GDP. The main fisheries include shallow reef species, small coastal pelagic species, large pelagic species, non-fish species (lobster, conch and sea urchin) and a small traditional whaling fishery. Marine turtle fishing has been observed in SVG since the 17th Century and the fishery is based
mainly on the green and the hawksbill turtles (Mills, 2001; Mohammed, Straker, & Jardine, 2003). The females partners of fishermen are also involved, they are mostly in charge of the selling of catch and deal with the finances. Through a Japanese Grant Aid Programme, significant progress has been made to upgrade the fisheries sector.

Regarding the fisheries sector in SCMCA, most of the fishermen seem to have only one source of income earnings. They only fish but outside the marine conservation area. Divergent views were reported regarding the illegal activities but most of the stakeholders interviewed mentioned very few illegal fishing activities in the MCA (only 2 fishermen seem to do illegal practices). Most of them are old (over 45-50 years old) and poor.

- A better management of the fisheries sector is an urgent issue
- Moving the fishermen away from fishing or converting them would be very difficult because most of them are old, unskilled with no education background, and not interesting in doing something different.

9.7.3. The tourism sector
152,000 visitors have been registered from January to October 2013 (2.5% more than the year before), including by air and by sea arrivals. SVG has been classified as an emerging tourist destination. St. Vincent’s tourism industry is considered to be relatively new and has generally been developed around ecotourism and culture. However, as there are only a few tourist attractions, it does not attract many stay-over tourists. The island has, however, become a popular cruise destination after the opening of the deep-water cruise terminal on the eastern side of Kingstown harbour. Scuba-diving is dynamic and growing, as much as the yachting sector.

The main tourist markets to SVG are the United States, Europe, Canada and other Caribbean countries. A five year Tourism Development Plan has been established and the Ministry of Tourism has reported that a National Tourism Policy is currently being updated => the yachting sector will be encouraged but central to this thrust will be the development of a marine tourism plan to regulate operations of the ships and to adequately address revenue considerations.

A Tourism Development Project (TDP) funded by the Government of SVG and EU seeks to develop CBT at 14 sites with significant biodiversity, rich cultural and historical heritage, & recreational potential. Among others components, this TDP will achieve this by building capacity of CBOs to undertake local management of the sites, developing infrastructure, and implementing marketing programs.

- Even as a multi-use area and a great tourist attraction in St. Vincent, the SCMCA provides in the opinion of the locals little direct benefits (as only about 3% work in the tourism sector). Very few small-businesses are set up. Some security issues have occurred on the beaches (a tourism police unit operates on the beaches but only during working days) and could be one of the limiting factors for the development of the tourism in the area. The tourist season is low (3 months) from December to April and it tends to shorten more and more.

- Challenges: limited availability of and access to capital; the growing seasonality of tourism increased competition from other destinations; poor awareness of environmental protection; lack of a well-defined tourism product; the airfare to Saint Vincent is very expensive; revenue leakage from the fee collected in SCMCA; St. Vincent doesn’t benefit from a strong positive image unlike the Grenadines.

- Opportunities: an international airport under construction: (will be ready next year) should increase the tourism market; SVG is known as an unspoiled island.
9.8. Analysis of the Alternative and Additional Livelihoods Options

It’s important to remember that for the identification of the AAL options, no community meeting could take place during the field work. Thus, the findings are mainly based on the literature review, the consultations and the informal interviews conducted in Saint Vincent. However, this lack of information from the communities has to be kept in mind for this analysis and the recommendations described below. Either from the consultations or the interviews, people had very little idea of what else could be implemented or which other income generating activity could be implemented.

- The fishermen would be the hardest to convert, especially the older ones as they have been fishing all their life, they don’t have the skills and the willingness to move away from fishing. As we mentioned in the financial capital paragraph, fishing is above all a habit, a tradition transmitted from generation to generation.
- Strengthening the sustainability of existing livelihoods, instead of finding alternative or additional new ones, seems to be the best approach based on the opinions expressed by the interviewees.

Taking into account those elements, the following AALs have been mentioned as potentially sustainable ones in SCMCA in the short, medium or long term:

9.8.1. AAL option 1: the Fish Aggregating Devices
The Fisheries Division has already started a pilot project funded by JICA but in another geographic area. It has been assessed that 5 more FADs could be deployed in the South-Coast Marine Conservation area. Regarding the indicators of pre-feasibility assessment, even if lots of data is still missing because more research on it hasn’t been conducted by the Fisheries Department yet, it has been assessed as suitable for the area. This AAL targets the fishermen and is based on their traditional skills as it is still a fishing activity. Trainings would be required for the deployment of the FADs, their management, the use of the equipment and so on, but the technology can be fully supported locally as JICA experts have already trained the local staff. Additional financial support would be needed (JICA wouldn’t fund the ones in SCMCA) however, sources of funding exist.

9.8.2. AAL option 2: the development of pot fisheries
Very little data is available on this project but it has been highly recommended as an AAL option by the Fisheries Division and the PIT Board members for SCMCA. It would target the fisher folks, who will still fish and use their traditional skills (reducing at the same time the risk of un-sustainability) Therefore they would probably be in favour of such an initiative. It would target demersal fish outside the conservation area. This project could be implemented within 2 years. The fisheries Department is currently looking for biodegradable material. Like for the FADs, further data would be needed on fish stock assessment especially to assess the ecological sustainability. But the social and economic sustainability would be met.

9.8.3. AAL option 3: Aquaculture
Very little data is available on this project in SVG. A fisheries officer is currently working on in-depth research and development of this project. A draft policy document has been written (it couldn’t be shared as it hasn’t been approved yet). Nevertheless, it could be considered as an AAL option in the medium or long term. It wouldn’t target the fishermen but the farmers. It would require a lot of investment, capacity-building as aquaculture would be a new project in SVG. External support would be necessary to do a pilot project in St. Vincent to check the viability in situ.
9.8.4. AAL option 4: fish-processing
It would target the fishermen. The resources are available and there is a big demand for smoked fish locally and regionally. Some fish-processing is done by private individuals. However, the Fisheries Department have been working on it for more than 15 years without this sub-sector would be able to take off at a bigger scale. There is also no fund dedicated to it.

9.8.5. AAL option 5: Ecotourism/Community-Based Tourism businesses
As we mentioned it in the tourism sector chapter, ecotourism is part of the Government’s strategy; and there is nothing done as such in SCMCA while the tourist demand is there. The economic benefits from tourism don’t go into the communities as tourism is mainly done by foreign operators and very few services are offered from the communities. It has been mentioned that kayak services could be offered around the MCA, a community-tourism village could be set up in Calliaqua where the fisher folks could be involved, as tour guides, selling fish food for instance, and a fish event could also be developed.

If we look at the sustainability of this AAL, it would obviously depend on which activity we’re talking about. The communities seem to be quite supportive but there is no formal cooperative or group organized, they don’t have the technical skills or the financial resources to implement such businesses. Nevertheless, the institutional support is there as much as some leaders in the communities to develop those projects. The trainings entities can provide hospitality, custom services, and business management trainings in SVG. Regarding the beneficiaries, if the businesses are properly managed, they should generate several direct and indirect employments [for a community tourism village, it could create at least 50 direct and indirect employments from the ecotourism activities implemented: kayak, tour guides, glass-bottom boat; added with the souvenir shop and the food supply, all the products coming from the surrounding communities].

Table 10: Strengths/weaknesses analysis of the AAL options

<table>
<thead>
<tr>
<th></th>
<th>Weaknesses</th>
<th>Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>FADs</td>
<td>Lack of financial resources for their management and maintenance</td>
<td>Fishermen cooperative in place</td>
</tr>
<tr>
<td></td>
<td>Lack of an appropriate data collection system and equipment</td>
<td>High support from the fishermen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pilot project in SVG</td>
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<tr>
<td></td>
<td></td>
<td>Local technical skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not too capital demanding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Higher economic benefit for the fishermen than from their traditional fishing method</td>
</tr>
<tr>
<td>Pot Fisheries</td>
<td>Lack of the appropriate equipment =&gt; biodegradable material required</td>
<td>Fishermen targeted</td>
</tr>
<tr>
<td></td>
<td>Fish stock assessment required</td>
<td>Government support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not too capital intensive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Direct economic benefits for the fishermen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implementation in the short-term (2 years)</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>No consistent with the local skills</td>
<td>Government support (one fisheries officer dedicated to it)</td>
</tr>
<tr>
<td></td>
<td>Capital demanding</td>
<td>+ some external support like the Taiwanese</td>
</tr>
<tr>
<td>No technical capacity in situ</td>
<td>No appropriate site identifies Feed and supply of juvenile issues Very expensive shipping and handling In-depth research required for the environment, economic sustainability (Market assessment, cost/benefit analysis) Implementation in the medium or long term</td>
<td>A public-awareness program is conducted in schools Some regional experiences: Union Island has experienced an aquaculture project, in sea moss</td>
</tr>
<tr>
<td>Fish-processing</td>
<td>Lack of appropriate equipment and structuring of the sector</td>
<td>High local and regional demand Availability of the resource Some technical skills available The Fishermen would be the beneficiaries</td>
</tr>
<tr>
<td>Ecotourism/CBT businesses</td>
<td>Short tourism season (3 months) Expensive air fares Marine Ecosystems threatened Lack of dedicated ecotourism training programs Lack of partnership between public/private sector Lack of confidence between the communities and the public entities (fishermen/Fisheries Department)</td>
<td>Growing ecotourism demand A lot of ecotourism potentialities at sea (boat trips to discover the islets, glass-bottom boat, underwater trail circuit,...) and inland (wildlife tours, bird watching, farm tours, fish event, community-based tourism...) No CBT business already in place Project to design SCMCA as a marine park Government support Training entities in place</td>
</tr>
</tbody>
</table>

Table 11: Matrix - Feasibility Assessment AAL options in SVG

<table>
<thead>
<tr>
<th>Indicator of sustainability</th>
<th>AAL 1: FADs</th>
<th>AAL 2: Pot fisheries</th>
<th>AAL 3: Ecotourism/CBT businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Technical skill required or capacity-building easily achievable</td>
<td>H</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td>2-The Community's role Support, willingness</td>
<td>H (but discussion are still needed)</td>
<td>H</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>Community already organized in group, cooperation</td>
<td>H (but it is not very effective)</td>
<td>H (but it is not very effective)</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>3-Available resources</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>4-Simplicity</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>5-Timeframe</td>
<td>H</td>
<td>H</td>
<td>M (it will depend on which activity)</td>
</tr>
<tr>
<td>6-Ecological sustainability, resources sustainability</td>
<td>M (stock assessment will be needed)</td>
<td>M</td>
<td>H (if it’s a real ‘ecotourism product’, it has to preserve the natural resources)</td>
</tr>
<tr>
<td>7-Social Sustainability</td>
<td>H</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td><strong>8-Economic sustainability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a-Beneficiaries from the coastal communities of the MPA</td>
<td>H</td>
<td>H</td>
<td>H (assessment needed)</td>
</tr>
<tr>
<td>b-Number of direct/indirect beneficiaries estimated</td>
<td>M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>c-Revenue generated</td>
<td>H (a cost/analysis study will be done in the next 3 years)</td>
<td>H</td>
<td>H</td>
</tr>
<tr>
<td>d-Level of investment</td>
<td>H</td>
<td>H</td>
<td>H (very low investment has to be required for the implementation of CBT businesses)</td>
</tr>
<tr>
<td>e-Market assessment</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9-Institutional sustainability</td>
<td>H (Project initiated by the Fisheries Department)</td>
<td>H (Project initiated by the Fisheries Department)</td>
<td>M</td>
</tr>
<tr>
<td>Total</td>
<td>H=11; M=2</td>
<td>H=11; M=2</td>
<td>H=7; M=4; L=1</td>
</tr>
</tbody>
</table>

H = High; M = Medium; L = Low
9.9. Recommendations

According to the analysis of the AAL options, the secondary data and interviews with key stakeholders, we are able to recommend as follows:

- Three AAL options are likely to be suitable and sustainable in the short and medium term: the deployment of the FADs, the development of pot fisheries and ecotourism and Community-based tourism businesses. The first two options would target the fishermen while the second option could more largely involve anyone from the communities, including the fishers and farmers.
- More research and development are required for the development of aquaculture but it could be a promising area in the medium and long term.
- More attention has to be paid to the agriculture sector, the value adding products and food processing as they could be promising sub-sectors to explore for the communities of SCMCA.
- The fish-processing is not recommended because Saint Vincent has faced too many limiting factors for the sustainability of this sector over the years.

It should be a prerequisite to set up an appropriate framework before any development of AAL option, including:

RESEARCH AND DEVELOPMENT

- A detailed AAL strategy has be carried out reflecting communities’ needs and aspirations [Alternative Livelihood Strategy can only be sustainable if it takes into account people’s needs and vision]
- Detailed feasibility studies like ecological and socioeconomic viability, stock assessment, market assessment (none has been done for the AAL options suggested) a cost benefit analysis, carrying capacity,...

TRAINING AND PUBLIC AWARENESS

- Enhance people’s ownership through public awareness campaigns, for people to adopt a positive attitude towards conservation and management of the area. Much more needs to be done to educate and raise the awareness of stakeholders about SCMCA resource protection and management. (Video projection in communities or clean-up campaigns could be used)
- Specific school programs should be conducted, especially on marine biodiversity
- Support is needed for them to work together and to strengthen the community groups or cooperatives

STANDARD AND GUIDELINES

- Development of industry standard, guidelines and operating procedures for hotels, restaurants, mariners, yachters, boat repair shops, garages, fisher folk, construction companies and other relevant sectors and key stakeholder groups identified. The idea is to promote best practices. The process should include a certification programme to promote compliance, as well as mechanisms for sanctioning non-compliant parties

INSTITUTIONAL AND LEGISLATION FRAMEWORK

- Establishment of an efficient and effective institutional coordination system as there are too many institutions involved in the SVG Protected Areas System, weakening its efficacy and coordination role based upon the principles of collaboration, social participation & partnerships
- Linkages between the communities and the public entities like training centres, micro-credit mechanisms or other financial sources or programmes suitable for them, the institutions,...
- Development of Public-Private partnerships
MONITORING AND EVALUATION

- Develop an adequate monitoring and Evaluation Programme of the AAL options implementation. A cadre of persons that represent protected area management agencies, community-based and non-governmental organisations, businesses, and educational and conservation institutions should be trained to conduct ecological and socio-economic monitoring.

✓ The development of the ecotourism and CBT businesses

This option has to be understood as an additional livelihood for the communities. They could not or should not convert them as tourist-related operators all year round because it would not be sustainable. The tourist season is too low. Ecotourism or CBT should be seen as a complementary source of income, generating significant revenue during the season if it’s properly managed. It could be suggested to start with projects not too capital intensive, not far from the communities’ traditional skills, not requiring a lot of trainings, ecologically sustainable. Some suitable ones could be:

- the development of nature trails along the coast or cultural ones through the communities, including farm tours,
- boat trips in SCMCA with the young fishermen trained as tour guides
- Fish-event in Calliaqua
- Kayak tours
- Rental of snorkelling gears

A community-tourism village would be the project generating the most direct and indirect employments. It could encompass all the activities mentioned above, plus a local restaurant with local products coming from the local farmers, fresh juices, a souvenir shop selling the local craft products meeting international standard, agro-process products, souvenir from SCMCA...

Among others, the key factors to ensure the success of these businesses would be:

- the improvement of the tourist attractions. For instance, some facilities are required like changing rooms, restroom and picnic benches in Villa and Indian Bay beaches. In Fort Duvernette, the maintenance of the area has to be improved and some facilities could also be implemented like a view point, a souvenirs shop,...
- Emphasize safety and security in order to ensure that St. Vincent remains a safe and friendly destination for nationals and visitors (the security on the beaches has to be improved)
- the identification of the ecotourism businesses that could be developed would require further investigations from the communities to assess their aspirations, their know-how, the trainings required, as well as further information related to the market, cost benefit analysis, the carrying-capacity, the legislation in place and so on.
- the establishment of a community-based organization and the identification of a leader. It’s a key factor for the success of any ecotourism/CBT business and one of the conditions to submit grant proposal or to access to funding sources, like micro-credit. The community leader would play a key role, representing the communities to the public entities and ensuring the linkages between the local and national level.

=> The National Project Officer could have a strategic role during its mandate in terms of administrative and technical assistance with the communities. It could play this representative role meanwhile the community leader would be found, and it could inform them about the appropriate financial sources for the CBT businesses. The Rural Transformation Unit should also be a key partner as in its mandate; it gives support to the communities for the writing of proposals.

- Proper waste management and cleaning activities should be encouraged => National Trust should work closer to the communities to sensitize them.
- Training in business management, in natural and cultural heritage (history, heritage sites, fauna and flora), in customer services, hospitality + any other specific ones related to the business in project, like in the production of high quality art and craft

=> Special training sessions would have to be organized for the communities as the distance to the training centres (SVG Community College and the SVG Technical College) have been reported as an issue

- Public/Private sector partnership would be encouraged

- Improving the cooperation among all stakeholders for the development of the ecotourism products as well as in the marketing of these products
9.10. Conclusions – Saint Vincent and the Grenadines

The South Coast Marine Conservation Area (SCMCA) is one of the ten MCA established by the Government of SVG. Given the importance of tourism (SCMCA lies within the main tourist hub on the island of St. Vincent), recreation and fisheries (Calliaqua is one of the main fisheries landing sites) there have been recent developments to upgrade the conservation area to full marine park status.

Coastal and marine resources are highly threatened by pollution, resource harvesting, erosion and removal of coral. The SCMCA encompasses five communities for who fishing and farming are their main occupations and income earning. Most of them are vulnerable and thus, highly dependent on natural resources for their livelihoods. The establishment of the MPA would affect people’s livelihood, in the displacement of some resource users and restriction of activities, particularly the fishers and fishing. Based on communities’ interviews (transect walks) and consultations, it has been found that the fishermen would be hard to convert because most of them are quite old and unskilled to do a different activity. People didn’t seem to have many ideas of what else they could do apart from their traditional livelihood and their strengthening.

However, several suggestions of AAL options were made like the deployment of FADs, pot fisheries, aquaculture, fish processing, and the development of ecotourism and community-based tourism businesses. According to a pre-feasibility assessment on the AAL options found, it could be recommended to focus on the implementation of the FADS, the pot fisheries and the ecotourism/CBT businesses in the short-medium term; while the aquaculture project could be a promising area and an AAL option in the longer-term because it is a new sector requiring a lot of research and development before its development could be planned in the island. The first two options would target the fishers and are based on traditional skills. They both benefit from a strong institutional support and would have the advantage of being easily implemented. Regarding the development of ecotourism and community-based tourism businesses, this AAL option received a general improvement, either from the institutional side or the communities’.

Even if tourism is seasonal and going down over the past few years, SCMCA remains a great tourist attraction and the communities don’t benefit economically from it. Moreover, the international airport under construction is recognized as a real opportunity for the tourism market in St. Vincent. Its suitability and sustainability will obviously depend on the project implemented. But it’s highly recommended to start with the development of low capital demanding businesses, businesses consistent with local skills as far as possible, and with a very strong people’s commitment. The development of Public-Private partnership has been assessed as one of the key success. Whether it be for an AAL option implementation or another, extensive studies would be a requirement in terms of market assessment, cost/benefit analysis, carrying-capacity, environmental impact assessment,... and their success will greatly depend on the setting up of an ongoing mentoring, monitoring and evaluation programme.
9.11. Bibliography

- Christie M., Dr. Teelucksingh S. July 2012. A National-level Economic Valuation Study of the Environmental Services provided by Marine Habitats in St Vincent and the Grenadines. University of West Indies
9.12. Appendixes

Figure 13: One of five vendors operating in Indian Bay Beach

![Figure 13: One of five vendors operating in Indian Bay Beach](image)

Source: Nathalie Maisonneuve

Figure 14: Measuring the impact of management arrangements on stakeholder livelihoods and the area’s natural resources

![Figure 14: Measuring the impact of management arrangements on stakeholder livelihoods and the area’s natural resources](image)

Source: Socio-economic monitoring report. 2013

More effective management or sustainable use of resources (24%); increased business or more revenue opportunities (22%); attraction of more visitors (16%); and better or healthier environment and ecosystems (16%) were offered as ways in which the upgrade of the SCMCA to a marine park would positively impact the income-generating activities of people in the area.
10. General conclusion
In the five focus Marine Protected Areas (or in the process of being implementing) of the five CARICOM countries (Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines) where the assessment was carried out, the need for sustainable livelihoods for the coastal communities is critical. Alternative livelihoods are seen as essential for both the development of coastal communities and for the conservation of marine and coastal biodiversity and ecosystems.

The idea driving ‘alternative and additional livelihoods options’ is that they create an incentive for people to stop their current unsustainable livelihood activities and move into another activity which is sustainable. For this to work, the option needs to be more economically profitable. However, profitability is not the only factor. Attitudes to risk, access to assets, vulnerability and institutional influences, all influence and play a role in their success. As a result, the development of AAL options becomes much more complex.

Even if the assessment was conducted in five different islands with a different context in terms of people’s livelihoods, MPA status and structures, institutional framework, etc., the analysis results show a lot of similarities. Very little has been done for the communities in the field.

It is always better to think about AAL options before the marine reserve designation. It would increase people’s ownership and positive attitudes towards conservation and management. The federation has this opportunity as the MPA has not been established yet. The most sustainable ones would be the ones consistent with people’s traditional skills. The more you try to move away from their skills, the more you increase the risk of un-sustainability, especially because people are not educated to do something else and are not willing to be converted.

Strengthening their livelihoods would be a lot more efficient than implementing new AAL options. Sustainable fishing practices. Sustainable fishing practices like FADs, pot fisheries, long-line fishing have been assessed as suitable opportunities in some of the countries – the FADs are usually in process in all the countries thanks to the JICA pilot project; the fisheries Department in SVG is working on long line fishing and pot fisheries as an option for the fishermen). Agro-processed and value adding products could be an option for the ones sharing their livelihoods between fishing and farming. However, this sub-sector has to face many challenges before it could be implementing as a real opportunity (socially, economically and ecologically) for the communities. The youngest people should be the easiest to convert and to provide trainings in new livelihood options like tourism-related jobs, which appear as the most expected AAL for the communities in this assessment. But people are not prepared to implement by themselves this kind of small enterprises.

It has been stated that their human, natural, social and financial assets, added to a high vulnerable climate change and economic context, are often limiting factors for their sustainable implementation. Certain ingredients are needed to create an enabling environment for the success of the AAL options: enhancing people’s ownership and attitudes towards conservation through public awareness campaigns; creating efficient cooperatives with the identification of a leader; enhancing entrepreneurship; developing technical and management skills with specific trainings in business planning, financial management,..., and with assisted support in the long term; encouraging public-private partnership; developing micro-credit schemes and linkages between these mechanisms and the communities, etc. But before creating this environment, detailed studies in each country are expected to identify more precisely people’s needs and aspirations and working on an AAL strategy and action plan in each country in the short, medium and long term, with feasibility studies, cost benefit analysis, market assessment, with the redistribution of maximum benefits for the most affected people by the MPA... Strengthening traditional livelihoods in a sustainable way and finding alternative and additional ones will take time and would require a lot of involvement of all the stakeholders. The work is underway, allowing promising results... and there is no other way out for these islands to ensure the sustainable management of their coastal and marine biodiversity.
11. General Bibliography

- Bennet, N 2010. Sustainable Livelihoods from Theory to Conservation Practice: An Extended Annotated bibliography for Prospective Application of Livelihoods Thinking in Protected Area Community Research. Protected area and Poverty Reduction alliance paper N°1. Victoria, Canada
- Espeut Peter 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 OECS CONTRACT Number OECS/121/05
- Willoughby NG. 2001 Opportunities and Constraints for Coastal Livelihoods in the Caribbean. Natural Resources Institute, Medway Campus, University of Greenwich. Kent UK
12. Appendixes

Appendix 12.1: Participatory Rapid Appraisal (PRA) methods

**The seasonal calendar:**
These are calendars which show the main activities, problems, key linkages and opportunities throughout the annual cycle in a diagrammatic form. They are a way of representing seasonal variations in climate, crop sequences, agricultural and income generating activities, nutrition, health and diseases, debt, etc. They can help identify times of shortage – of food, money or time – and the best time of the year for particular kinds of development work. The calendars thus help to identify months of greatest difficulty and vulnerability of the people, or other significant variations that have impact on people’s lives.

**Purpose:** To explore in more detail the seasonal variation of people’s livelihoods and vulnerability context. Discuss events, burdens, and issues over the year and how they affect the lives of the community.

**Steps:**
1. Prepare the materials that you will use in drawing the calendar. This can be local materials if drawing on the ground or flip chart paper if the group prefer.
2. Begin by asking the group when the start of the year is and how they break down the year (by months or seasons). Depict this on the ground/flip chart.
3. Begin by asking:
   - Is this a good year or a bad year and why?
   - How does this year compare to last year specifically?
4. In the different rows begin to fill in a picture of the following issues:

<table>
<thead>
<tr>
<th>Month/Season</th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Season/rains</strong></td>
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<tr>
<td><strong>Men’s/women’s workload</strong></td>
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<tr>
<td><strong>Income Generating Activities</strong></td>
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<tr>
<td>Expenditure – highs and lows</td>
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<td></td>
<td></td>
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<tr>
<td>Prices – highs and lows</td>
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<td></td>
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<tr>
<td>Markets – good &amp; bad months</td>
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<td></td>
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<tr>
<td>Human Disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard times</td>
<td></td>
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<tr>
<td>Interaction with Government</td>
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<tr>
<td><strong>Seasonal opportunities</strong></td>
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</tbody>
</table>

**The Vision Tree:**
For the identification of the sustainable Livelihood Strategies, it’ll be asked the participants, divided in small groups to think of their personal vision of alternative livelihood opportunities, to describe it
on etiquettes given to each of them and to write the different support needed to reach it, human, material and financial support.

After this participatory work, the facilitators will collect all the information and try to organize it by category. Discussions could start between the participants about the strategies to adopt to reach the objectives defined by each of the participant.

The vision Tree will be used to strategize

Helping people to think about the situation in which they would like to be, in the future, should be the starting point of any process for livelihood development. Through developing, presenting and celebrating people’s visions we are giving voice to their aspirations and hopes. People’s visions for their livelihoods in the future will reflect not just their own personal aspirations for income enhancement or diversification, but also their wider livelihood priorities.

**Figure 15: The vision Tree**

![Vision Tree Diagram]

**Checklist Questions (once the vision defined by the group):**

> If you will have to prioritize your choices, what would be the 3 main livelihoods you would choose? Explain the reasons.
> How will you do to implement them? (Creation of cooperatives, associations; search for loans, training)
> Do you have some knowledge of the different institutions existing in the country and able to give you some support? If yes, could you precise the financial institutions you know:
> Do you know the modalities to obtain this loan? Which ones are they?
> What would it be the main constraints to implement these AAL?
Limited land ownership; Poor access to credit and lack of awareness of existing credit sources; Infrastructure deficiencies; Lack of skills and knowledge; Conflict is often a problem between stakeholders as a local scale;...)

How will you do to solve them?

Appendix 12.2: Checklist of questions for the PIT members

Below are some of the questions asked during the meetings with the members of the PIT Board

**Traditional Livelihoods**
- What are the traditional livelihoods of the communities living in the MPA?
- Are the communities still highly dependent on natural resources? Marine resources?
- How many fishermen are registered all along the MPA?
- What are the SMEs existing in the area?
- What are the main constrains they face?
- What have been the impacts of the MPA on the coastal communities? Improvement or worsen their living conditions? (especially for the fishermen. Did they have to change their methods of fishing? To move far away to continue their activity? What is women’s role in fisheries?)

**Perception of the MPA – Attitude towards conservation and management**
- Is the MPA globally accepted? Explain why (more conflicts)
- How is the pressure on the natural resources now the MPA has been gazetted?
- Generally, what are the coastal people’s attitude toward conservation and resource management? (Effectiveness of fisheries regulation? Are the rules respected?)

**Willingness to change to other opportunities**
- Are the communities willing to move to alternative activities? Or they would rather like improving their traditional livelihoods? [The findings pointed to improvements in the existing initiatives: in resource management and alternatives, such as resource conservation and tourism—rather than starting initiatives from scratch]
- Do you know what kind of projects could be developed? (Suggestions would be done if the interviewers don’t have many ideas of what else could be implemented)
- What would it be necessary for them to initiative these kind of activities? Technical (Is the technology used consistent with the local skills and infrastructure?), financial, institutional supports? Other kind?

**Structures & Processes:**
- What about the local governance in the coastal communities? Cooperatives exist? Or other formal systems?
- Are they able to work in a cooperative or something similar to manage a ‘sustainable’ business if they had the necessary support for that? -What are the policies/laws linked with the livelihood strategy?
- Could institutions have an influence over the livelihood strategies?
- Which institution plays a role/influences on which particular livelihood activity?
- What is the role played by the Government? the Private Sector? Partnership between public & private sector?
- Regarding the financial institutions, does it exist facilities to get loans for the most vulnerable ones?

**Matrix of pre-feasibility assessment**
- To check the feasibility of the AAL options suggested, I would analyse their economic, social and environmental sustainability through selected indicators. Would you mind to discuss about these indicators together?

**Key contacts/reports:**
- Does it exist recent reports on Livelihood Assessment? On Feasibility AAL options? on the socio-economic profile of the area?
- What would be the key persons I should talk to during my field work? What are the NGOs, institutions working one way or another on livelihoods in the Caribbean?
- Are there any successful initiatives in the country I should visit?
- I started a list of key stakeholders from the literature review. Could we review it together?